

AFRICA CAN FEED ITSELF

Editor: Aksel Nærstad



Adama Coulibaly, Aksel
Nærstad, Alhaji Jeng, Amadou
Diop, Bartolomeu António, Paulo
Camusiza, Diamantino Nhampossa,
Christoph Bals, Erik Solheim, Francis
Webber, Gertrude Kenyangi Kabusimbi,
Gracian Banda, Maybin Ng'ambi,
Ibrahima Coulibaly, Jeremy Lind, John
Mutunga, Joseph N. Mutura, Kenton Lobe,
Kirsten Ulrud, Mariam Mayet, Mercy
Karanja, Michael Windfuhr, Monty Jones,
Moses Siambi, Juan Estrada, Richard Jones,
Nadia El-Hage Scialabba, Nnimmo Bassey,
Olaseinde Arigbede, Regassa Feyissa, Sappho
Haralambous, Siri Eriksen, Kirsten Ulrud, Benard
Muok, Sven Harmeling, Terje Riis-Johansen, Tewolde
Berhan Gebre Egziabher, Vandana Shiva

AFRICA CAN FEED ITSELF

Editor: Aksel Nærstad

AFRICA CAN FEED ITSELF

Editor: Aksel Nærstad

aksel@u-fondet.no

Published in 2007

by the organizing committee of the conference in Oslo, Norway June 6-8th 2007:

Can Africa Feed Itself?

Organizations, institutions and companies in the organizing committee:

Care Norway, Development Fund, Drylands Coordination Group (DCG), Farmers and Smallholders' Union, Farmers' Union, Federation of Norwegian Agricultural Co-operatives, FIAN, Institute for Agricultural and Environmental Research, Ministry of Agriculture and Food, the More and Better campaign, Nature and Youth, Norad - Norwegian Agency for Development Cooperation, Royal Norwegian Society for Development, Oikos, Spire - Development Fund's youth group, The Norwegian Agricultural Purchasing and Marketing Co-operation (FK), University of Life Sciences, Yara International ASA

We want to thank the Norwegian Ministry of Foreign Affairs and the organizers for their economic support.

The book can be orderd from:

The Development Fund

Grensen 9 B,

N-0159 Oslo

Norway

Telephone: +47 23 10 96 00, fax: +47 23 10 96 01

u-fondete@u-fondet.no

www.utviklingsfondet.no

Printed by AiT AS e-dit, Oslo, Norway 2007

ISBN 978-82-91923-07-9

Contents

Introduction	7
Some conclusions and recommendations	9
Poverty, Agriculture and Environment - what challenges are Africa facing?	
Terje Riis-Johansen:	18
Each nation has the right to produce food for its own population	
Erik Solheim:	
We have to examine the issues of power and politics	22
Ibrahima Coulibaly:	
It is necessary to invest in farmers' political and mobilization capacities	26
Gertrude Kenyangi Kabusimbi:	
The challenges are multiple and highly complex	34
John Mutunga:	
Main Challenges – What hinder Africa from feeding itself	41
Tewolde Berhan Gebre Egzhiabher:	
Potential of the African Environment for the Intensification of Agricultural Production	47
Bartolomeu António, Paulo Camusiza, Diamantino Nhampossa:	
Political Scenario in Relation to Food Safety and Agricultural Sustainability	56
Ngugi Mutura:	
There are many scenarios	63
Climate change - the impact on agriculture in Africa, and coping strategies	
Sven Harmeling, Christoph Bals and Michael Windfuhr:	
Climate change and food security in Africa	66
Gracian Banda: Climate change and rural livelihoods	
– Impact and adaptation of small-scale farmers in Malawi	79
Siri Eriksen, Kirsten Ulrud, Jeremy Lind and Benard Muok:	
The urgent need to increase adaptive capacities: Evidence from Kenyan drylands	93
What kind of agriculture should be prioritized in Africa in order to feed its population and preserve the environment?	
Regassa Feyissa:	
The Sub-Saharan African agriculture: potential, challenges and opportunities	103
Gertrude Kenyangi Kabusimbi:	
How can women's position be strengthened through efforts for food security and environment sustainability?	119

Moses Siambi, Juan Estrada and Richard Jones: Overcoming market challenges for smallholder farmers: the case of groundnuts in Malawi	124
Adama Coulibaly, Jens B. Aune and Mamadou D. Doumbia: Agricultural development in drylands of West Africa	131
A new Green Revolution – an answer to the challenges for Africa?	
Monty Jones: A new green revolution: an answer to the challenges for Africa?	137
Vandana Shiva: Not so green revolution: Lessons from India	142
Kenton Lobe: Is the green revolution a solution to the challenges facing Africa?	151
Mariam Mayet: The New Green Revolution in Africa: Trojan Horse for GMOs?	158
Political framework for food security and sustainable agriculture – what is needed?	
Olaseinde Arigbede: Political framework for food security and sustainable agriculture – what is needed?	166
Nnimmo Bassey: Towards a political framework for food security and sustainable agriculture in Africa	183
John Mutunga: Concerted efforts and remedial measures	191
Gracian Banda: Policy framework for sustainable agriculture in Malawi: Challenges & opportunities	197
How can organic farming and agro-ecology contribute?	
Nadia El-Hage Scialabba: Organic agriculture and food security in Africa	214
Amadou Diop: How can organic farming and agro-ecology contribute?	229
Farmers' organisations is a key – how can they be strengthened?	
Mercy Karanja: Farmers organisations: how they can be strengthened?	237
Sappho Haralambous: The role of farmers' and rural producers' organizations in rural development and poverty reduction	244

Future in agriculture for African Youth?

Francis Webber:

Is there future for African Youth in Agriculture? 249

What is good agriculture development assistance - and how can Norway contribute in Africa?

John Mutunga:

Political empowerment 253

Gertrude Kenyangi Kabusimbi:

Aid with “string attached” 260

Bartolomeu António, Paulo Camusiza, Diamantino Nhampossa:

What type of aid is sustainable for agriculture
– How can Norway contribute to Africa? 263

Aksel Nærstad:

Money counts, but the quality of the assistance is crucial 267

Alhaji Jeng:

Some comments 271

More and Better: Principles for good aid 273

Strategies for how Africa can feed itself and preserve the environment

Olaseinde Arigbede:

Strategies for how Africa can feed itself and preserve the environment 276

Introduction

The hunger in Africa is increasing - despite the fact that the majority of the population is food producers, farmers, fisherfolks and pastoralists. At the same time dumping of products from rich countries destroys local production in many countries in Africa. Norwegian organizations, institutions and companies involved one way or the other in African agriculture decided in the beginning of 2007 to facilitate discussions, mainly among African partners and contacts, about how Africa can feed itself and at the same time preserve the environment. Our starting point was that Africa can feed itself, but when we organized the conference in June 2007 the title for the conference asked *Can Africa feed itself?* because we thought that would create more interest for the conference. Some of the speakers from Africa came because they were provoked of the title. The title of this book state clearly the common opinion of the conference: Africa can feed itself.

This book is the result of the conference. All articles are by speakers at the conference in Norway in June 2007, some are written with colleagues. Some of the articles are speeches from the conference, others are new articles. All are to the issues taken up by the conference. The articles are placed under the title of the seminars at the conference, but there are overlaps. You will find opinions about strategies in the section about the challenges Africa are facing and in other sections, not only in the section about strategies. Similar with other issues.

The organizing committee of the conference (see list below) hope that this book can stimulate work and discussions about how Africa can feed itself and at the same time preserve the environment.

I want to thank all the authors for their contributions, and all the institutions, organizations and companies in the organizing committee which made the conference and this book possible. I also want to thank all the organizers and the Norwegian Ministry of Foreign Affairs for their economic support.

Organizations, institutions and companies in the organizing committee:

Care Norway, Development Fund, Drylands Coordination Group (DCG), Farmers and Smallholders' Union, Farmers' Union, Federation of Norwegian Agricultural Co-operatives, FIAN, Institute for Agricultural and Environmental Research, Ministry of Agriculture and Food, the More and Better campaign, Nature and Youth, Norad - Norwegian Agency for Development Cooperation, Royal Norwegian Society for Development, Oikos, Spire - Development Fund's youth group, The Norwegian Agricultural Purchasing and Marketing Co-operation (FK), University of Life Sciences, Yara International ASA

Oslo, Norway August 2007

Aksel Nærstad

Chair of the organizing committee and editor of this book

Senior policy adviser, Development Fund, Norway

Some conclusions and recommendations

from the conference *Can Africa Feed Itself?*

Oslo, Norway June 6-8th 2007

Aksel Naerstad,

Chair of the organizing committee for the conference

At the conference, the speakers and participants had different views about the various issues presented. This paper tries to reflect some common viewpoints as well as some important disagreements, but it does not reflect all the views. A draft has been circulated to the speakers and their comments and inputs are reflected in this final paper. The feedback was very positive and several speakers and organizations proposed that the conclusions and recommendations should be stated on behalf of the conference. However, the organizing committee decided not to make a consensus document, so these conclusions and recommendations are the chair's notes. The speakers present their main views in their papers which are published in this book.

About 270 people took part in the conference. Two thirds of the 27 keynote speakers were from Africa: Ethiopia, Kenya, Uganda, Malawi, Mali, Mozambique, Sierra Leone, Ghana, Nigeria and South Africa. The other speakers were from India, Lebanon, USA, Canada, Germany, Italy and Norway. The speakers were leaders of farmers' organizations, scientists and development experts. Representatives from the Food and Agricultural Organization (FAO) and the International Fund for Agricultural Development (IFAD) of the United Nations were among the speakers, as well as two Norwegian ministers - the Minister of Agriculture and Food, and the Minister of International Development.

Some background information

Africa is a continent with huge natural and human resources, and low population density. There are lots of examples of positive development, despite the enormous challenges and problems the continent is facing. There are large differences between regions and countries, and within countries, and it is necessary to be sensitive to these differences in dealing with development policies.

The situation in Africa has to be seen in the light of a long period of colonialism and other forms of oppression, the influence of international finance institutions, unfair trade rules and imbalance of power. However, it is also important to focus on the role of the leadership within Africa and within each country.

The majority of the population in Africa lives in rural areas and consists of small scale farmers, pastoralists and artisanal fishers. More than 200 million people in sub-Saharan

Africa are permanently undernourished, and the numbers are increasing. From 1990-92 to 2001-03 the number of undernourished people increased by 37 million. The positive sign is that the percentage of the undernourished population went down from 35 percent to 32 percent in the same period.

Africa is the region in the world with the largest share of the population living in poverty. More than 300 million people in sub-Saharan Africa (44 percent) are living on less than US\$ 1 (PPP) a day, and more than 500 million people (75 percent) are living on less than \$ 2 (PPP) per day.

The least developed countries (LDC's) as a group, of which the majority are African countries, were net food exporters until the middle of the 1980s, but since then they have had an increase in net food imports.

The environment in Africa is under serious threat and pressure. The loss of biodiversity and forest threaten the basis of life and food production. Water scarcity and water pollution are causing serious problems for millions of people. Climate change is already causing severe problems of drought, flooding and unpredictable weather, creating losses in food production and destroying peoples' livelihoods.

Malaria, tuberculosis, Dengue Fever, HIV/AIDS and other diseases are killing millions of people and reducing the quality of life for many more. These diseases also have a considerable negative impact on food production and food security.

Very little attention is paid to agriculture and rural development in relation to the population living in rural areas and working in the agricultural sector. This is the case for governments in most developing countries, international institutions and in development assistance from donor countries and organizations. IFAD characterized agricultural assistance as having collapsed in the 1990s. The support for agriculture in Africa in development assistance went down from USD 4,5 billion in 1989 to USD 2,8 billion in 1997.

Agriculture is now given higher priority again by some countries and institutions. US foundations are now starting to support big programmes for a New Green Revolution in Africa. These programmes are, however, very controversial, and received special attention at the conference.

Women do most of the work in agriculture and in the families, but at the same time the majority of poor and undernourished people are women. All development activities have to take the role of women into account and to pay special attention to supporting women.

The youth represent the future. It is therefore of special importance to create good conditions for them, as well as giving them the possibility to take part in development processes.

Africa needs to develop many sectors of society; industry, education, health care, social and other services, infrastructure and trade, as well as agriculture, pastoralism and fishery. The conference *Can Africa Feed Itself?* did focus on agriculture, pastoralism and the environment because the majority of the population is working in agriculture or is directly linked to it. The agricultural sector plays a major role in the economy of most

African countries. It is crucial for fulfillment of the right to food, and the preservation of the environment. It is absolutely necessary for long term food security and livelihoods.

1. Africa can feed itself

There is no doubt that Africa can feed itself and at the same time preserve the environment and natural resources, but to make it happen there is the need for action; new policies and proper political framework, strengthening of social movements, especially farmers' unions, technical training in sustainable farming techniques, more research, better infrastructure, strengthening of local and national markets, protection from dumping and cheap imports, and more and better support for agriculture and rural development both from the governments in developing countries and through development assistance from the OECD countries, organizations and international institutions.

Hunger and poverty are first of all political issues related to political and economic power. There are no technical measures that can eradicate hunger and poverty on their own. Developing countries need policy space to define their own development policies according to their special needs and wishes. Developing countries have to have the right to use the same means to develop their societies as rich countries used.

Food production for domestic consumption should be the priority in agricultural policies, while production for export should merely be additional. Developing countries need to have the right to take the necessary measures to be able to produce healthy and sufficient food for their own population. International trade rules have to respect that, and to make international trade fair, without the possibilities for rich countries to use any kind of export subsidies and dumping to destroy national markets or to violate international markets.

The right to food is a human right. Human rights have to be the base for development, and all development work should have a rights-based approach.

Many speakers underlined the responsibilities of governments in developing countries. Many of the people in power have not opposed damaging policies by rich countries, companies and institutions, and they have not promoted policies based on the needs of their people. Social movements and organizations in developing countries need to put pressure on their governments to listen to their own people and to fight for their needs.

Most of the speakers underlined the need to recognize and implement food sovereignty, but not all speakers and participants knew the concept of food sovereignty or agreed with it. Further information and discussions on food sovereignty as an alternative model for agriculture are needed.

2. Preserving biodiversity and other natural resources

Agriculture and environment are inseparable. Preservation of biodiversity and other natural resources is a prerequisite for long term food security and to eradicate hunger and poverty. The loss of forests and biodiversity, and the destruction of other natural

resources like watersheds, pastures, soil and mangrove, are causing hunger, poverty and the destruction of livelihoods for millions of people, and are undermining the very basis of life for future generations.

Small scale farmers, pastoralists, herders, gatherers and artisanal fishers have for thousands of years played a crucial role in the preservation of biodiversity and natural resources, and they will also do so in the future. Women play an especially important role. However, inappropriate agricultural activities can also reduce biodiversity and damage the environment.

More focus on agriculture and pastoralism is needed to eradicate hunger and poverty, and support for sustainable agriculture has to be linked to the preservation of biodiversity and other natural resources. At the same time the role of women has to be highlighted, supported and linked to the preservation of the environment and strengthening the agricultural sector.

3. Climate change brings new challenges

Rich countries and big industries have the main responsibility for causing climate change, which is destroying the lives of millions of people, their livelihoods and the environment. The rich countries and big industries have to cut down their emission of greenhouse gasses to a per capita level which is sustainable, and where each country has the same emission level. Globally, there is the need to limit global warming to well below 2 degrees centigrade above pre-industrial levels, to avoid the worst consequences of climate change. This would mean per capita carbon emissions of no more than 2 tons, significantly below what is the average in developed countries. The rich countries should also pay the developing countries for the damage of lives, livelihoods and the environment they have caused and assist them in their efforts to adapt to the changes.

Most developing countries are now following the same path as the rich countries and are increasingly contributing to climate change. There is therefore also a need for developing countries to limit their emissions to a level which is sustainable at a global level.

Both developed and developing countries need to make changes in the use of energy resources, means of production and the organizing of societies to achieve sustainable development. This is a most urgent task. The main responsibility lies with the rich countries.

Even with immediately drastic reductions of emission of greenhouse gasses, the climate will still change in the coming years. Adaptation to these changes is therefore necessary. Small scale farmers and pastoralists are the most vulnerable to climate change and at the same time those who have the valuable experience necessary that will allow them to adapt to climate change. They are, however, mostly out of the picture in public debate, programs and actions by governments and donors linked to climate change.

To adapt to climatic changes farmers, pastoralists, artisanal fisherfolk, indigenous peoples, etc. need to exchange experiences, knowledge and seeds with other farmers and pastoralists, and they also need stronger support from their governments and donors to

be able to do so. International organizations like FAO, IFAD and the Consultative Group on International Agricultural Research (CGIAR) can play an important role in supporting farmers and farmers' organizations in this. Also, bilateral development cooperation must increasingly address the agricultural challenge of climate change.

Agro-fuel / bio-fuel can, under certain conditions, play a role in reducing emission of greenhouse gasses. However, many speakers underlined that it is impossible to replace the use of fossil fuel with agro-fuel / bio-fuel. Only small quantities can be replaced without huge negative impacts on the environment and food security. Many are concerned that production of agro-fuel / bio-fuel will cause a large scale loss of forest and biodiversity, an increase in food insecurity in many countries, and will give very little net reduction of greenhouse gas emissions.

4. Prioritizing small scale farmers, pastoralists and artisanal fishers

The majority of the food producers are small scale farmers, pastoralists, herders, gatherers and artisan fishers, and they produce the food consumed by the majority of the world's population. They are also the main keepers and protectors of biodiversity and natural resources. Women play an especially important role both in food production and in the preservation of the environment.

Small scale farmers, pastoralists, herders, gatherers and artisan fishers, and especially women within these groups, have to be in the centre of policies for the eradication of hunger and poverty, as well as for rural development. Big scale commercial farms also have a role to play in the economy and agricultural production, but governments, international institutions and donor agencies and organizations should prioritize improving the conditions for small scale family farms and other small scale food producers.

5. Strengthening farmers' organizations is key

People who are not organized have usually very little power. The strengthening of the organizations of farmers, pastoralists and artisanal fishers should therefore be a key element in development strategies. Such organizations are also needed for mobilizing their own resources, the exchange of knowledge and experiences, cooperation with scientists, training in improved farming techniques, marketing and processing. Special attention has to be paid to the role and needs of women.

6. Special attention for the needs of youth

There are huge challenges in making agriculture attractive for youth in Africa. They want more than just to survive on subsistence farming. Farming has to give a surplus which can be used for investments in farming while supporting a dignified livelihood for farmers and their families. Diversification and improved farming techniques are important to achieve this. Awareness raising about the value of processing, the functioning of markets, marketing etc. are also important.

Better education systems and access to education are very important. The content of education is not given enough attention. A lot of the education and training is not based on the need in the society. Agriculture should be given a higher priority in education. Both national and international NGOs also have a responsibility in aiming their training at agriculture, and to pay special attention to the needs of women.

7. Strengthening research and cooperation between farmers and researchers

Farmers have been breeding plants and animals for thousands of years and have a unique knowledge about ecology, farming systems, plants and animals. Based on their accumulated work and knowledge, scientific researchers have been able to develop valuable new knowledge and varieties. There has, however, been far too little cooperation and interaction between farmers and scientific researchers, especially plant and animal breeders.

For some decades now, the support for public research in agriculture has diminished substantially, and private companies are now carrying out most of the scientific research. This is a huge problem because the companies more or less have to do their research based on what they can earn money on, not on the needs of people and the environment.

There is a need for more research and development work in agriculture, pastoralism and artisanal fisheries. Such research should be based on the needs of the people living in and off nature, and on the need to preserve the biodiversity and natural resources. Such research should be carried out in close cooperation with grassroots researchers, breeders, farmers, pastoralists and artisanal fishers. Special attention should be paid to the knowledge and needs of women.

More public funding for research is needed to make sure that research and development work are based on the needs of people, and not only on economic interests.

8. Organic agriculture can play an important role

According to the FAO, average global organic yields are calculated to be 132 percent more than current food production level. Organic agriculture is more energy efficient and more labour intensive than non-organic agriculture.

There is no doubt that organic agriculture can play an important role in African agriculture in many ways; for food security, increased net income for farmers, preserving biodiversity, efficient use of water and minimizing the use of fossil fuels. Information and training of farmers in organic farming methods should therefore be an important part of the agricultural policy and practice for African governments and donors.

There were different opinions about how important a role organic agriculture should and can play in Africa, and which role agriculture with use of chemical fertilizer and chemical pesticides ought to play in the future.

9. No consensus on the Green Revolution

A lot of economic and human resources are now being put into a new green revolution in Africa. There is lack of information on what is going on, and a lot of uncertainty about the contents of the initiatives for a green revolution in Africa.

The majority of the speakers and other people who spoke at the conference were strongly opposed to or very skeptical of a new green revolution. Some, but very few, strongly supported the initiatives and programs for a green revolution in Africa, and some were of the opinion that it could have some valuable elements, but underlined a need for caution.

Farmers and farmers' organizations have not, or only to a minimal extent, been consulted by the institutions which are promoting the green revolution in Africa, about their needs and their priorities for the use of additional funding for agriculture and rural development.

Speakers and participants with opposite views as to whether a green revolution would be beneficial or harmful to the poor and the environment, agreed, however, on the need for real and deep consultations with farmers and farmers' organizations about programs and projects before they are operationalised, and in the decisions about what kind of programs and projects should be funded.

10. More, but also better assistance

The majority of the poor and the majority of the undernourished are living in rural areas and are linked to agriculture, pastoralism and artisanal fishing, but the resources allocated to these sectors and to rural development by the governments in Africa and the donor countries, institutions and organizations are very small compared with the size and role of the sectors.

It is urgent that the governments in Africa reach their target set by the African Union in Maputo in 2003 to increase the support for agriculture to a minimum of ten percent of the national budgets. Likewise, the donor countries, international institutions and development organizations have to allocate more money to agriculture and rural development and to give it a much higher priority in their development assistance.

Several speakers looked at development assistance from rich countries as a payback for some of the damage these countries have caused through colonialism, unfair trade, climate change etc.

Some development assistance does more harm than good. As important as the size of the support, is the quality of it. All assistance should support programs and policies developed by the recipient communities and countries. Good aid is based on active dialogue with and participation of the local communities and the organization of the target groups. Strengthening of farmers' organizations is of special importance for development assistance to agriculture and rural development.

The More and Better campaign (www.moreandbetter.org) has developed some principles for good development assistance for agriculture and rural development to

eradicate hunger and poverty. Not all speakers and participants were familiar with these principles, but several speakers pointed out that the principles are very good and should be a base for further discussions with and among governments, institutions and organizations involved in agriculture and rural development.

11. Norway can play an important role in supporting African agriculture and food security.

Since the conference was in Norway, special attention was paid to the role Norway can play in supporting agriculture and food security in Africa.

The political role Norway can play is very important and can have a huge impact. Norway should be very active in promoting on an international level some important principles in the political platform of the government (the Soria Moria declaration);

- poor countries should have the right and means that have been important in developing Norway into a welfare society,
- each country has the right to the production of food for its own population, and this should be recognized in the WTO negotiations,
- poor countries must have sufficient political freedom of action to protect their own food production,
- countries in the south have to have sufficient freedom of action to choose development strategies that take into consideration their special needs and level of development.

The decision by the Parliament to prioritize environment, women and agriculture is very good and has to be put into action and promoted internationally. The priority of women and environment in development assistance has to be linked to sustainable agricultural development and the strengthening of organizations of and for the poor in rural areas.

Stronger cooperation between scientists and farmers in Norway and developing countries will benefit both sides. Developing countries, institutions and organizations have a lot to learn from Norwegian institutions, scientific research, farmers' organizations and cooperatives, and development organizations. Norwegian scientists do a lot of very good and valuable research in tropical agriculture, dryland issues, farmers' rights and other important development issues. The farmers' organizations are strong and have built up very important systems for production- and price control, extension services etc. At the same time these institutions and organizations will benefit a lot from closer cooperation with their counterparts in developing countries. Strengthening such cooperation should be a key element in Norwegian development policy.

Norway should actively promote the right to food and the implementation of the voluntary guidelines for the right to food.

Norway should continue to promote and develop the international framework for farmers' rights. Norway should also support information and discussions about food sovereignty.

Norway should increase the support for agriculture and rural development, both in size and as the share of the total budget for development assistance.

Each nation has the right to produce food for its own population

Terje Riis Johansen,

Norwegian Minister of Agriculture and Food

Opening statement at the conference Can Africa feed itself?

Oslo, Norway, June 6. 2007.

As the Norwegian Minister of Agriculture and Food, much of my time is spent on national agricultural issues. However, national and international questions related to agricultural policy are closely linked, and I am personally especially concerned with the question asked in this conference – how can Africa feed itself in a truly environmentally sustainable way?

Achieving sustainable food production and self-sufficiency levels, as well as ensuring each nation's right to produce food for its own population are concerns and thus policy goals that Norway and many poor countries have in common. Also, these are fundamental questions when addressing the issue of reducing poverty in the world. These questions are also very high on the world's agenda today, as we experience that the effects of climate changes are coming closer every day, and we feel more and more certain they will increase in the future.

70-80% of the world's poor live in rural areas and their lives depend on agriculture to a very large extent. Sadly, it is also the poorest who will be hit hardest by future climate changes. The consequences of the changes are bigger for them since they are also the most vulnerable to begin with. And precisely because of this high degree of vulnerability in the poor developing countries, it is especially important to focus on agriculture and food supply in development and cooperation. Increasing the productivity and efficiency of the agricultural sector should therefore be central in the work with poverty reduction.

This fact has been acknowledged in a book recently published. One of the writers, Erik Thorbecke at the Cornell University in New York, underlines the importance of agricultural development in order to better the livelihoods of the poorest. He especially points at Sub-Saharan Africa, where agriculture has been ignored over the last decades. All industrial and commercial development has been concentrated around the cities, while agriculture has been used as an object for taxation. Thus, the farmers have had few incentives to increase efficiency, and the food production per capita is at the same low level today as it was 40 years ago.

Professor in economics, Mr. Jeffrey Sachs, recently made the same point in an article in a Norwegian business newspaper. He wrote; "in a hungry and poor economy dependent on agriculture, like the Chinese economy was in the 1970's, and most of Africa is today, what is most important is to increase the productivity in agriculture. The small farmers

need fertilizers, irrigation systems and good seed grains. Such a policy was a central part of the economic growth in China.”

(Millenium Development Goals)

The UN Millenium Development Goal (MDG) number 1 is to abolish extreme poverty and hunger. Further to this, two partial goals have been established, of which one is to reduce the share of starving and undernourished people by half by the year 2015.

More than 850 million people still have insufficient access to food and live in deep poverty. This is happening at the same time as we know that poverty often hits hardest in rural areas. The rural poor are further away from a minimum level of income, have less access to public services and fewer alternative possibilities for income than their fellow citizens in the cities.

A productivity increase in the agricultural sector will most probably result in increased food security. However, such a productivity increase will not necessarily reduce poverty in rural areas. There is sharp price competition within the markets for agricultural products. Growth in one area may lead to a worsening in others, both as a result of falling prices and loss of markets.

Therefore, several aspects are important in order for rural economic growth to contribute to reduced poverty.

1. The increase in productivity should mainly be directed at small and medium sized farms. Productivity growth alone and increased incomes in large commercial farms will have little or no impact on poverty reduction overall.
2. The productivity growth should occur where there are possibilities for increasing sales, in its turn, dependent on increased demands, processing and industrial possibilities, and functioning markets so that the growth can have local spill-over effects.
3. Poverty has several dimensions, and is not only about lack of soil, input goods or food, but it is also about lack of social security.

A strategy for agricultural development where poverty reduction is a major priority must therefore be founded on the fact that all poor men and women have their own resources. Thus the challenge lies within supporting and releasing their possibilities, values and capacities.

(Norwegian debate)

In the Norwegian debate about agriculture and development, the focus is often on trade with agricultural goods from the poorest countries. The Norwegian government wants to contribute to increase the poorest countries share of the imports to Norway of agricultural goods. However, this is a very difficult task due to several crucial factors, such as lack of productivity and capacity increase in the poorest countries, poor or non-existent local and regional infrastructure and weak political systems. A long-term focus on agricultural

development cooperation can therefore contribute to build a sustainable agricultural sector in developing countries and in the future contribute to increased exports from developing to developed countries.

(Norway wants to contribute)

Norway wants to contribute to agricultural development based on our qualifications and conditions. We can assist with knowledge-transfer and resources in order to increase the agricultural capacity in Africa. Building a sustainable agricultural production in Africa will contribute to lift people out of poverty. What then, is good agricultural development assistance? What is needed and what role can Norway play?

Norway is already emphasizing certain prioritized areas of work, both through our multilateral engagement in e.g. the UN Food and Agricultural Organization (FAO) and through bilateral cooperation. The FAO has a unique role to play as a global organization in this field, with its combination of global norm setting work within the topics food/nutrition and agriculture, combined with practical field work. Norway is a firm supporter of the efforts that the FAO puts into its work on genetical resources, sustainable forestry and food security e.g. within the frame of Codex Alimentarius. These are important areas of concern for all FAO members, rich and poor, northern and southern. The work carried out by the FAO's Commission for Genetic Resources for Food and Agriculture (CGRFA) and individual countries' implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture contribute vastly in the fight against hunger and poverty.

(Farmers in focus)

In these forums, Norway has called for a stronger focus on the farmers' role as a manager of the diversity of plants and nature that are important for future development of sustainable agriculture. Further more, we have taken advantage of our cold climate by building a seed bank in the mountains located in permafrost areas in Svalbard. There, countries will be able to secure irreplaceable seeds which may have an important role for both food security and future agricultural development.

(More and Better)

Still, it is difficult to say what is the most efficient way to give good agricultural development assistance. The international "More And Better- campaign" is advocating both more and better agricultural development assistance and cooperation. I highly support this campaign in its assumption that all aid and development assistance should be focused on the place where the poor people live. We need to look at what are the local populations' needs and how we can best contribute to fulfill these needs.

(Sustainable agriculture)

A balanced policy for natural resource management, respecting environmental concerns and contributing to gender equality, based on basic human rights is necessary in order to reach the UN MDG's.

In Norway, we acknowledge and understand the importance of having a national sustainable agricultural sector. Although our situation and conditions are very different from many poor countries, we have to keep in mind that we share many of the same concerns, e.g. related to each nation's right to its own food production. Therefore we unite with several developing countries in international negotiations such as the WTO, where we defend this right together. Agriculture contributes to food security, something which is important to all countries of the world. We thereby acknowledge that agriculture produce more than food itself.

Over the next three days, some of the world's best competence on these topics is gathered; I wish you all good luck! The Minister of International Development and I look forward to receive conclusions and good advice on what is good agricultural development assistance and cooperation, and also on which role Norway can play.

We have to examine the issues of power and politics

Erik Solheim

Norwegian Minister of International Development, Norway

Opening statement at the conference *Can Africa Feed Itself?*

Oslo, Norway June 6th 2007.

Bertholt Brecht has pointed out that famines don't just happen; they are organised by the grain trade. Today we are asking ourselves whether Africa can feed itself. I believe that nature has provided Africa with enough resources to feed not only itself, but also large parts of the world.

In order to understand why this is not happening, we have to look at the situation with Brecht's eyes. We have to examine the issues of power and politics.

Many people believe that my job as Minister of International Development is looking after Norway's public charity programmes. That I'm some sort of Mother Theresa in trousers. They couldn't be more wrong.

I am a politician through and through, not a charity-worker. All that we do in development cooperation, in the fight against poverty and in our efforts to contribute to statebuilding is based on political analyses. Poverty is not coincidental. Famines don't just happen. Wars are not unfortunate accidents. Repression and abuse of power are not due to bad luck.

I think this should be our point of departure when we try to come to grips with the situation in Africa.

The issue of hunger

About a year ago, I established a working group to study the issue of hunger. In my discussions with the group I have come to realise that while recurrent food crises have multiple causes, the main issue is not lack of food, but lack of *access* to food.

It is technically possible to double or even treble food production in Africa. But the import of heavily subsidised cheap food from rich countries make it impossible for many African farmers to compete even in their home markets.

So the leaders of rich countries play a key role through the policies they adopt. Subsidised exports of surplus agricultural produce from heavily subsidised production in rich countries are destroying markets in poor countries.

Another problem is that political leaders in poor countries do not always respond to the needs of the poor, and some even show utter indifference to the plight of their citizens.

Lessons learned

Maintaining food security at both national and household level is a major challenge for many developing countries. At the same time, food security is crucial both for the welfare of the people and for political stability. Developing countries have adopted various strategies to increase production: intervention in markets, public distribution of food and maintenance of national food security stocks. Food aid, in the form of both short-term emergency relief and programmes to address medium-term food “deficits”, is often a major component of these food security strategies.

The World Bank Institute has recently compared food security in four major recipients of food aid (India, Bangladesh, Ethiopia and Zambia) over the past four decades. These are countries that have been at the centre of much of the food aid debate.

Both India and Bangladesh have dramatically increased food production and reduced the need for food aid. In contrast, food aid has accounted for a major share of food supplies in Ethiopia for more than thirty years, and in spite of some increases in grain production since the mid-1990s, emergency food aid appeals are still an almost annual occurrence. In Zambia, food aid has only occasionally, in severe drought years, been a major supplement to domestic supplies, although maize production has declined steeply since the late 1980s.

Developments in Asia suggest that food aid that 1) helps to build up production and markets, 2) is timed to avoid adverse price effects on producers, and 3) is targeted to food-insecure households, can play a positive role in enhancing food security. Most important is a balanced, mutually-reinforcing mix of policies that reduce production and market constraints and raise the real incomes of the poor.

Norway's approach to food crises

Food aid is necessary in certain crisis situations. But food distribution schemes should be based on food bought locally or regionally. Therefore Norway gives money, not food in response to humanitarian crises. The distribution of food can undermine local production and markets and should not form part of long-term development programmes, with the exception of school-for-food-programmes. And these programmes should also be based on food bought locally.

I would like to urge NGOs receiving food from the US authorities to distribute or sell at a low price, to stop doing so. Ninety per cent of all humanitarian aid comes with strings attached. And behind the scenes, a whole industry is profiting from the export of cheap food to developing countries.

A green revolution

There is an urgent need for new policies, but these must be comprehensive policies that take account of the whole chain from production to consumption.

Agriculture obviously has a crucial role to play in producing food, generating jobs,

improving livelihoods and increasing economic development. Revitalisation of agriculture is vital if we are to succeed in reducing poverty and hunger.

It may be that Africa needs a green revolution to increase its food production, but it should be based on an ecological approach and include extensive support for local farmers who supply their own families and local markets. Neither technology nor chemical fertiliser alone can solve Africa's food insecurity.

I am glad that the Norwegian fertiliser producer Yara is cooperating with the Bill and Melinda Gates Foundation and the Rockefeller Foundation in the Alliance for a Green Revolution in Africa, which is taking a holistic approach to increasing food production and availability in Africa. Norway may take part in the alliance in one or two African countries through the Norwegian Agency for Development Cooperation (Norad) and Norfund. I hope this cooperation will be successful in targeting the real issues, and I urge civil society to engage in these efforts.

Climate change

The world has finally realised that climate change is a serious threat to our survival. The paradox of global warming is that it is mainly a bi-product of the developed world's wealth, but it hits the poorest countries hardest – those that have done the least to cause it. The poorest countries' contribution to global warming is marginal, but the very fact that they are poor means that they are least equipped to take adaptive measures.

Some will have to adapt to farming in a dryer climate, others to wetter conditions. Some will have to increase preparedness for natural disasters in the form of more frequent floods and hurricanes.

Assisting developing countries to adapt to climatic change should be among our top priorities. I recently visited Zambia. The Zambian Minister of Agriculture said: "Climate change is already here – we have to adapt in order to secure long-term sustainable agricultural production." We have decided to provide support for Zambia's very promising adaptation programme amounting to NOK 145 million over a five-year period.

The need for a blue revolution

There is much talk about green revolution these days. But we should perhaps also be talking about the need for a blue revolution.

World production of fish has grown recently, mainly due to increases in aquaculture production. However, the consumption of fish in Sub-Saharan Africa has decreased.

The reasons for this are not fully understood, but poverty itself, less availability of fish – possibly due to lower water levels and higher levels of pollution in lakes – and increased international trade in fish are believed to be factors.

However, studies have shown that food security, including the consumption of fish, has improved in countries with good resource management and good governance in the fishery sector. Hence, funding that encourages and supports good governance and resource

management and pro-poor policies is an important tool for increasing food security.

Although Africa has considerable potential for aquaculture, production is still low in most African countries. The reasons are very similar to the reasons for the continent's low agricultural output. They include lack of local buying power, lack of institutional and physical infrastructure, lack of expertise and technology.

Norway has extensive experience and expertise to offer on all aspects of aquaculture from stock management to processing and marketing, and we are now looking into how we can increase our development efforts in this field.

Norway has made the UN Millennium Development Goals the centrepiece of its efforts to fight poverty. These goals cannot be achieved without an increased effort from the whole international community, with governments, and civil society working together. Developing countries must take the lead in this process. In countries where there is little commitment, civil society has a key role to play in pressing governments to take action. I believe this conference will stimulate these efforts, and I hope your discussions will be fruitful.

It is necessary to invest in farmers' political and mobilization capacities

Ibrahima Coulibaly

President of the CNOP (National coordination of farmers' organization of Mali)

I INTRODUCTION

Development taken hostage by a coalition of local political elites in Africa and international financial institutions in the hands of the rich countries

It is very difficult to understand the situation of poor countries in Africa; since the first years of independence **these countries have been implementing so-called development** policies particularly aimed at rural areas; hundreds of millions of dollars have been invested in that respect; however, one cannot help notice that not only has poverty not declined in rural areas, but it has rather further increased. Rural communities are more and more excluded from any possible well being and the solutions proposed seem even worse than the problem as they could only make it worse, and they are called: competition and open markets, land privatisation, etc...

A close examination of the situation reveals that most of the errors which led to this situation could be foreseen, as they did not correspond to any coherent choice of development policy (the reintroduction of so called cash crops from the colonial period, the price of which depends on a world market in the hands of rich countries, the ignorance of subsistence farming, food imports on to the world market, investment in costly bureaucracies instead of investing into the production tool of family farms which account for the majority of production systems in African countries.

The impossibility to design and implement real development policies since international financial institutions are blocking any possibilities of departing from the principles of neo-liberalism.

II BACKGROUND ANALYSIS

Situation of agriculture and farming families

Small family farmers still remain a large majority of the population in most countries in Africa, accounting for 50 to 80% of the population depending on countries. The output of these family farms accounts for more than 30% of the national wealth of most countries, and often even exceeds 50%. However, the great majority of these countries only use a very small proportion of their budget for agriculture, between 5 and 7% on average; commitments made in Maputo at the summit of African heads of states to raise this rate to 10% have not lead to any changes in this regard.

Upon close examination of the situation, it turns out that small family farm production is achieved in very difficult conditions in almost all African countries. As a matter of fact,

agriculture remains heavily dependant on rainfall. In spite of a few efforts made in certain countries, irrigation concerns only a few « privileged » areas where most of the time the developments achieved with the use of public funds are synonymous with land insecurity for farming families. The message sent by the international financial institutions controlling the economic choices of poor countries since the arrival of structural adjustment programs is that this form of agriculture is not efficient and that it needs to be replaced by agro-business which in its case must necessarily enjoy land security; what a paradox! .

However, with the current conditions of production and agricultural markets (very low and unstable prices, very often below the costs of production, no investor in his right mind would really invest in agriculture; only a few land speculators pretend to be investors by holding the ambition of grabbing farmers' lands before they earn any value.

The challenge at this level is to create conditions of a gradual change in agriculture in the face of its vulnerability as a result of unpredictable rainfall in many poor countries and also to find in the agricultural policies conditions for securing land for all farm families, particularly the most vulnerable ones.

In addition, the level of farm equipment of family farms remains extremely low. An FAO study estimates that 55% of the number of farm families in Mali do not have any basic equipment, i.e., a plough, a pair of oxen, a cart, or a donkey for the transport of harvests and organic manure.

Such inadequate equipment leads to the following problems:

- Inability to plough and sow in time,
- Bringing organic manure and therefore maintaining fertility,
- Carrying the harvested crops to the rural markets.

The challenge at this level is to find a sustainable mechanism to equip families with at least the basic generic implements designated above.

Most policy makers in Africa are now convinced that it is the low level of motor use which accounts for the low level of production in African countries; however, poorly designed motor use policies would increase the costs of production, worsen the already high level of indebtedness of certain families without price increases, leading to a great number of family farms going bankrupt and forcing thousands of people to migrate.

What weakens family farms more than anything else is the continuous decline in agricultural prices due to an exacerbated opening of markets, notably subsequent to Structural Adjustment Programs, the liberalization of the economies of African countries, and the drastic fall of customs duties on the importation of farm products from rich countries.

Competition with imported food products sold at a low price does not allow for local production of farm families to be sold at good prices covering the costs of production and generating a profit which may be reinvested into production notably the maintenance of soil fertility and improvement of the level of equipment.

Confronted to dumping on and marginalization of their own markets, farm families

cannot cover their costs, a situation which leads to vulnerability, poverty and the inability to renew production tools and to ensure good soil fertility.

The challenge at this level is to make all policy makers, urban and rural consumers aware that this situation prevents the internal creation of wealth, halts investments and the modernization of productive sectors, and mortgages the future of the countries.

Ensuring a mechanism for adequate prices is the only way to combat poverty and create the necessary conditions for the modernization of family farming and the preservation of the environment.

There is a major gap between the rhetoric of politicians, focused on outright agrobusiness, and the realities of family farmers who have difficulties accessing equipment credit, irrigation and mostly markets that would enable them to receive a decent price covering the costs of production and generating profit.

The challenge at this level is to impose the family farm as an economic and social pole which is relevant and essential in order for everyone to become employed, for poverty to decline and for peace and economic growth to set in. This will only be possible when attempts at land privatisation and marginalization of small producers are completely abandoned.

Few policy makers in Africa think about the buffer role played by agriculture. As a matter of fact this sector which already keeps 50 to 80% of the population busy depending on the country, is the guarantee of political and economic stability because this majority of the population is not asking governments for employments, unlike rich countries where governments know that they must do everything in order to create employment for their people in order not to destabilize the existing systems.

Environment, the only accessible capital

There is a direct correlation between the low level and the decline of incomes of family farms and environmental degradation. As a matter of fact, when farm incomes do not go hand in hand with the only means of surviving for most farms, which is to rely on the environment that happens, it ends up being overexploited under all its forms.

First of all the low income level prevents farm families from maintaining soil fertility, which ultimately translates into land degradation through erosion; then lack of income pushes farm families to find alternative sources of income in the environment, one of the most evident of which is tree cutting and selling for meeting urban needs. Environmental preservation policies cannot be really successful as long as farm revenues do not make it possible to lead a decent life.

The challenge at this level is to create viable conditions for family farms based on agricultural income.

The level of agricultural policies

In a certain number of countries in Africa, there is renewed interest for agricultural policies;

however, this renewed interest comes at a time of globalisation and forced opening of mostly agricultural markets. In such a situation the often relevant measures in developed agricultural policies (such as food sovereignty) will strive to provide concrete results.

For example, ECOWAS, which is the integration forum in West Africa gathering 15 states, has independently developed an agricultural policy with strong involvement of civil society, particularly farming organizations. However, as this agricultural policy comes to the implementation stage, that same ECOWAS is getting ready to sign with the European Union a free exchange agreement called the APE (economic partnership agreement) which is a completely free exchange agreement.; knowing fully well that this is not how Europe itself, which developed and implemented a common agricultural policy in its initial stages, managed to develop. It rather set up a very strong protection policy of its agricultural sector, a protection which it maintains with billions of euros in subsidies to-date.

At the same time, one can note a strong pressure by the United States who wishes to push African states towards introducing patented GMOs by their multinational corporations and to that effect any means are allowed, including corrupting the political elite and agricultural research in the countries involved.

Food aid and food security

In most African states called structurally deficient, has developed over the past decades a culture of food aid from rich countries to these poor countries which is based on dumping surplus production particularly from the United States and Europe. By accepting this situation of facility, which takes up significant room from local production, these countries have taken the risk of not developing by not protecting their agriculture.

The new situation of bio fuels, which is the subject of all discussions at the highest political level nowadays in Africa, will take up most farmland traditionally meant for food production and risk increasing food insecurity in Africa if these bio fuels are produced. In addition, in global markets they will dangerously raise world grain prices and will drastically reduce food aid, a situation which could severely affect poor countries which are heavily dependant on these issues.

This situation is an important reason for poor countries in Africa to develop policies going in the sense of achieving food sovereignty.

By counting on secured local production, African countries will truly head for development and will free themselves from the weight of food imports and the overbid on international markets.

III- COHERENT DEVELOPMENT POLICIES

A booming environment for the agricultural sector

It is becoming increasingly clear that agricultural production cannot increase in a sustainable manner without a coherent economic and political environment ; at this level

there is an increasing emphasis on the necessity to integrate the economies of regions which have similar situations (real economic integrations, and not the current makeshift integrations), notably through:

- The creation of regional common agricultural markets with free movement for agricultural products which most of the time are complementary;
- The protection of these regional markets against any importations of cheap agricultural surpluses through the establishment of custom duties which are protective enough to enable local farmers to live and prosper;
- Negotiate only trade agreements which guarantee a chance of success for local economies and local production.

The necessity of decent farmers' incomes

It is no secret that agricultural prices are low, farmers do not recover from their production costs; it is therefore necessary to raise farm prices but in a sustainable manner for poor consumers so as to make such prices cover production costs and generate profits which would guarantee the pursuit of the activity and maintaining employment in rural areas.

In order to improve these choices, it is absolutely necessary to put forth agricultural policies capable of promoting balanced agricultural development, notably by enabling:

- Access to land, and securing family farms (agrarian reform, clear tenure systems, anti land speculation laws, installation support...);
- Access to seeds on credit, inputs and productive equipment;
- Access to markets (transport and marketing infrastructures) ;
- Access to knowledge (research results, training, extension according to needs)
- In other words, it is necessary to implement policies based on food sovereignty

Defining food sovereignty

Food sovereignty designates the right that communities, individual states or groups of states entitle themselves in defining their agricultural and food policy without trying to destabilise the domestic markets of other countries through exports of subsidized and cheap food (dumping). **As a result, it implies:**

- Doing everything possible to develop local and (or) national agricultural production to feed the population of the country or countries involved.
- Allowing for the most vulnerable farmers access to land, water, seeds and credit; this therefore implies agrarian reforms where land distribution is inequitable and the rejection of GMOs (genetically modified organisms) which lead to the control of seeds and thus human food by the private interests of multinational seed companies.
- The right of farmers and countries to choose to produce first and foremost for personal consumption.

- The right of consumers to be able to decide what they want to consume (food habits and cultures of peoples and communities).
- The right of governments to protect agriculture and farmers from the countries concerned against low price agricultural and food imports (as a result of subsidies and dumping)
- Enable farmers to receive a fair remuneration for their production efforts ; this necessarily implies taxation of low price food imports in order to create equal opportunities between national production which involves real production costs, and the imported products, which are almost always sold below their production cost.
- Controlling national production in order to avoid surplus productions which cannot be sold except with a loss; this will guarantee the sustainability of production systems which will be implemented in the national agricultural policy.
- Participation of the population in the choice of agricultural policy;
- Recognition of farmers' rights who play a major role in agricultural and food production.

Food sovereignty is the awareness that no single country should leave it to another country to take care of its food provision.

Also it clearly appears in this concept that most economic problems experienced by countries in the South stem from the fact that they produce other so called cash crops (coffee, cocoa, cotton, groundnuts...) while they have the potential of producing adequate quantities of food. This orientation of production systems toward export products is also a legacy of the colonial times and this orientation was reintroduced at independence by the urban elite which came to power in Africa. The cash crops are sold on a global market where producing countries do not have any control whatsoever on the price setting mechanisms, a situation that weakens them and increases their dependence.

The meager hard currency earned from the sale of these so called cash crops will then be used to purchase food commodities which can often not be produced at all under local conditions, hence the double chronic dependence with almost no way out (dependence on cash crops that the local communities do not consume and dependence on importations of food commodities produced in other countries, as is the case of wheat in Africa).

This accounts to a great extent for the economic deadlock in which African countries are, while almost all of them have adequate water, land, and animal resources to ensure sufficient food for the entire population of the countries concerned, with the provision that sound policy choices be implemented.

Hence, the necessity for organized groups such as farmer organizations to play a role in the development of rural sector policies in order for choices to be made which preserve the farmers' activity and the national economy.

The difference between food security and food sovereignty

Food security refers to a given people, country or group of countries having adequate quantities of food both in quantity and in quality whatever the origin of this food.

Thus, a country that does not produce a single kilo of food commodities may enjoy food security provided it has the means of paying for and distributing food to domestic consumption areas in the country.

This concept that integrates the dimensions of physical availability of food, access to food and quality, lacks the policy dimension related to the voluntary policy choices of communities and countries. **Food sovereignty therefore refers to the possibility for a population to control the essential choices which help it ensure its food security.**

This translates the highly strategic dimension of food sovereignty that is independence within food security, the control of one's food intake and the means contributing to its production, processing and distribution

Food sovereignty is not against exchange between nations; rather, it opposes the priority given to export (a logic which has so far only served the interests of the richest and the most powerful) in order to preserve people's food security of populations while exchanging with other regions specific productions which embody the culinary and food diversity of the planet.

The myth of access to international markets for agricultural products from the South.

The real problem that farmers are faced with today is the lack of access to their own market which is invaded by cheap imported products. People try to keep quiet about this serious phenomenon through entertaining a myth about access of farm products from countries of the South to markets in the North. However, a close examination reveals that the products from these countries have been in these markets for a very long time (coffee, cocoa, groundnuts, cotton...) but they have not made any profit from them as other people set the prices of these goods. The international markets are in the hands of multinational companies, which dictate their rules. Hence the necessity for poor countries to get out of this hopeless trap.

Nyeleni 2007 World Forum for Food Sovereignty:

Representatives of over 600 farmer and civil society organizations met in Mali in February 2007 in order to talk about the right to food sovereignty of people and countries. The concept, since its launch in 1996 by Via Campesina as a side event to the world food summit sponsored by FAO, has taken on new dimensions and is taken up by an increasing number of actors and organizations. Those organizations carrying it are now convinced that the time has come to address the real issues of farmers and countries and that this right to food sovereignty will have to be recognized by international, regional and national agencies.

IV CONCLUSION

The major problem of Africa is the fact that it completely lost, because of its current political leaders, the ability to develop and implement policies. It is urgent and absolutely necessary to take ownership of this right again.

The problem of bad development must be raised in terms of power stakes at the global as well as the national level, as this does not enable the weaker individuals to access better development.

All the policies, resources and wealth are for the benefit of the cities and their stability. The time has come for political leaders to be forced to think about the stability of their whole country as farmers want more and are claiming the same rights as urban communities.

Political leaders in Africa must take on their responsibilities again and become accountable to their peoples, particularly to the majority of the population which are farmers.

It has become necessary now to invest in farmers' political and mobilization capacities in order to balance out the power games for a real start on the path to development.

The challenges are multiple and highly complex

Gertrude Kenyangi Kabusimbi,

Director, Support for Women in Agriculture and Environment (SWAGEN),
Uganda

I congratulate the organizers of this conference on successful mobilization of resources and good planning that have made this conference a reality. My presentation will focus on Poverty, Agriculture and Environment. What challenges is Africa facing?

To feed oneself in Africa is a status symbol, a distinguishing factor and a source of pride. I therefore find it interesting that the question “Can Africa feed herself?” Should be asked in Europe. It is an indication of the growing global concern towards social justice.

Africa is the second largest continent in the world after Asia. She covers an area of 11,357,867Sq.miles as compared to Europe which covers 3,979,409sq.miles, and Australia which is 2,965,000sq.miles. As matter of fact, Africa is larger than China, Europe and the USA combined which together total approximately 11,338,729sq.miles according to the African Studies Centre, Boston University. To put it in perspective, the area of Africa is over 11 billion football fields. If every person of the estimated 6 billion people on earth were to be given land in Africa, each one would get almost two football fields.

35% of Africa is savanna grassland suitable for cultivation of crops and livestock rearing while 40% is water teeming with a variety of fresh water fish and other marine life. The Nile River, the second longest in the World after R. Mississippi in the USA, Lake Victoria the second largest in the World after L. Superior also in the USA, Mt. Kilimanjaro the second highest in the world after Mt. Everest are all found in Africa. 10% of the land is tropical rainforests full of flora and fauna some of which are good for food. Only 15% is dessert and not productive agriculturally under natural conditions.

Africa produces both food and cash crops that require different kinds of climatic conditions because the continent lies across equatorial, tropical and Mediterranean climate and enjoys abundance of rain ranging from 1,200mm at the equator to 200mm in the desert annually. Examples of crops produced are; rice, wheat, maize, sorghum, millet, root crops, oil palms, tea, cocoa, coffee, wine, sugarcane, tobacco, cotton, social and many more. As a matter of fact, Africa supplied the raw materials for the Industrial Revolution in Europe.

The continent is subdivided into 47 nations on the main land and three island nations of Seychelles, Madagascar and Cape Verde. Across the board Africa has the same social and economic structure. The continent is populated by approximately 800 million people speaking over 1,000 languages including Asians, Europeans and Arabs who have permanently settled there for centuries in some areas. It is economically subdivided into North Africa, Sub-Saharan Africa and usually South Africa. The North and South are relatively better off.

My discussion will mainly focus on Sub-Saharan African (SSA) nations.

So, why should a continent that boasts such potential, vast stretches of arable land, favourable climate and human resource still have its ability to feed herself in question?

The concept of feeding one self refers to the individuals' ability to have access to food in sufficient amounts, as frequently as is required in a variety that is in compliance with nutritional recommendations of experts on health. WHO Recommends 2,200 calories per person per day.

Whereas the challenges are integrated, intertwined and interlocked in Poverty, Agriculture and Environment, Africa's inability to feed herself is essentially a poverty problem.

There is no single textbook definition of poverty. Every individual has defined poverty as they have experienced it. It is a relative term and comes in all shapes and sizes. There is;

- Income poverty
- Food poverty
- Assets poverty
- Infrastructure poverty, etc.

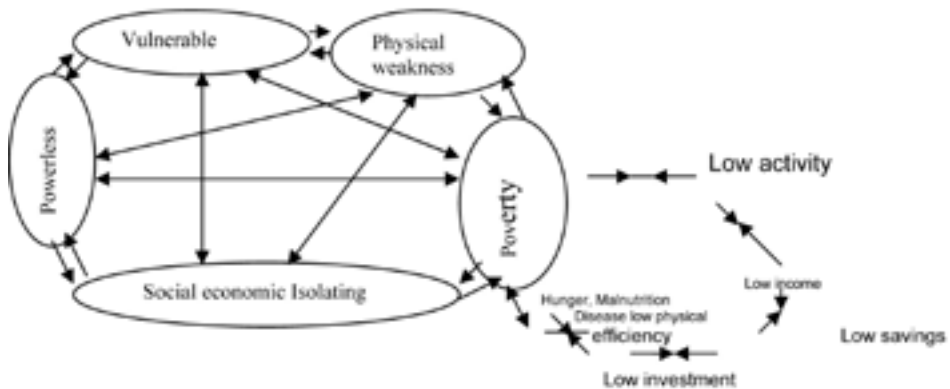
Some have defined it as "isolation, vulnerability, powerlessness, hopelessness and not having enough to live in human dignity". Others have described it as "a situation of perpetual need for the daily necessities of life such as food, shelter and clothing Others have described it as, "a situation of perpetual need for the daily necessities of life such as food, shelter, and clothing". Yet others have called it, "a feeling of powerless to influence the things around one.

However, the complexity following poverty is best captured by the definition given at the World summit for Social Development in Copenhagen in 1995. "Poverty has various manifestations including lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and malnutrition, ill health, limited or no or limited access to education and other basic services, increased morbidity and mortality from illness, homelessness and inadequate housing, unsafe environment, social discrimination and exclusion, no or limited participation in decision making and in civil, social and cultural life".

The poor in Africa are not a homogenous group. They are;

- i) The unemployables e.g. the very old, the very young, the physically disabled.
- ii) Refugees and squatters
- iii) People in war affected areas and Internally Displaced Persons (IDP).
- iv) Minority indigenous isolated communities with distinctly different culture, tradition and customs.
- v) Female – headed and child headed households e.g. widows, single mothers, orphans, etc.

The causes of poverty are as complex as its nature. Its nature, extent and trends differ with location. It is a vicious cycle as is demonstrated in the diagram below;



Deprivation trap

Poor African households state that poverty is due to low activity which results in low incomes and low or no savings. Without savings it's impossible to make investments from which one can get returns. Thus the vicious cycle is repeated. There are other causes of course such as beliefs, norms and values of Africans such as expensive elaborate funerals and prolonged mourning periods in which no one is allowed to work and flamboyant weddings which one can ill afford. The prevalence of poverty has the effect of households not being able to;

a) Provide food for themselves throughout the year. Without sufficient food the population becomes physically weak and susceptible to diseases. It must be noted that; ill health is a major contributor to poverty and vice-versa. Poor African households spend up to 25% of their income on treatment of preventable diseases such as malaria and HIV/AIDS. There are also direct costs in form of treatment and funeral expenses should a patient die.

Ill health also causes loss of household income through absenteeism from work. It is estimated that workers suffering from a malaria bout can be incapacitated for 5 to 20 days. Being mindful of the fact that women provide 80% of the agricultural labour force, it is noteworthy that the period mothers spend nursing sick children is lost whereas it could be used to grow crops for food and income. There are high chances that children from such households will not be able to attend school regularly. This affects performance which will in future make them miss out on good employment opportunities and they end up doing unskilled, labour-intensive, low pay jobs. The vicious cycle of poverty is repeated.

b) Mortality increases and loss of economic production rises. With no income something for something sex becomes rampant and the rate of HIV/AIDS infection increases leading to higher mortality and more orphans. It has been reported that in 2006 alone there were 2.6 million new infections in sub-Saharan Africa. According to a study by Physicians

for Human Rights on a sample of 2000 women from Botswana and Swaziland almost 25 million Africans are infected with HIV / AIDS giving the continent the worst AIDS burden in the World. Women make up 75% of HIV positive Africans aged between 15 – 25. The Physicians for Human Rights study concentrated on the two countries with the highest HIV prevalence rates and reports that 33% in Swaziland and 24% in Botswana of sexually active adults carry the virus. The study established that gender social and economic inequality and gender discrimination were major factors behind the pandemic. The study showed that women were poorer, had a greater number of dependents, were less educated and were less food sufficient. They are therefore compelled by their circumstances to engage in sexual behaviour that raises their HIV risk. Economic dependence on men meant that women lost control of their sexual choices including negotiation of safe sex, while social inequality meant that men are held to different standards of behaviour when it comes to multiple sexual partners, the report concluded.

c) Supply basic household essentials e.g. soap, salt, sugar or to afford education and medical costs. With low education levels there is inadequate skills development and chances of being gainfully employed are severely reduced. This leaves them impoverished and liable to manipulation.

An example is in an election to choose political leaders when unscrupulous people seeking to be elected to positions following power exchange pieces of soap, a kilo of sugar or salt for something as vital as a vote, selling their birth right for 30 pieces of silver. Such a population does not elect representatives to policy making organs out of conviction or on merit, not to mention presenting themselves as possible candidates. They instead elect corrupt, non visionary leaders not accountable to the population not transparent, but seeking their own glory. As such the population remains powerless to influence policy, cannot shape their destiny and remain in social economic isolation, deprived oppressed and exploited.

Services such as infrastructure that should be provided by government and would facilitate even food distribution suffer because of bad government policies.

The non-visionary leaders mentioned above are often dictators who do not consult or listen to the population. This is a pillar of bad governance and leads African nations into violence, insecurity of people and property, civil unrest and armed conflict. These call for large expenditure on defence and arms procurement at the expense of social services to alleviate poverty. This is an enemy of production and marketing as entire populations spend seasons fleeing and seeking refugee in other countries or are herded into the now famous Internally Displaced People's camps (IDPs) where they live in squalid unhygienic conditions that predispose them to disease and they cannot do any agriculture but wait for food and other humanitarian aid.

d) Be stable. Households with a lot of problems like frequent illness, low education levels, shortage of food and utilities are frequently unstable. There is a lot of squabbling and

scrambling for the few resources available which results in anger and resentment that degenerates into domestic violence and breakdown in the cohesiveness of the family and society at large.

e) Hold onto assets such as land, livestock and agricultural produce. Every monetary need that arises poor households have no alternative but to sell off agricultural produce meant for their consumption, to raise funds to purchase basic items such as Kerosene for lighting, salt, sugar soap, etc. sell of agricultural produce exposes the family to food insecurity and hunger. They have to hire themselves out for food. Once the agricultural produce is no more they turn to livestock and eventually to land which they sell in small pieces. The result of this is land fragmentation that deprives land of economic viability. As a matter of fact the prevalence of poverty is directly proportional to agricultural production since agriculture is the main source of livelihood. Agriculture, a term used to refer to crop, livestock and fisheries production, is the economic mainstay of nations in Sub-Saharan Africa. It is practiced at subsistence level on small scale farms averaging 2ha each except large estate crops like tea and sugarcane. In these countries apart from South Africa and Botswana that are rich in mineral deposits, agriculture accounts for approximately 50% Gross Domestic Product (GDP), 80% export earnings and provides most of the raw materials to the mainly agro-based industrial sector.

90% of people in Sub-Saharan Africa live in rural areas with subsistence agriculture as their main economic activity. Sadly this too is no source of security as agricultural productivity is slowly declining owing to environment degradation. They still use fuel-wood as their main source of energy and rudimentary tools like the hand hoe for cultivation, dug-out canoes and inappropriate nets for fishing, subsistence farmers have no capacity to interface with research institution and so still use non improved, low yielding, uncertified seeds for planting, non improved breeds for livestock rearing and other extensive unsustainable methods of agriculture like shift cultivation and range grazing, inadequate methods of pests and diseases control and management and poor post harvest techniques, which against a backdrop of an average population growth rate of 3.5% and a static resource – land - leads to depletion of soil fertility which results in failure to satisfy the rising demand for food. To meet the shortfall, the people have turned to protected areas such as forest and wetland reserves.

The majority of African countries are signatory to and have ratified the;

- Convention on Biological Diversity (CBD).
- United Nations Convention to Combat Desertification (UNCCD).
- United Nations Framework Convention on climate change UNFCCC.

However, in what looks like a lack of commitment to these conventions but is really an overwhelming need the environment continues to be degraded. Natural Tropical Forest are over harvested to meet the energy demands of the population and wetlands are reclaimed to create room for crop cultivation and livestock rearing both for household use and for

sale to raise income.

According to the Technical Service Adviser of the Uganda National Forest Authority (NFA), Mr. Paul Drichi of the 4.9million hectares that existed in Uganda in the early 60s only 3.6million are there today, an alarming annual depletion rate of 2%.

The destruction of the environment has resulted in;

- Mountainous areas in the South Western regions of Uganda like Kabale which used to be too cold for mosquitoes to inhabit are warming up and being invade by mosquitoes. Malaria infections are on the rise plunging local communities into poverty as medical costs escalate.
- The Rwenzori mountain peaks are losing their ice caps threatening communities at the food of the mountain range which depended on water from the glaciers for agricultural irrigation and other uses with decreased food production, food insecurity and loss of income.
- A government of Uganda meteorologist, Paul Isabirye says, climate change is very evident. Rainfall patterns have been disrupted, droughts are prolonged. There is increased occurrence of violent hailstorms that destroy crops in the field, the rains are erratic and unpredictable and temperatures are rising. Uganda has recorded its highest temperatures are rising. Uganda has recorded its highest temperature in February 2006 at 45oC. This rise in temperature has rendered many areas of Uganda unsuitable for coffee production although coffee has been a source of income for about 75% peasant farmers and the main foreign exchange earner for the country.
- The loss of forest cover has increased incidences of landslides and exposed soils to erosion leading to loss of fertility and consequently agricultural productivity.

So the challenges are multiple and highly complex. They are local and impacting the global. The African proverb is true after all. “What is after the dog is after the hunter?” In a nutshell they are;

Poverty related, agricultural and environmental, gender inequality overtones with spin-offs such as;

- Bad governance
- Corruption
- Armed conflict
- High population grow rate
- High incidence of diseases
- Narrow resource base
- Limited means to generate income
- Inadequate skills development etc.
- International relations in terms of trade restrictions.

References

Maxwell. S. (1990): Food Security in Developing Countries Issues and Options for the 1990s in IDS Bulletin 21(3)2-13.

Huddleston B. (1990): FAO's Overall Approach and Methodology for

Formulating National Food security Programs in Developing Countries in IDS Bulletin 21(3), 72 – 80

Kabeer. N. (1992): Women, Household Food Security and Coping Strategies, ACC/SCN Symposium Report. Nutrition Policy Discussion paper No. 6

Republic of Uganda (1997): The National Gender Policy, Ministry of Gender and community Development.

Carney D. (1998): Changing Public and Private Roles in Agricultural

Service Provision

NYGAARD D, PAARLBERG R, SANYU –MPAGI J, MATOVU R, BABU S. (1997): The Modernization of Agriculture in Uganda: The Political challenge of moving from Adjustment to Investment. International Food Policy Research Institute

World Bank Bank Publication 2000, Washington: Can Africa claim the 21st Century?

Physicians for Human Rights: Women's rights key to African AIDS crisis - study

Main Challenges – What hinder Africa from feeding itself

John Mutunga

General secretary of Kenyan Federation of Agricultural Producers (KENFAP)

Introduction and Background

In the past two hundred years, there has been much concern with the Malthusian rate between population growth and food supply. So far, food has won: Increase in agricultural productivity have exceeded population growth. The last century saw three revolutions in agricultural technology -One based on mechanization, one on chemistry leading to (effective pesticides and fertilizer use) and one on biology (The “Green revolution”). For much of this period, agricultural productivity and output have grown rapidly and the relative prices of foods has generally declined (Eugene Diaz Bonilla and Sherman Robinson IFPRI, 2000/1)

The world has the resources and the knowledge to eliminate hunger and poverty. Statistics show that 30,000 people die of hunger each day, about 850 million people are severely hungry and about 1.3 billion people live in extreme poverty. Sub-Saharan Africa has the highest hunger and malnutrition rates in the developing world. Extreme poverty is rampant. About a third of the population-nearly 200 million people risk food security. Most, if not all, of the World Food Summit (WFS) and Millennium Development Goal (MDG) targets can still be reached. Only if efforts are redoubled and refocused and only by recognizing and acting on two key points:

- Without rapid progress in reducing hunger, achieving all of the other MDGs will be difficult, if not impossible; and
- The fight to eliminate hunger and reach the other MDGs will be won or lost in the rural areas where the vast majority of the world's hungry people live.(SOFI 2005)

The African continent remains by and large marginalized in the world economy, with half of the population living under 1US \$ per person per day. If the major millennium development goal of reducing poverty by half by the year 2015 is to be achieved in Africa , a major policy shift is required both at the international and national levels to help boost growth and development in Africa. Africa's challenges are numerous and complex, but there is also much potential and opportunity for growth and development throughout the continent as it addresses the Millennium Development Goals (MDGs). The Millennium Campaign informs, inspires and encourages people's involvement and action for the realization of the Millennium Development Goals. An initiative of the United Nations, the Campaign supports citizens' efforts to hold their government to account for the Millennium promise. For Africa to minimize its challenges it has to address at least 5 of the 9 MDGs first; Eradicate extreme poverty (MDG 1),Promote gender equality and

empower women (MDG 3), Combat HIV/AIDS, malaria and other diseases (MDG 6), Ensure environmental sustainability (MDG 7) and develop a global partnership for development (MDG 8) This would help reduce hunger and malnutrition which are the major causes of the deprivation and suffering targeted by all of the other MDGs(SOFI, 2005)

Clearly, a major effort is needed to eliminate poverty and achieve food and nutrition security in Africa, an effort that requires innovative strategies by Africans themselves and support by international development partners. This requires putting people, their knowledge and information at the centre of agricultural and rural development efforts. Development efforts should aim at protecting food sovereignty, if they are to be sustainable, and preservation of family farming through mutually supportive policies. This is in due recognition of the fact that agriculture renders livelihood supports to majority of the populations in Africa (60-80%), offers the biggest source of employment (50-75%) and contributes heavily to the National Gross Domestic Product (GDP) (30-60%) directly and /or indirectly.

Nearly two thirds of the people in Africa are in the rural areas and depend on Agriculture for their survival. Low and often declining farm level productivity is a major cause of potential low income and hunger (AATE, Inaugural report, 2002-2004) Africa is the only region in the world where Agricultural production per person has actually declined over the past 20 years. As a result, 25% of all the chronically malnourished people in the world are found in this region (Eugene Terry) Yes, Africa can feed itself; if its people and the development partner worked together to address the people's felt needs, while utilizing the environmental resources sustainably.

Africa faces a multiplicity of unique and inherent challenges, that deprive it the resources and strategic focus to gain faster development; included are some of the commonest impediments;

Main Challenges That Hinder Africa From Feeding Itself

1. **Famine and hunger** are interrelated and millions of Africans face possible starvation. In Southern Africa, at least 10 million individuals face possible starvation from prolonged drought and famine. In West Africa, more than 5 million people face hunger and starvation. In Kenya, more than 2 million citizens are urgently in need of food, due to the vicious cycle of droughts and floods caused by changed climatical conditions as a result of environmental degradation. The cycle of hunger in sub-Saharan Africa begins and ends with poverty, the inability to grow or purchase food causes malnutrition and poor health, which in turn leads to the inability to earn income and to deeper poverty. It is estimated that one in three people in Africa are currently undernourished. To break this cycle, African leaders have recognized that increased economic growth, driven by agriculture, is essential. Launched in 2002, the Presidential Initiative to End Hunger in Africa (IEHA) is a multi-year effort designed to help increase agricultural income and fulfill the United Nations' Millennium Development Goal of cutting the number of

hungry people in Africa in half by 2015. This initiative focuses on promoting agricultural growth and building an African-led partnership to cut hunger and poverty by investing in smallholder agriculture.

2. The ongoing **inter border wars** and within border conflicts which increase the numbers of refugees and internally displaced persons. When people are displaced within their country's borders as a result of an armed conflict or internal disturbance, they form part of the affected civilian population. This results in production disruption, families are dispersed, children lose contact with their parents in the chaos of fright set in with the elderly too weak to undertake long arduous journey left behind to fend for themselves, thus resulting into poverty, hunger and insecurity. The problem of population displacements, whether the people concerned are refugees or persons displaced within their own country, presents a big challenge not only to the countries concerned but to the international community.

3. **Access to land and land use** Land is a scarce resource, subject to competing uses such as, agricultural production, residential development, urban development, public parks and other amenities. Land policies fall short of strengthening access to and utility of for agricultural production and jeopardize the security of tenure. However, the most important implication of economic analysis for policy-making is that in a world of scarce resources, trade-offs characterize any policy decision. Relocation of scarce resources also implies a redistribution of income and wealth in society. The problem facing policy makers in Africa is the choice among alternative consumption bundles fair distributions of land through supportive appropriate public policies.

4. **H.I.V./AIDS, TB and Malaria** will continue to claim millions of lives. These three conditions will continue to wreck havoc on the health of individuals and the economy of affected societies. The health system of many African nations, especially in Southern Africa will continue to be under severe pressure from the impact of the three conditions. Remedial efforts, domestic, regional and international, are likely to remain hampered by financial, technical, logistics, political and governance bottlenecks. These three conditions have greatly contributed to poverty and misery to many families across Africa.

5. **Trade and market access**, in a variety of arrangements and other market mechanisms promote over-production and the dumping of "cheap food" thus disrupting the local productions. Unnecessary food importation, which only benefits large corporate producers and causes major losses to the continent. The World Trade Organization, (WTO), has failed as the primary international institution to help promote free trade, by drawing up the rules of international trade. However, it has been marred in controversy that seems to suggest that rich countries interests have hijacked it. Thus worsening the lot of the poor and inviting protest and intense criticism. Penetration to the international market for the African products is made difficult by the high tariffs for the processed products, the low

prices for the raw products and the high phytosanitary requirements on the agricultural products. The EPA/ACP negotiations need to take into account the fragility of the ACP country economies. One of the Africa heads of state declaration during the First Africa-South America summit (Nov. 2006: Abuja Nigeria); called upon the WTO to become a truly universal organization, and the various partners to refrain from imposing conditions likely to delay and impede the accession of the developing countries in general, thereby enabling them to reap the benefits of the multilateral trading system.

6. **Environmental issues** in Africa are caused by anthropogenic effects on the African natural environment and have major impacts on humans and nearly all forms of endemic life. These issues are ultimately linked to over-population in Africa, as well as on a global scale. Nearly all of Africa's environmental problems are geographically variable and human-induced, though not necessarily by Africans. Under the burden of chronic poverty and hunger, livestock herders, subsistence farmers, Forest dwellers and fisherfolk use their natural environments in unsustainable ways leading to further deterioration of their livelihoods conditions.

7. **The productivity of the soils** in Africa has been rated the lowest due to the low fertilizer use. During the Africa fertilizer summit in Abuja Nigeria, last, African heads of states and governments committed themselves to Africa Green Revolution, through focus on soil fertility and fertilizer use. Several strategies target access costs, packaging and distribution of fertilizer were drawn, and NEPAD charged with the responsibility of overseeing the process of implementing the same.

8. **A united Africa** is essential for us to seize control of our destiny. Africa is endowed with diverse wealth of resources but due to poverty and disunity these resources are not fully exploited. Though external help is required, a lot in terms of inter countries relations and resource sharing is of extreme importance. During the food summit in Abuja Nigeria in Dec 2006 the African heads of states recognized the efforts and progress being made by many African countries in agricultural growth and reducing food and nutrition insecurity and affirmed the commitment made in Maputo in 2003 to increase resources for Agriculture and Rural Development to at least 10% of national budgets within 5 years; Kenya in an effort of honoring the commitment has raised its budgetary allocation for agriculture and rural development to 6.8% with the development component already at 9.9% and recurrent at 5.4% (Kenya Budget estimates, Development 2007/2008)

9. In the same light, ***More and Better** – an international campaign on food, agriculture and rural development aid to eradicate hunger and poverty* has developed some principles for good assistance for agriculture and rural development and has discussed these principles with FAO, IFAD, WFP, governments and development partners with an aim of influencing the quality of development aid. It has been lobbying and putting pressure

on governments to give higher priority to agriculture and rural development through activities closely linked to those of the International Alliance Against Hunger, with which MaB collaborates.

10. **Investment** in developing domestic expertise capable of evaluating and regulating new technologies for adoption by the people with focus on high value, labor intensive speciality crops and horticulture, where there is comparative advantage while land-abundant countries may be better producing bulk goods such as wheat, maize and Soya beans.

11. **Establishing producer confidence** through market access and market certainties for products from the less wealthy countries (agricultural and developing); especially in the developed economies.

12. **Adjustments at the world market level** through a complete segmentation of the markets for developing countries (Africa) agricultural products commodities thus availing the choice for the consumer who might prefer to support the poor countries through preference for their products.

13. **Exploiting the available opportunities** by the agricultural researchers in developing countries through use of innovations protected in the developed countries.
Create enduring private sector participation through sustainable incentives mechanisms in the agricultural development process.

14. Facilitate the efforts of the relevant **public and private institutions**, as well as non-governmental organizations working to develop and deliver useful proprietary tools, materials and know how to farmers.

15. Clearly **identify the real constraints** of the regional smallholder farmers and identify opportunity for appropriate, royalty free transfer of new and existing proprietary technologies.

16. **Changing the development**, focus to more people centered/based institutional arrangements in order to reduce transaction costs and utilize development resources at the producer level.

17. Causing **policy shift** through people driven initiatives to favor production and market models that are supportive of the majority producers and the rural poor.

18. **Influence state and national development strategies** to adopt more decentralized approaches, and appropriate participatory problem solving at local level through active

and productive participation in policy dialogue at various levels.

19. **Developing interventional paradigms** that focus on lifting the poor out of poverty; through articulation of their actual needs.

20. **Agricultural development resources** should be devoid of excessive/multiple assessments, avoid project focus and adopt accounting procedures that are inclined to excessive interphase delays and time wastage.

21. **Empowerment** of people's organizations to keep states and governments at check and monitor public resource use vis a viz national agricultural development strategies. Address the problems of landlessness and squatter systems through policy guidelines on land and land use, with a view of enhancing equitability in land ownership.

22. **Address total agricultural products value chains** through respite investment in value addition and focus on market development. This ensures bigger incomes to farmers and establishment of alternative income sources at producer level, which would in turn ease pressure on land through lowered reliance on the resources.

23. **Success** will require each African government to wholly commit itself to the Millennium Development Goals, by developing national strategies consistent with the timeline and targets for 2015.

References;

AATF, Inaugural report May 2002-December 2004 Nairobi-Kenya: African Agricultural Technology Foundation

AATF, (2005) A New Bridge to Sustainable Agricultural Development in Africa.

Eugene Terry (2005)

Eugene Diaz Bonilla and Sherman

IFPR 2000/1) IFPRI (2000-2001) Biotechnology, Trade and Hunger. Are intellectual property rights stifling Agricultural Biotechnology in Developing Countries

Summit on Food Security in Africa (Abuja Declaration) (Dec 2006), Abuja Nigeria

The Kenya Budgetary Printed Estimates 2006/2007. Government Printers. Nairobi, Kenya

Potential of the African Environment for the Intensification of Agricultural Production

Tewolde Berhan Gebre Egziabher

General Manager, Environmental Protection Authority of Ethiopia

1. Introduction

The present ability or otherwise of Africa to feed itself depends on the environment and natural resources base of the continent, on the impacts of its past, and on the nature of its present interactions with the outside world. Africa is a large continent exceeded in land area only by Asia. The human population of the whole of Africa, which was estimated at 798 million in 2000¹ is smaller than those of either China or even India. In spite of its size, Africa is the least populated of the continents. Africa is usually referred to as dry because the biggest dryland in the world, the Sahara Desert, is in Africa. The deserts of Africa add up to 1,274 million ha² out of a total land area of more than 3,025 million ha³. But the tropical rainforest area of Africa alone, which receives rain virtually the whole year round, is bigger than either of India or China. Therefore, it is not aridity that prevents Africa from feeding itself.

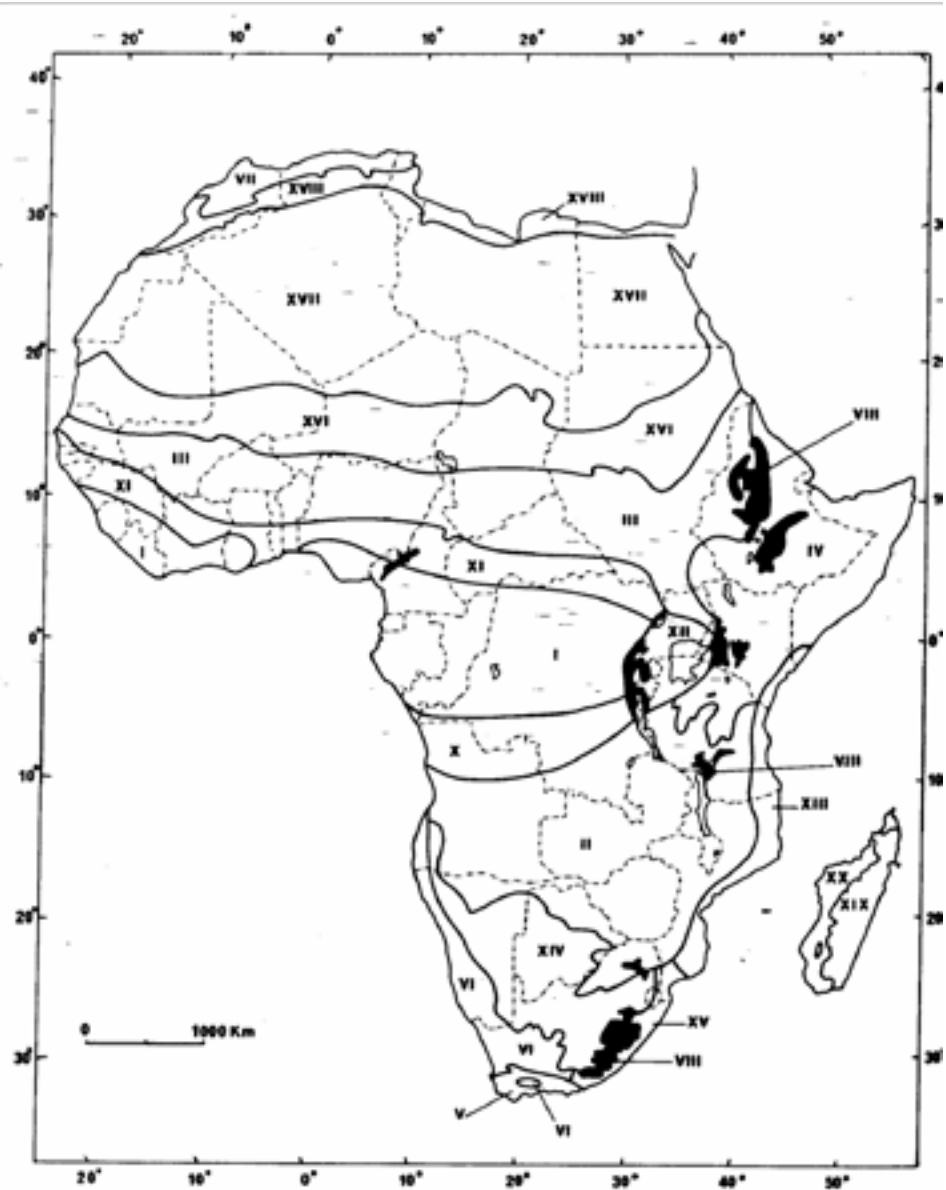
Africa is the continent that has been the most devastated by slavery, e.g. as recounted by Gray for Southern Sudan⁴ and colonialism, as recounted by Robinson and Gallagher for the whole continent⁵. No society debilitated thus can be expected to retain its capacity to feed itself.

Africa is the most endowed of continents in mineral resources. It is well endowed in hydro, geothermal, solar and wind energy resources as well. It is rich even in petroleum, though not as rich as the Middle East. These minerals attract much external interference. As reported by the BBC on 23 May 2007, even a United Nations Peace Keeping contingent in the Democratic Republic of Congo is being accused of arming the very rebels it was sent to disarm because the very rebels dug up gold from the ground and gave it to the peace keeping force.

Therefore, if the mighty outside world would stay outside and allow perturbed Africa to settle down, or, better still, if it would make up for its past perturbing by supporting attempts at stabilization rather than continue to interfere for gain, Africa would feed itself and produce to spare to help feed the overpopulated parts of the planet.

The mineral and energy resources can be ignored in answering positively the question as to whether Africa can feed itself.

Figure 1: The main floristic regions of Africa and Madagascar



Map references

- I Guinea-Congolian regional centre of endemism;
- II Zambezan regional centre of endemism;
- III Sudanian regional centre of endemism;
- IV Somalia-Masai regional centre of endemism;
- V Cape regional centre of endemism;
- VI Karoo-Namib regional centre of endemism;
- VII Mediterranean regional centre of endemism;
- VIII Afromontane archipelago-like regional centre of endemism, including
- IX Afroalpine archipelago-like region of extreme floristic impoverishment, where the land goes over 3000 m;
- X Guinea-Congolia/Zambezia regional transition zone;
- XI Guinea-Congolia/Sudania regional transition zone;
- XII Lake Victoria regional mosaic;
- XIII Zanzibar-Inhambane regional mosaic;
- XIV Kalahari-Highveld regional transition zone;
- XV Tongaland-Pondoland regional mosaic;
- XVI Sahel regional transition zone;
- XVII Sahara regional transition zone;
- XVIII Mediterranean/Sahara regional transition zone;
- XIX East Malagasy regional centre of endemism;
- XX West Malagasy regional centre of endemism.

2. Potential of the African Environment for the Intensification of Agricultural Production

The vegetation types of Africa form bands which run more or less parallel to the equator. The vegetation types are complex and rich in biodiversity. The agricultural systems that have developed in them are also complex, with a smallholder farmer usually growing about 10 or more crops in her/his home garden and fields.

Eighteen major farming systems are recognised in Africa ⁶. Four farming systems – maize dominated, cereal/root crop dominated, root crop dominated, and agro-pastoral millet/sorghum dominated mixed agricultural systems – occupy half the agricultural population and 42% of the land area in Sub-Saharan Africa. Smallholder farmers producing and marketing their produce locally practice these agricultural systems. Commercial farming, mostly in Southern and Northern Africa, often using irrigation, occupies a much smaller percent of the agricultural land and population. Large parts of the continent are used for grazing by transhumant pastoralists.

Kingdon ⁷ uses the fact that around one quarter of the known plants and animals indigenous to Africa are clustered in distinct geographical enclaves to identify Centres of Endemism. In this, he follows and enriches the work of Frank White⁸. There is a broad

correspondence between the distribution of the farming systems and White's phytochoria. Therefore, by identifying the farming systems associated with the regional centres of endemism, it is possible to set broad priorities for agricultural intensification. Such intensification could result in improved production for the farmers without extending crop production further into the natural vegetation, and this would benefit the biodiversity of both the farmed and the non-farmed areas.

Following are brief descriptions of the most major African 'Centres of Endemism' and their farming systems. The transition zones recognized by White ⁸, have not been described though they are shown in figure 1.

The Guineo-Congolian Regional Centre of Endemism (I in Figure 1)

This regional centre includes the Congo River basin, which Kingdon ⁷ describes as the 'huge green belly' of the continent. The natural vegetation inside the basin is tropical rain forest with swamp forests and edaphic grasslands occurring in areas of impeded drainage. According to White ⁸, Fabaceae (Leguminosae) is the family which is the richest in species in this region. The potential for high quality animal feed and for nitrogen rich compost making is thus high

The main staple crops grown by smallholder farmers are cassava, maize, beans and cocoyams (taro)⁶. The people also make much use of non-timber forest products, for example honey and caterpillars⁹. Fish are important in the local economy. The number of fish species in the Congo River is more than 400 belonging to 24 families ¹⁰.

The wet Guinea Forests of West Africa are now dominated by a Tree Crop agricultural system. Cocoa, coffee, oil palm, rubber, yams and maize are the main crops ⁶.

The Zambezian Regional Centre of Endemism (II in Figure 1)

White⁸ states that half of the plant species occurring in this region are endemic. The most widespread and characteristic vegetation type of the Zambezian Regional Centre of Endemism is woodland. Tree branches are regularly lopped and burnt to improve the fertility of the soil. This has had a marked impact on the dynamics of the vegetation with the trees being more or less uniform in appearance.

The four agricultural systems found in this regional centre of endemism are the Root Crop farming system and the Highland Perennial farming system in the wetter areas to the north, and the Maize-mixed and Cereal-Root Crop mixed farming systems in the drier south and west respectively. Low soil fertility is a major constraint to raising crop production. The promotion of animal production and composting would improve both soil fertility and human nutrition.

The Sudanian Regional Centre of Endemism (III in Figure 1)

The Sudanian Regional Centre of Endemism forms a belt from the west coast in Guinea to the Red Sea coast in Sudan and Eritrea. The belt widens across the middle and reaches into northern Uganda, and occupies most of southern Sudan as well as the western lowlands

of Ethiopia. The biodiversity includes several trees of economic importance, e.g. *Acacia senegal*, which produces gum arabic, *Balanites aegyptiaca* (the desert date), which has edible fruits, and the endemic *Butyrospermum paradoxum*, the shea butter tree.

Cereal/root crop mixed farming is the dominant agricultural system of this region. It is considered that sorghum (*Sorghum bicolor*) cultivation evolved in this region, along with cowpea (*Vigna unguiculata*), sesame (*Sesamum indicum*), water melon (*Citrullus lanatus*) and roselle (*Hibiscus sabdariffa*)¹¹. Animal production is important, but greater attention could be given to productivity. With mixed farming and composting, agricultural productivity can easily be raised.

The Somalia-Masai Regional Centre of Endemism (IV in Figure 1)

The Somalia-Masai Regional Centre of Endemism is dry, with rainfall rarely exceeding 500 mm a year. Over half of the 2500 plant species found are endemic to this regional centre of endemism. This phytochorion is the source of incense and myrrh, which are gums collected from species of *Boswellia* and *Commiphora* respectively.

Agro-pastoralism and Pastoralism have been practiced throughout this phytochorion for a very long time, probably as long as cultivated agriculture in the Ethiopian highlands, i.e. for at least 5000 years. The people, the vegetation and the wildlife are hardy and have co-evolved to cope with a very harsh and variable climate. This has been well documented for Massai pastoralism¹². Crop cultivation is important along the edges of rivers. This can be expanded if water harvesting and irrigation using ground water are expanded. The existing animal production makes it easy to make compost and maintain high productivity in the irrigated agricultural area.

Cape Regional Centre of Endemism (V in Figure 1)

The Cape region is floristically the richest part of Africa. There are over 7000 species of which more than half are endemic⁸.

This biodiversity attracts great numbers of tourists. Many of the species, for example the heathers, the proteas and gladioli, are grown as horticultural crops for the cut flower industry.

Modern commercial agriculture based on crops from the Mediterranean Region has expanded into this area. But there are also some local crops, e.g. Rooibos tea. A shift to composting for maintaining high soil fertility would be easy because animal production is already important, though it could be expanded more to turn agriculture into mixed farming.

Karoo-Namib Regional Centre of Endemism (VI in Figure 1)

The Karoo-Namib Regional Centre of Endemism is a strip of arid land stretching from the Cape for 2000 kilometres up the western Atlantic Ocean coast through Namibia to Angola, and stretching inland to the Orange River. Half of the 4000 species of plant found in the area are endemic to it. All the species are adapted to withstanding long periods of

drought and, when moisture comes, to responding very fast in growth and flowering. Many of the annuals are grown as horticultural varieties to decorate public parks and gardens because of their very hardy nature.

The dryness mostly restricts agriculture to transhumant pastoralism and to extensive ranches of low carrying capacity. But, even in this region, there is some crop cultivation, especially where some supplementary irrigation is possible.

Mediterranean Regional Centre of Endemism (VII in Figure 1)

This area is dominated by the Atlas mountains, and is found at the north-western edge of the continent. Around 4000 species occur in this area, but only twenty percent of them are endemic to North Africa.

There are three agricultural systems found in the Atlas mountains. These are the Highland Mixed, Rainfed Mixed, and Dryland Mixed Farming systems. Just under fifty percent of the agricultural population obtain their livelihoods from these three systems. Since the farming systems are already mixed, i.e. producing crops and animals, composting can be easily introduced throughout.

Afromontane Archipelago-like Regional Centre of Endemism (VIII in Figure 1)

The Afromontane Region is scattered on the mountains and highlands which are found in every country in Eastern and Central Africa, as well as on the mountains of Cameroon in West Africa. All these highland areas are generally wetter than the surrounding lowlands, and are thus important water towers.

Taken as a whole, the Afromontane phytochorion has about 4000 species, about 3000 (75%) of which are endemic⁸. About one-fifth of the genera are endemic.

The main agricultural types in this regional centre of endemism are Highland Perennial and Highland Temperate Mixed Farming systems. Both systems combine animal husbandry with crop cultivation and grow a wide range of crop species, and varieties within the species. There is little flat land in the Afromontane region. Therefore, soil and water conservation are critical for the survival of the farmers, and many ingenious indigenous systems have been developed.¹³ Since the farming systems are mixed, high quality compost can easily be made at the farmstead.

The Zanzibar-Inhambane Regional Mosaic (XIII in Figure 1)

This area has been known as the spice coast for more than 2000 years. It includes the islands of Zanzibar and Pemba. The distinctive vegetation occupies a narrow strip on the Indian Ocean coast starting from the southern tip of Somalia and continuing south into Mozambique. Due to the influence of the warm Indian Ocean, this area has been relatively unaffected by major climatic changes for up to 30 million years, and this has resulted in high diversity and endemism, particularly in the Usambara Mountains.

Endemicity at the species level is very high. For example, of the 190 tree species found in the phytochorion, 92 are endemic.

The important products include cardamom, cloves, nutmeg, pepper, vanilla, coconut and cashew nut. Apart from felling trees for timber, the clearing of forest undergrowth to increase these spice plantations is one of the major threats to the biodiversity of this area. Many food crops are, and can be, grown. Animal production should be given a greater focus. Composting could be introduced easily.

The East Malagasy Regional Centre of Endemism (XIX in Figure 1)

Eastern Madagascar is dominated by the central highlands of Precambrian Basement Complex with mountains up to and above 2000 metres above sea level. To the west, this phytochorion descends to about 800 metres above sea level. To the east, the central highlands end abruptly in steep escarpments overlooking the narrow coastal plain. The area is wet with annual rainfall exceeding 3000 mm a year in some places. Rainfall decreases towards the centre of Madagascar, which is both drier and colder. Extensive marshes and lagoons are found in the coastal plains.

There are about 6,100 species in the phytochorion, with 4,800 of them (about 80%) endemic. Of the 1000 genera, 160 (16%) are endemic. The vegetation of the lowlands is a rain forest, while higher up there is moist montane forest and sclerophyllous montane forest. When deforested, the leached porous soils are covered by bamboo thickets. Compact ferrallitic soils, however, are covered by grasslands following deforestation. Fire then keeps them permanently so. Therefore, the vegetation is highly vulnerable. Though there still are extensive areas of forest, deforestation is going on fast.

The main agricultural system is dominated by rice production. An emphasis of agroforestry especially along the edges of the rice fields can be used as the basis for composting and raising soil fertility.

The West Malagasy Centre of Endemism (XX in Figure 1)

The bedrock is mostly sedimentary, and underlies the flat plains inside the western coastline. The driest parts are in the south where rainfall can be as little as 300 mm per annum. The central plains generally receive about 500 mm, but this increases up to 2000 mm per annum in the northwest.

There are about 2,400 plant species, of which about 1900 (79%) are endemic. Of the about 700 genera, some 140 (20%) are endemic.

The vegetation varies from dry deciduous forests to deciduous thicket and grasslands. These grasslands are extensive, covering about 80% of the area. They are secondary in origin having been caused by deforestation and being maintained by regular fires.

Mixed agriculture is possible in most parts. Composting can be used to raise soil fertility.

3. How Can Agricultural Production Be Intensified in Africa?

This is a frightening time of climate change. The intensification of agricultural production in Africa can take place without the use of industrially produced chemical fertilizers.

Experience in Ethiopia ^{14,15} has shown this to be possible. Preparing compost from household and farm waste and using it to raise soil fertility has been found to be as effective as, and in the case of crops bred by smallholder farmers to be more effective than, using chemical fertilizers to raise agricultural productivity.

But, above all, peace must prevail in Africa if the needed intensification of agricultural production is to be achieved. As Devereux ¹⁶ pointed out in 2001, “virtually every [African] country that has suffered famine in the past twenty years has suffered a war at the same time”.

References

1. United Nations Environment Programme, 2006. Africa Environment Outlook2, UNEP: Nairobi, p.4.
2. Ibid, p. 81.
3. Ibid, p. 78.
4. Gray, Richard, 1961. A History of the Southern Sudan, 1839-1889, Oxford University Press: London.
5. Robinson, Ronald, and John Gallagher, 1965. Africa and the Victorians - The Official Mind of Imperialism, Macmillan & Co Ltd: London.
6. Dixon, J., A. Gulliver and D. Gibbon, 2001. Farming Systems and Poverty: Improving Farmers Livelihoods in a Changing World, FAO, Rome: and the World Bank: Washington DC.
7. Kingdon, Jonathan, 1989. Island Africa: the evolution of Africa's Rare Animals and Plants, Princeton University Press: Princeton New Jersey, USA.
8. White, Frank, 1983. The Vegetation of Africa: a Descriptive Memoir to Accompany the UNESCO/AETFAT/UNSO vegetation map of Africa, UNESCO: Paris.
9. Crafter, S.A., J. Awimbo and A.J. Broekhoven (eds), 1997. Non-timber Forest Products – Value, Use and Management Issues in Africa, including examples from Latin America, IUCN: Gland.
10. Lowe-McConnel, R.H., 1969. “Speciation in tropical freshwater fishes”, in Lowe-McConnel, R.H. (ed), Speciation in Tropical Environments, Academic Press: London, p 55.
11. Harlan, JR, J.M.J De Wet, ABL Stemler, ‘Plant domestication and indigenous African agriculture’, In: Harlan, JR, J.M.J De Wet, ABL Stemler (eds), 1976. Origins of African Plant Domestication. Mouton Publishers: The Hague.
12. FAO, 2003. “Case Study No. 12: Globally Important Ingenious Agricultural Heritage Systems”, in FAO, 2003. Biodiversity and The Ecosystem Approach in Agriculture, Forestry and Fisheries. Proceedings of the Satellite event on the occasion of the Ninth Regular Session of the Commission on Genetic Resources for Food and Agriculture: Rome 12-13 October 2002.
13. Reij, Chris, Ian Scoones and Camilla Toulmin, 1996. Sustaining the Soil: Indigenous Soil and Water Conservation in Africa. Earthscan: London.
14. Hailu Araya and Sue Edwards, 2006. The Tigray Experience: A Success Story in Sustainable Agriculture, Third World Network: Penang, Malaysia.

15. Sue Edwards, 2007. "The Impact of Compost Use on Crop Yields in Tigray, Ethiopia", paper presented at the International Conference on Organic Agriculture and Food Security, 3-5 May 2007, FAO: Rome.
16. Devereux, Stephen, 2001. "Famine in Africa", in Devereux, Stephen, and Simon Maxwell (eds), Food Security in Sub-Saharan Africa, The Intermediate Technology Development Group: London, p. 135.

Political Scenario in Relation to Food Safety and Agricultural Sustainability

Bartolomeu António, Paulo Camusiza, Diamantino Nhampossa

National Union of Peasants (União Nacional de Peasants – UNAC), Mozambique

Introduction.

Mozambique is and will continue to be a country whose economy is based on agriculture. The agricultural sector is responsible for the survival of more than 70% of the country's population¹. The total agricultural population of the country is 3,000,000 peasant families² with an average of five members, equivalent to 15,000,000 out of the total population of 18,000,000. The majority of these peasants practice subsistence agriculture for socio-historic reasons. Many of these reasons are linked to the fact that they have been born into farming and continue to live by practising agriculture. This group has always produced, even in the difficult situations of war and uncertainty, and have supplied the food needs of the population. Although they are producing for their own subsistence they also perform a very important role in the national economy. However, they are in urgent need of a political environment that can provide conditions and opportunities for progress and the transformation of society.

This document is the result of a vast and long consultation process that dates from the creation of this movement in the far distant year of 1987. This process included both listening to all the different levels of the movement and holding a number of seminars in which representatives and leaders from the peasant movement from all the country's provinces met and drew up in a participative form the concerns of peasant producers, as well as revisiting aspects of the philosophy and values of 'the peasant way of life' in order to make these part of the movement's manifesto. The international conference *Can Africa Feed Itself* held in Norway is an important moment to present to society at the international level the anxieties, aspirations and hopes of the peasant movement in Mozambique.

1. Values of the 'peasant way of life'

Without a doubt the neo-liberal model that currently dominates the world economic order often clashes with the social and humanitarian values that are embodied in peasant life, especially through the mercantilisation of all forms of agriculture and food, which are the fundamental elements of the social experience and the solidarity of peasants.

Peasant based social values of agriculture and food sovereignty prioritise the sustainable production of food for family and communal self-sustenance and for local and national markets, while international market is only of concern as an element in the exchange

of production imposed by soil and climatic limitations and within the framework of international solidarity. Food sovereignty rejects the assault on and the destruction of the productive forces of one country by another and repudiates the dumping carried out by various productive powers, even under the guise of food aid.

The agriculture that has been proposed to us has been that of the 'agro-exporter' model based on the neo-liberal logic of the free market, privatisation and the transformation of natural resources – i.e., land, water, forests and fauna. This model leads to the maximisation of profits by large multinational corporations and an increase in production aimed at exports. Furthermore, it does not arise out of national political processes aimed at community welfare. This model is known worldwide to have resulted in an increased concentration and control of land, resources, the production chain and the distribution of both food and other agricultural raw materials in the hands of a minority – multinationals and their allies. Left marginalized by this a large number of inhabitants throughout the world continue to depend on traditional production not only for their food, but also for survival and progress. Nevertheless, this form of agriculture is becoming increasingly marginalised, lacks resources, has no access to local markets and is generally ignored by governments.

Agriculture based on peasant families uses practices and techniques that are harmonious for the family, community and environment. It uses the force of family and community labour, including that of domestic animals and nature in general. Labour is seen as a moment of celebration, teaching, and sharing and an opportunity for the transmission of knowledge among members of the community and to new generations. The techniques used in this form of agriculture are benign for the environment, are based on endogenous knowledge and essentially use the resources that are available locally. This type of farming is potentially more productive per unit area³, more sustainable and capable of providing peasant families with a decent standard of living, dignity and self-esteem. At the same time that it guarantees that consumers, both rural and urban, will be supplied with healthy food that is locally and socially produced, and finally it generates revenue that permits progress.

Based on the above, the National Union of Peasants (*União Nacional de Peasants* - UNAC) intends to transmit through this document to interested parties its experience and vision of the development of Mozambique in general, and that of Mozambican peasants in particular. Thus, the essentials of the peasant movement will be presented, so that, first, potential members will be able to appreciate its areas of activities, and second, policymakers can be encouraged to interiorise and take into account its expectations so that these can be addressed by policies and strategies, while finally supporters and sympathisers can find in this document a reference for the positions of UNAC in relation to various developmental issues.

2. Principal Problems Affecting Peasants.

2.1. The Political Level.

Continued marginalisation of the peasant in the policy formulation process – The participation of peasants in the design and implementation of policies is very low and leaves a lot to be desired, even in processes where peasant participation is legally instituted, as in the cases of land and forestry management for example. Peasants have sought to play their part in participative democracy. At present in Mozambique participation is a public good, but there is still a need to democratise all processes involving the formulation of laws, policies, strategies, decisions and control the implementation of these instruments.

2.2. At the Production Level.

The low productivity level of productivity of Family Agriculture – An analysis of the current scenario shows us that in Mozambique peasant agriculture continues to be unable not to satisfy the desires of this class, both in terms of productivity and in relation to markets and the prices of agricultural products in the few existing markets. However, this continues to be a very complex problem and can be analysed from different economic, social and political perspectives.

The lack of satisfaction with the family agricultural sector is in part a result of reduced investment and the non-provision of conditions and resources for peasants to work their land. The non-establishment of alternative local mechanisms to reduce the over-dependency on natural factors is one of the other factors regarding dissatisfaction with the family farming sector in Mozambique.

Low peasant production is actually caused by the lack of a clear support policy for development in the sector. Lack of support is characterised by the non-existence of an agrarian credit policy and of participative and efficient rural development schemes. Another serious problem is the high level of illiteracy in rural areas, the relative lack of availability of information on questions of fundamental importance for the proper development of their activities (food producers) and also the low level of activities that encourage peasants to organise, in other words the absence within the state of a clear support strategy for associationalism and cooperativism in the countryside. As a result there are still many regions and associations or cooperatives where associative principles are badly applied, conceived or interpreted, often causing more problems than solutions, creating an attitude of apathy rather than action and aggravating the syndrome of dependency on the part of peasants.

2.3. Aspects of the Market.

In relation to access to markets it can be stated that the still embryonic initiatives that aimed to help construct an efficient commercial network, especially in rural areas, were destroyed by the liberalisation and privatisation policies imposed by the IMF and the World Bank.

Free trade agreements will facilitate intermediate traders - the only traders who were left after the dismantling of the country's commercial institutions - to encourage the importation of subsidised food from rich countries instead of trying to negotiate with the thousands of peasant producers in the country, with the result that the prices of agricultural products are kept below the costs of national production.

Confronted with this negative panorama, peasant families have decided to abandon agriculture and the countryside altogether, emigrating instead to the cities in search of the badly paid employment available there. The support provided until now has generally been aimed at implementing and stimulating an agenda based on policies that have led us to liberalise and privatise the national economy. During all this time, very little support has been aimed at agriculture. Places that were once the bread baskets of the national have now become unproductive deserts.

As a result we actually have a deficient commercial network in rural areas and means of access that are either very difficult or almost impossible to use, in addition to the instability of the few markets that exist. The main problems that result from this scenario are the lack of raw materials for production with the desired quantity and quality at an opportune moment and at low enough costs that would allow peasants from the family farming sector of Mozambique to acquire them.

The practice of low prices in the markets for agricultural products has much to do with the opportunism of purchasers who, using the fact of the almost non-existence of the commercial network as well as the defective system for the transfer of the production of rural zones to the city (commercial centres) and vice versa, end up stipulating the price that they want. In the same way, the traders who illegally import goods from neighbouring countries, such as South Africa, Swaziland, Zimbabwe and Malawi, are displaying equal opportunism, since the price of these products is less than the production costs of national products, because the price of the imported products does not include the respective import taxes.

Obviously, throughout this entire process, the question of dumping is also in play, especially on the part of certain countries that export agricultural products (such as South Africa, Brazil, and the United States, with the latter doing so through food aid). In this area Mozambique is still very weak, whilst to make matters worse the actual system for the control of the entrance of goods is also very weak - in addition there are some signs of corruption -, with the result that the entrance of agricultural products is permitted without any payment of customs duties and also without any compliance with international health and quality standards.

2.4. Development Questions.

Important development questions emerge as the variables of sustainable development for communities, variables that transcend the agricultural environment as such, also covering concerns with development in a more general way. These variables include the following areas: political and commercial integration at the regional level, the development of

large-scale infrastructure, conservation areas for natural resources, the management of freshwater, and more specifically that of international rivers, the management of natural calamities with greater emphasis being given to those calamities that prove to be cyclical, and the expansion of industry as a development strategy, amongst others. These questions are of interest to UNAC and to peasants as a whole, for which reason they need to be dealt with and given attention by the peasant movement.

2.5. Consequences of Peasant Problems

As can be seen in the previous analysis the family farming sector in Mozambique and the national agricultural sector as a whole faces problems such as food insecurity, the low level of monetarisation of peasants and social instability.

In relation to food insecurity, it was found that throughout the country the levels of poverty had risen, while pockets of hunger had become constant throughout the whole year. In rural zones the numbers of malnourished children were found to have increased, making the peasant community extremely vulnerable to all sorts of diseases, morbidity and mortality. As a result of this, the capacity to respond to diseases such as HIV/AIDS is becoming ever more reduced which has serious implications for agricultural production, since those infected and affected by these diseases suffer increasingly and end up getting caught in a vicious cycle of poverty.

Turning to the low level of monetarization of peasant families, this is reflected in the weak purchasing power of peasants. As a result, in rural areas it can be seen among peasant families that the lack of purchasing power prevents them from gaining access to education and health services, including food and primary material goods, such as clothes for example. Due to the lack of cash, sufficient income cannot be generated to allow either accumulation or savings. This scenario means that peasants are incapable of acquiring the raw materials necessary to carry out their activities, increasing still further their vulnerability and dependence on outside support (such as aid providing by NGOs).

The scenario described above can easily lead to social instability which in turn can result in a very sharp increase in the rural exodus rate (migration from the countryside to the city). This situation reduces productive capacity in the rural environment due to the fall in the size of the labour force in rural areas. In the cities (such as Maputo, Nampula and Beira) lack of employment opportunities to absorb this labour force has created a large army of unemployed who try to obtain a source of income from crime (through robbery, muggings, and all sorts of contraband). This in turn creates a large amount of insecurity in urban centres and a high level of migration to other countries.

UNAC argues that production has to perform its social function (i.e., feeding human beings). It valorises natural production and technological development that is appropriate to each phase and each moment of the socio-economic evolution of peasants. It also argues that peasants have the right to choose what to produce in function of their eating habits and meeting market demand. It stimulates the appropriation of knowledge by local communities and aims at the growth and development of communities based on

gradual evolutionary forms. This type of farming places man at the centre and valorises the harmonious use of resources.

3. Other Relevant Issues

Regional Integration. People from the continent of Africa share a similar historic (and cultural, social, religious and political) past which was nevertheless shattered by the Conference of Berlin (1884-1885). This event marked the beginning of a new page in the history of the African continent. In a way this event determined to a large extent that the continent would become what it is now. The different countries that are part of the African continent have by now developed distinct political, economic and social environments. The premises of the development of each of these countries are rooted in acts and facts that are specific to each, whether or not they were planned.

South Africa, Zimbabwe, and Mozambique, for example, are neighbouring and friendly countries which had similar colonial pasts and who collaborated with each other to obtain independence. However, the economic and social development of each of these countries has resulted in heightened differences and discrepancies between them. In each of these countries national economies have now reached different levels, which *a priori* places the people in these states in different competitive conditions, working against those who are least developed in terms of the socio-economic integration of the state. The Commercial Protocol of SADC which will result in the lowering of customs barriers between the members countries can therefore have disastrous consequences for peasants.

As a result regional integration should not be taken as a priority at this moment. Rather priority should be given to the development of our country in a balanced form, eliminating asymmetries. In fact what we actually need is 'economic integration' within our own borders.

Large-Scale Infrastructure. The development of a country depends to a large extent on the construction of small scale infrastructure: tertiary roads, bridges and river crossings, dams, electricity, communications, and similar structures. The construction of motorways, large dams and constructions of this sort should be the result of a development process that can generate the wealth necessary to pay from this infrastructure, and which are adapted to local economies, permitting peasants to improve and diversify their production and means of life.

Bio-Diversity Conservation Areas. We are aware that the exploitation of the natural resources provided by the land is the only possible alternative for the survival of communities that are struggling with poverty, and as a result we believe that conservation areas should be seen as a strategy to combat poverty. The abandonment of the traditional philosophy whereby local communities were excluded from the management of conservation zones means that the loss of habitat, associated with the excessive and careless exploitation of resources, can be significantly reduced when communities, living in a protected zone or close to one, adhere to the management objectives of these areas and become the owners of these areas and not merely partners in their development.

It is our belief that natural resources are and should remain the common good of all Mozambicans, of which peasants have long been the guardians. As a result UNAC is opposed to projects that terminate in the privatisation of these private resources. As a result we have supported – and shall continue to do so – initiatives concerned with the conservation and sustainable use of natural resources and biodiversity that do not exclude this class and which also do not remove from this group the possibility of obtaining its livelihood and its chance for progress from these areas.

Our country is rich in water. Effectively many national and international rivers flow through the country, although our people continue to die from drought, thirst or even from floods. This question is intrinsically linked to the issue of infrastructure, in this case the conservation and management of water. Water is a public good and as a result state investment to allow the entire population access to this good is crucial. It should not be understood as a type of merchandise (though it is treated as such in many countries in the world), because if it were the majority of the population would not be able to benefit from this basic service.

Natural Calamities. Mozambique is a country that has a propensity to natural calamities. We do not believe in an ‘emergency’ type strategy to fight against this cyclical phenomenon. UNAC defends a strategy that can prevent and fight against natural calamities from a developmental viewpoint and which can be obtained by the population with the need for only minimal intervention from abroad. This is transversal theme that should be part of peasants’ daily lives, as well as those of the entire population and the institutions of Mozambique.

Industrialisation, including agro-industrial. The fight against peasant poverty needs to take into account the existence of production capacity, conservation, and the use and benefiting of basic products at the family and communal levels. Without of course neglecting the importance of the strong absorption capacities of these products to create, look for and encourage increases in production and productivity.

UNAC, therefore defends the identification, adaptation, introduction, and dissemination of intermediary technologies that can allow peasants increase the value of their production and to conserve and use it. At the same time, UNAC supports the development of large centres to absorb peasant production which can also generate sources of income through the commercialisation of their production.

There are many scenarios

Ngugi Mutura

Executive Director, Sustainable Agriculture Community Development Programme (SACDEP-Kenya).

Can Africa feed itself? This is a question asked more times than the speed at which answers can be offered. The reason why few answers come than the questions is not difficult to farthom. Simply put, it is easy to do so. If, however one need an explanation, then the answer is longer and detailed. Therefore few answers will be made.

Now, this questions is made once again being the subject of this Conference. It can be answered in a simple way being a yes or no. Yet it can be responded to on a longer version if it was an “open” not a closed question. So, what is the answer, Yes or No? Before this answer is made, it begs for a number of counter questions.

1. First and foremost, is it a concluded position that Africa cannot feed itself.
2. If it is thought that it cannot, who has been feeding it?
3. With an estimated 10% of the population receiving foreign food aid, who is feeding the other 95%.
4. Though the said 10% may be receiving foreign aid in food, is it throughout the years? Or is it during times of calamities?
5. If it is not throughout the year, who has feeds them at other times if not themselves?
6. Assuming they are being fed, which circumstances have led them to this situation?.
7. Are the circumstances externally generated or self inflicted?
8. So what are the solutions? To feed Africa or to tackle the situation that leads a percentage of the population to be dependant on food aid.

Then, is it yes or No?

One would require to address the questions narrated above. By the time you reach the bottom, then you have the answer. This is that Africa (or is it a section of those being fed) can feed itself. Beyond that, it can even feed others on the Globe.

So, how can this be possible? The question here is not how it can be possible. Rather, it is why has it not been possible.

There are therefore very many scenarios why these people have once in a while sought food support. Below are a few of them:-

Using the wrong food production methods. Africa has continued to pursue High External Input Agriculture with Chemical fertilizers, chemical sprays, farm machinery and irrigation equipment coming from developing countries. In this case, the small holders who are the majority may not afford.

The Governments have continued to use high cost agriculture as a policy leading

to food productivity. This has been a terrible failure. The way out is the use of low cost External Inputs. Examples are many of regions which were formally food deficit becoming food surplus.

Unfair trade regimes

When the EU passed laws that support food exports to Africa in the name of trade, it should be considerate on the reverse ability for African farmers to export food to Europe. Otherwise, when the playing field is tilted in favour of Europe, then one cannot expect the African farmer to remaining business. Eventually a section of the community will be rendered food insecure.

Food dumping

When the states from the North apply “Poorly planned food dumping acts” then they damage the peoples ability to produce food. Food prices go down. Since local farmers cannot sell food to communities who are getting free food. Food purchases should be locally made. Then productivity will be enhanced at regional level.

Human to human Conflict

This situation moves people away from production resources. In a Conflict situation, people cannot work to produce food and wealth. But, where is the source of conflict? Certainly, it is really not from the affected people. It is from the state, regional or engineered from interested countries from the developed world. Conflict has to be stopped in Africa, then people will feed themselves. They will work on farms, gain employment and purchase food.

Unpredictable weather

The Global warming has had its effects now visible. Africa is not entirely responsible. Yet it may suffer more due to its overdependence on agriculture. Already, droughts, floods and pest infections are a key cause for crop and livestock productivity failures.

The main causes of Global warning should compensate African for its food shortages. In any case, Africa has the biggest capacity to absorb carbon emissions produced by others. The compensation returns will be ploughed into food and compensate food deficit people.

Bad and Dissembling Government Policies

Some African Governments have not been able to support farmers. They focus too much on the Export market for their foreign exchange earnings. Though they are under pressure to service foreign debts and imports, they have failed to balance the demand for export products. Coffee, tea, sisal pyrethrum, cut flowers, cocoa etc. are non food crops. Yet African Governments have provided more attention and resources to these products at the expense of food base crops. In the end producing communities end up working for the

“Government Crops”. When prices are poor or they are not paid at all, they are food deficit and cannot feed themselves.

So, what should be done?

Communities, Governments and the Foreign Partners should not just conclude that Africa cannot feed itself. This is simply empty rhetoric not based on any hard facts. True, there exists people who need food aid. But the reasons why they are in that position are more important than the need to feed them. Dealing with causes of food deficit is the way to feed them. Remember, they are only a small group in large populations.

So, the question should not be whether Africa can feed itself. It is whether the marginalized, discriminated against, segregated, underprivileged, badly treated and unfortunate people can be treated positively. Then we can watch as they feed themselves.

So, can the unfortunate 10% of the African people feed themselves? The answer is not just a yes or no. It is after addressing the real reasons why they are where they are. After that the answer is quiet clear. It is YES and BEYOND.

Climate Change and Food Security in Africa

Sven Harmeling¹, Senior Advisor Climate and Development, Germanwatch

Christoph Bals, Executive Director – Policy at Germanwatch

Michael Windfuhr, Human Rights Director at Bread for the World Germany

The impact of climate change will fall disproportionately on the world's poorest countries, many of them here in Africa. Poor people already live on the front lines of pollution, disaster, and the degradation of resources and land. For them, adaptation is a matter of sheer survival.

Former UN Secretary General Kofi Annan, addressing the 12th Conference of the Parties to the United Nations Framework Convention on Climate Change, 15 November 2006, Nairobi, Kenya.

1. Recent trends in climate change in Africa

In the first months of this year, the Intergovernmental Panel on Climate Change (IPCC) released its Fourth Assessment Report (AR4) and made clear that climate change has already started. According to the Summary for Policymakers (SPM) of Working Group II, “observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases”.² The AR4 also concluded that most of the observed increase in global average temperatures during the last 50 years is very likely due to anthropogenic greenhouse gas emissions.³

Scientific studies also show that climate change is already apparent on the African continent. The observations suggest that the average temperature has risen by about 1° C during the last 50 years (compared to the average 1906-1950) on the African continent.⁴ Regarding precipitation, drying-up has been observed in the Sahel and in Southern Africa.⁵

Africa will likely face severe alterations of climatic conditions. Projections summarised in the AR4 suggest a further increase in the median temperature of between 3°C and 4°C by the end of this century. This response is roughly 1.5 times as high as the global mean response (as compared to the average from 1980 to 1999), if no significant action to mitigate emissions is taken globally. Values at the lower end of the range are expected for equatorial and coastal areas, while higher values are assumed for the West Sahara. Regarding the projected changes in precipitation, the large-scale picture is one of drying in most of the subtropics, while a slight increase is expected for the tropics.⁶

2. Vulnerabilities of agriculture: climatic changes and globalisation

Climatic conditions are still the predominant factor affecting agricultural productivity, and changes in these conditions may have different severe effects. Impacts are expected

on plant and animal production as well as on other factors relevant within agricultural systems. The character of these impacts, however, is very complex and not easy to determine, to quantify or to project.

Growth and harvest depend on temperature and precipitation, and changes in the total amount are as important as in the timing. In Africa, only 7 percent of agricultural land is currently under irrigation. Rainfed agriculture is essential for most of the producers, and changes in rainfall are therefore extremely significant. Even if the overall amount of rainfall was stable in certain regions, even small changes in rainfall patterns could have effects on the agricultural production. If the rain starts four weeks later than normally or in the wrong period of growth or if the amount changes drastically, the impact on food production can be tremendous. Extreme events, such as droughts, floodings and storms, also have direct, sometimes devastating impacts. For example, floodings in Bolivia in spring 2006 damaged about 64,000 ha of maize, soy, sorghum and rice fields and 30,000 ha of pasture land.⁷ In contrast, an increased atmospheric carbon dioxide concentration functions as a fertilizer for plant productivity. Moreover, climatic changes have impacts on soil erosion, the distribution of diseases and on fresh water availability. Decreasing precipitation is one reason, saltwater intrusion due to sea-level rise another, changing river flows due to the melting of highland glaciers a third one.

Since the agricultural system is part of human society and economy, how reactions to climatic changes are being developed on different levels is of high relevance. Indeed, it has to be noted that climate change is only one factor in the process of constant changes and developments in agriculture, which has altered its face significantly throughout the last decades following changes in technologies and economic and social structures. Especially the interconnection of food systems with global climate and environmental change and globalisation must be considered.⁸ Figures show that today hunger and malnutrition are not basically caused by food shortage or scarcity: Hunger is currently an issue of access to food, to an adequate income, or to productive resources that allow poor people either to produce or to buy enough food. Thus, the inequitable distribution of food, land, and other productive resources is the main cause of hunger and malnutrition. Global food markets will provide those with purchasing power will be provided by the global food markets with sufficient agricultural production and food supply. Those who lack an adequate income, or those who cannot produce enough food based on their own resources, or those who do not have enough labour capacity in their own family, will have major problems with buying food. The negative impact of climate change on food production will have a significant impact on food prices. In the past years, the prices for some commodities like wheat or corn have increased drastically, partly due to harvest losses caused by extreme weather events (e.g. droughts in Australia and India) which probably can be ascribed to global warming. Rising income levels, particularly in the fast growing economies in Asia, such as China and India, contribute to a fast change in local diets. Animal products (chicken, milk, cream etc.) are becoming more important for the new middle class. The demand for animal feed (corn, soy) is therefore growing fast. Another factor of increasing importance

is the use of raw materials for biofuels production. Consequently, the vulnerability of people and their capacity to adapt to climate change in the agricultural sector should be analysed in the context of other influencing factors, for example the vulnerability to globalisation impacts (fig. 1).

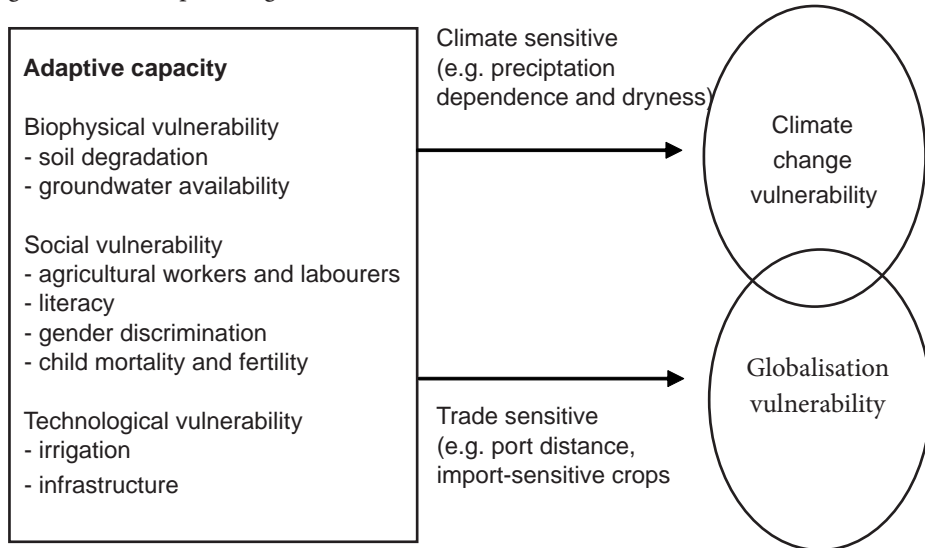


Fig. 1: Elements of vulnerability profiles. Source: based on TERI 2003

3. Climate change threatens food security in Africa

The current definition of food security agreed during the World Food Summit in 1996 is a broad one: *“Food security exists when all people, at all times, have physical and economic access to safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life”*.

First, this definition points to the fact that looking at global food security is not sufficient, but food security on the national and the household level must be taken into account.

Second, sufficient income is a crucial factor to guarantee food security. The first Millennium Development Goal (MDG) seeks to significantly reduce the number of people living in extreme poverty and hunger. However, the development of relevant indicators in Sub-Saharan Africa does not see the region on track to meet the MDGs. Although the proportion of people living on one dollar a day or less has declined from 45.9% to 41.1% since 1999, this is still far away from halving the proportion by 2015.⁹ In absolute terms, this is even an increase in the number of extreme poor from 296 million people in 1999 to 298 million in 2004. The proportion of people living with insufficient food in sub-Saharan Africa also shows only a slight decline from 36% to 33% during the 1990s, which also means an increase by 34 million people in absolute terms.¹⁰

According to *Hellmuth et al.*, “Africa’s variable climate is already contributing significantly to its development problems. The key development sectors of agriculture, water, energy, transport, and health are all particularly sensitive to climate variability.”¹¹ The impacts of climate change on Africa are expected to worsen this situation in different respects.

Summarising the Africa-related conclusions of the AR4, it becomes obvious that climate change compromises the ability of many African societies to achieve the different Millennium Development Goals (MDGs) and to improve food security. Since the MDGs are strongly interconnected, they have all impacts on poverty reduction (fig. 2). The SPM of Working Group II of the IPCC expects that the area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, will decrease. The yields from rain-fed agriculture are expected to decrease by up to 50% in some countries until 2020.¹² Also, the number of people under increased water stress will significantly increase in the next 15 years, from 75 to 250 million people (with a further increase until 2050). This will primarily take place in Northern and Southern Africa. In addition, local food supplies are projected to be negatively affected by decreasing fisheries resources in large lakes due to rising water temperatures, which may be exacerbated by continued over-fishing. Lake Victoria for example represents an important food source for 30 million people in danger.

Millennium Development Goals	
1. Eradicate extreme poverty and hunger	<ul style="list-style-type: none"> - The area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. This would further adversely affect food security and exacerbate malnutrition in the continent. - In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020. - Local food supplies are projected to be negatively affected by decreasing fisheries resources in large lakes due to rising water temperatures, which may be exacerbated by continued over-fishing.
3. Promote gender equality and empower women	70% of the extreme poor are women (globally) and thus these are extraordinarily affected by CC; resource scarcity triggered by CC (food, water, fire wood) increases burden for women
4. Reduce child mortality; 5. Improve maternal health; 6. Combat HIV/AIDS, malaria and other diseases	<p>The decrease or increase of the range and transmission potential of malaria in Africa.</p> <ul style="list-style-type: none"> - By 2020, between 75 and 250 million people are projected to be exposed to an increase of water stress due to climate change. - Projected sea-level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5-10% of GDP. - Mangroves and coral reefs are projected to be further degraded, with additional consequences for fisheries and tourism.
7. Ensure environmental sustainability	

Fig. 2: Major climate change impacts on the Millennium Development Goals in Africa
Source: based on IPCC 2007

In addition to the direct impacts of climate change on food security and the MDGs, recent research pays increasing attention on the role water scarcity or reduced food availability play for the emergence of conflicts, through an increased competition concerning scarce resources. These may further aggravate the livelihoods of people. Climate change already represents an important causation of existing conflicts, as several experts conclude for the Darfur conflict for example, where a long-term decline in rainfall has significantly contributed to the scarcening of available fresh water.¹³ A recent study by the *German Advisory Council on Global Environmental Change (WBGU)* concludes that Africa is likely to be particularly affected by climate change induced security risks:¹⁴ In Northern Africa, the potential of political crises and the pressure from migration increase due to the intertwining of an increased number of droughts and water scarcity with high population growth, are weakening agricultural potentials and limiting political capabilities to solve the problem. The densely populated Nile delta is threatened by sea-level rise and the salination of agricultural areas. In the Sahel, climate change causes additional environmental stress and social crises (e.g. droughts, harvest losses, fresh water scarcity) in a region which is already characterised by weak states (e.g. Somalia, Chad), civil wars (e.g. Sudan, Niger) and large streams of refugees (Sudan: more than 690,000 people; Somalia: more than 390,000 people). In Southern Africa, climate change could further weaken the agricultural potentials of countries belonging to the poorest societies in the world. This would worsen the state of human security and overstrain the governments' capabilities.

It is important to note that the SPM of the IPCC has to be understood as presenting the most certain scientific findings on the impacts of climate change, since the final wording of the document is negotiated between governments and researchers. It only shows part of the picture.

Other consequences of climate change may even be of a non-linear nature, meaning that beyond certain temperature thresholds, certain processes could accelerate, become irreversible and have large-scale impacts on human societies and ecosystems. Such phenomena, like melting processes in the Greenland and West-Antarctic Ice Sheets leading to sea-level rise, the release of methane from melting Siberian permafrost further pushing global warming, or the die-back of the Amazon forest releasing large amounts of CO₂ into the atmosphere, are being discussed as "tipping points" of the global climate system.¹⁵ These risks are not yet fully understood and quantified and thus are not represented appropriately in the IPCC projections. That is why many scientists, non-governmental development and environmental organisations and even the EU call for efforts to limit global temperature increase to below 2°C compared with pre-industrial levels, since it is expected that the likelihood of these risks to occur increases significantly beyond this threshold.¹⁶ Especially for many African countries it becomes ever clearer that the higher the increase in global average temperature, the more drastic the consequences of climate change on relevant sectors like food and water.¹⁷

4. Marginalisation, food security and adaptation to climate change in Africa

It is important to analyse the overall trends on a global respectively regional scale which climate change might have on agriculture, on fishery and on livestock production, because these trends will translate into agricultural prices and will influence decisions of many producers worldwide also impacting Africa. The national level is also an important level of analysis, because agricultural policy decisions are taken on a national level, depending on the need for imports and the financial resources available to design national policies. Central elements of adaptation policies will be defined at the national level. However, without a detailed look on the impacts on the household level, on particular marginal producers and vulnerable consumers, the analyses would miss an understanding of the difficulties to design adequate adaptation policies that support those groups which are most likely to be affected by food insecurity.

Still, the vast majority of the hungry live in rural areas, most of them are small-holder peasants or landless labourers. The majority of these groups live in extremely marginal conditions, in remote areas without secure access to productive resources, credit, and markets and without any formal support by extension services etc. It is extremely important to overcome this marginalization, in order to reduce the number of the hungry worldwide.

Moreover, the extremely poor and marginalized are often those that are first and hardest hit by natural catastrophes. Absence of land reform forces poor and marginal farm households to use land highly vulnerable to catastrophes such as floods or draughts. National and international agricultural policies have often forced them to migrate to these risk-prone areas. It would therefore be wrong to focus more and more on resources in combating catastrophes while failing to address these problems. What is needed is combatting the marginalization of affected communities and people. While the urban poor are the most increasing group, even in 2050 the majority of the hungry will live in rural areas

Coping with the unavoidable consequences of climate change is the first priority for poor countries in the context of climate change. Given the different factors influencing food security, a large number of adaptation options on different levels could in principle be taken into consideration (table 1). Adaptation covers reactive and proactive actions taken on different levels by individuals, communities, private companies and public bodies such as governments. If successful, adaptation can reduce “vulnerability by building on and strengthening existing coping mechanisms and assets, targeting climate change vulnerability with specific measures, and integrating vulnerability reduction into wider policies.”¹⁸ Given the close linkages between climate change and the MDGs, it must also be noted that sustainable poverty reduction is a key adaptation strategy, with regard to food security but also in general.

Response	Proactive	Reactive	Inaction
	<ul style="list-style-type: none"> - guidelines for national adaptation strategies - development of new crops 	- measures of food aid	- no actions to initiate changes are being taken
National	<ul style="list-style-type: none"> - grain storage - agricultural policy to alter crops and farming practices 	- changes in taxes and dispenses to increase food imports and emergency aid	- no small infrastructure investments are undertaken which only would profit local population
Local	<ul style="list-style-type: none"> - investments in rainwater harvesting, irrigation and protection from floodings - implementation of seed banks - local coordination 	- mutual support	- migration as a response option is ignored
Individual	<ul style="list-style-type: none"> - diversification of income sources - investments in education - changes in agricultural practices 	- migration	- accepting individual increased vulnerability and reduced well-being

Table 1: A typology of adaptive responses: examples form food production and food security

Source: Adger, W.N./Paavola, J./Huq, S. 2006: Toward Justice in Adaptation to Climate Change.

Research shows that adaptation is already taking place within the African agriculture system. For example, *Hellmuth et al.* introduce examples of drought management in Ethiopia, flood management in Mozambique, drought insurance in Malawi and agriculture in Mali.¹⁹ Ethiopia established policies and planning for drought management, to better cope with the recurring droughts. An early warning system was developed in order to

ensure that sufficient external food aid reaches the country.²⁰ Inter alia, it contains early warning committees on all government levels.

A number of African countries have started to develop so-called National Adaptation Programmes of Action (NAPAs). The formulation process is financially supported as part of the UNFCCC negotiations. The focus of the NAPAs is on urgent and immediate needs, because further delay could increase vulnerability or lead to increased costs at a later stage. NAPAs should be action-oriented, country-driven and refer to national circumstances. The steps for the preparation of the NAPAs include synthesis of available information, participatory assessment of vulnerability to current climate variability and extreme events and of areas where risks would increase due to climate change, identification of key adaptation measures as well as criteria for prioritizing activities, and selection of a prioritized short list of activities. Burundi, Djibouti, Eritrea, Lesotho, Madagascar, Malawi, Mauritania, Niger, Rwanda and Senegal have already developed their NAPAs which are publicly available at the UNFCCC website.²¹ Food security is one of the most often mentioned concerns regarding the impacts of climate change in the NAPAs.

The more the countries are developing and implementing adaptation strategies, the more it needs to be observed if and how the measures being taken address the needs of the most vulnerable and affected. Although numerous options for increased funding for adaptation in developing countries are being discussed, resources will always be limited, and each dollar can only be invested once. Given the political nature of the food security issue, especially with regard to the factor marginalisation, the role of the poor should be given special attention to also in the adaptation debate. If resources are limited, as they are, the poor often tend to be left aside when investing. That is why for example *Adger et al.* point to the fairness dimensions of adaptation to climate change within developing countries.²² In societies where most of the poor are marginalised, their adaptation needs are unlikely be given the highest priority, although they may be the most affected and those with the least adaptive capacity. It must even be assumed that, as a consequence of limited financial resources, inaction will take place on the back of the poor and the hungry.

For example, *Hellmuth et al.* conclude that the aforementioned early warning system in Ethiopia “could play a much more useful role if it could also reach farmers and pastoralists more directly, with timely advice on specific problems as well as general information. This implies tailoring climate information to specific local needs, and would require greater involvement of agricultural sector specialists than is currently the case.”²³ On the one hand, this shows that the direct needs of people tend to be neglected. On the other hand, this is an example for the importance of effective communication and information dissemination if coping strategies at the household level should be successful and also bring short-term benefits. Maladaptation needs to be avoided:

“These studies all point towards the importance of dealing with existing climaterelated sensitivities with actions that bring short term benefits but that also recognise the possibility of climate change and therefore at the very least do not increase exposure or vulnerability over the longer term.”²⁴

5. Challenges for development NGOs working on food security

The threat from climate change raises multiple questions and challenges for industrialised countries' development NGOs working on food security issues.

Integrating climate change into the organisations' policies and programmes becomes more and more urgent, given the expected trends in the next 15 years. Many NGOs are increasingly assessing how and where to do this. "Portfolio screenings" of their programmes are a first entry point.²⁵

Furthermore, the often very technical adaptation debate in the UN climate policy context needs to take into account the experience of development organisations with expertise in food insecurity and poverty reduction, if the most affected should benefit from the political frameworks. This holds for the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change, for example.²⁶

The general role of NGOs will also be of particular importance in the further debates about the operation and eligibility criteria of the Adaptation Fund (AF) of the Kyoto Protocol. The fund itself will be financed by a levy on emission reduction projects under the Clean Development Mechanism (CDM) and is estimated to receive financial means of up to 600 million US\$ until 2012. At the last UN climate conference in 2006 in Nairobi, it was decided that the AF shall be "available for national, regional and community level activities".²⁷ But this does not automatically mean that community-based initiatives will have access to the funding. Further negotiations about the eligibility criteria will take place during the next UN climate conference in Bali in December 2007. Strengthening the role of those primarily affected by climate change would be an important task for development NGOs.

Finally, the double dimension of climate change – managing the unavoidable (adaptation) and avoiding the unmanageable (mitigation) (see fig. 3) – underlines that beyond addressing the concrete on-the-ground impacts of climate change, working for emission mitigation in industrialised countries in order to limit global warming to below 2° C becomes not only a plausible, but a necessary field of action. Without significant emission reductions, the adaptive capacity of whole African societies will very likely be overburdened. That is why in more and more industrialised countries joint civil society alliances between environment, development and faith-based organisations are evolving and pushing for strong mitigation targets as well as for increased support for adaptation in developing countries.²⁸

The dimension of the climate change challenge for African stakeholders as well as Northern development NGOs can be summarised with the following citation:

The outlook for Africa under a "business-as-usual" scenario is pretty bleak. On the one hand, Africa appears to have some of the greatest burdens of climate change impacts, certainly from the human health perspective, but it is also a region with generally limited ability to cope and adapt. On the other hand, Africa has some of the lowest per capita emissions of the greenhouse gases that contribute to global warming. The likely impacts of climate change thus present a global ethical challenge as well as

*a development and scientific challenge (Patz et al., 2005), and this challenge has to be addressed by all of us in all seriousness.*²²⁹



Fig. 3: The double response to climate change and the role of sustainable poverty reduction

Source: Germanwatch

The article is based on preliminary findings of a joint research project on climate change and food security, carried out by the German practical development cooperation organisation Brot fuer die Welt (Bread for the World) (www.brot-fuer-die-welt.de) and the environmental and development policy organisation Germanwatch (www.germanwatch.org)

References:

- Adger, W.N., Paavola, J. and Huq, S. 2006: Toward Justice in Adaptation to Climate Change. In: Adger et al.: Fairness in Adaptation to Climate Change. London. P. 1-19.
- Ban Ki Moon 2007: A climate culprit in Darfur. Washington Post. June 16, 2007. <http://www.washingtonpost.com/wp-dyn/content/article/2007/06/15/AR2007061501857.html> [25 July 2007]
- Christensen, J.H., B. Hewitson, A. Busuioc, A. Chen, X. Gao, I. Held, R. Jones, R.K. Kolli, W.-T. Kwon, R. Laprise, V. Magaña Rueda, L. Mearns, C.G. Menéndez, J. Räisänen, A. Rinke, A. Sarr and P. Whetton, 2007: Regional Climate Projections. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Pub_Ch11.pdf [25 July 2007]
- FAO (Food and Agriculture Organisation of the United Nations) 2002: World Agriculture: towards 2015/2030. Summary Report. Rome. <http://www.fao.org/docrep/004/y3557e/y3557e00.htm> [25 July 2007]

Harmeling, S. (2007): Civil society alliances on climate change in industrialised countries. Germanwatch Briefing Paper. <http://www.germanwatch.org/klima/cliall07.htm> [25 July 2007]

Hellmuth, M.E., Moorhead, A., Thomson, M.C., and Williams, J. (eds) 2007. Climate Risk Management in Africa: Learning from Practice. International Research Institute for Climate and Society (IRI), Columbia University, New York, USA. [25 July 2007]

Klein, R., Eriksen, S., Næss, L., Hammill, A., Tanner, T., Robledo, C. and O'Brien, K. 2007: Portfolio Screening to support the mainstreaming of adaptation to climate change into development assistance. Tyndall Centre for Climate Change Research Working Paper 102. http://www.tyndall.ac.uk/publications/working_papers/twp102.pdf [25 July 2007]

IPCC 2007a: Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Genf. <http://www.ipcc.ch/SPM2feb07.pdf> [6.2.2006].

IPCC 2007b: Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability. Summary for Policymakers. Genf. <http://www.ipcc.ch/SPM13apr07.pdf> [6.4.2007].

Mitchell, T., Tanner, T. 2006: Adapting to climate change - Challenges and opportunities for the development community. Tearfund UK. <http://www.tearfund.org/webdocs/website/Campaigning/policy%20and%20research/Adapting%20to%20climate%20change%20discussion%20paper.pdf> [25 July 2007]

O'Brien, K., Leichenko, R. 2005: Global environmental change, globalization, and food systems. In: IHDP Update 1/2005. http://www.ihdp.uni-bonn.de/html/publications/update/pdf-files/IHDPUpdateFood1_05.pdf [25 July 2007]

Patz J A, Confalonieri U E C and others 2005. Human health: ecosystem regulation of infectious diseases. Chapter 14 in Ecosystems and Human Well-Being: Volume 1, Current State and Trends. The Millennium Ecosystem Assessment, online at <http://www.millenniumassessment.org>

Schellnhuber, H.J., Jaeger, C. 2006: Avoiding Dangerous Climate Change. In WWF/BVI: Carbon Disclosure Project Report 2006 Germany. P. 11-15. http://www.cdproject.net/download.asp?file=CDP4_Germany_Report_English_Version.pdf [25 July 2007]

TERI (The Energy and Resources Institute) (2003). Coping with global change: vulnerability and adaptation in Indian agriculture. The Energy and Resources Institute, New Delhi, India.

Thornton PK, Jones PG, Owiyo T, Kruska RL, Herrero M, Kristjanson P, Notenbaert A, Bekele N and Omolo A, with contributions from Orindi V, Otiende B, Ochieng A, Bhadwal S, Anantram K, Nair S, Kumar V and Kulkar U (2006): Mapping climate vulnerability

and poverty in Africa. Report to the Department for International Development. Nairobi. http://www.napa-pana.org/extranapa/UserFiles/File/Mapping_Vuln_Africa.pdf [25 July 2007]

WBGU (German Advisory Council for Global Environmental Change) 2007: Sicherheitsrisiko Klimawandel (Security Risk Climate Change). Berlin. http://www.wbgu.de/wbgu_jg2007.html [25 July 2007]

UN (United Nations) 2006: The Millennium Development Goals Report 2006. <http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2006/MDGReport2006.pdf> [25 July 2007]

UN (United Nations) 2007: Africa and the Millennium Development Goals. 2007 Update. <http://www.un.org/millenniumgoals/docs/MDGafrica07.pdf> [25 July 2007]

UNFCCC (United Nations Framework Convention on Climate Change) 2007a: The Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change. Bonn. http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/nwp_en_070523.pdf [25 July 2007]

UNFCCC 2007b: : COP/MOP 2 2006. Decision 5/CMP.2. <http://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf#page=28> [25 July 2007]

United Nations Office for the Coordination of Humanitarian Affairs, 2006. <http://www.reliefweb.int> [13 July 2006].

Warren, R. (2006): Impacts of Global Climate Change at Different Annual Mean Global Temperature Increases. In: Avoiding Dangerous Climate Change, Schellnhuber H.J. (eds.), p. 93-132. <http://www.defra.gov.uk/environment/climatechange/research/dangerous-cc/index.htm> [25 July 2007]

Endnotes

1 For comments please contact Sven Harmeling (Senior Advisor Climate and Development), Germanwatch: harmeling@germanwatch.org; Christoph Bals is Executive Director – Policy at Germanwatch; Michael Windfuhr is Human Rights Director at Bread for the World

2 Intergovernmental Panel on Climate Change (IPCC) 2007b

3 IPCC 2007a

4 IPCC 2007a

5 IPCC 2007a

6 Christensen et al. 2007

7 United Nations Office for the Coordination of Humanitarian Affairs 2006

8 O'Brien/Leichenko 2005

9 UN 2007

10 UN 2006

11 Hellmuth et al. 2007: 8

12 IPCC 2007b

13 Ban Ki Moon 2007

14 WBGU 2007

15 see e.g. WBGU 2007, Schellnhuber/Jaeger 2006

16 see e.g. WBGU 2007, Warren 2006

17 IPCC 2007b

18 Mitchell/Tanner 2006: 5

19 Hellmuth et al. 2007

20 Hellmuth et al. 2007

21 <http://unfccc.int/adaptation/napas/items/2679.php>

22 Adger et al. 2006

23 Hellmuth et al. 2007: 44

24 Washington et al. 2004

25 see e.g. Klein et al. 2007

26 UNFCCC 2007a

27 UNFCCC 2007b

28 Harmeling 2007

29 Thornton et al. 2006

Climate change and rural livelihoods: Impact and adaptation of small-scale farmers in Malawi

Gracian Zibelu Banda & Maybin Ng'ambi

Centre for Environmental Policy and Advocacy

Executive Summary

Malawi has in recent years experienced significant changes in weather and climate patterns, ranging from severe droughts in 1991/02 to extreme flooding events in 2000 /01. These events have had irreversible and damaging effects on crops and livestock production, and the environment. Studies show that the frequency of floods and disasters have significantly increased over time. This has been mainly due to changes in climatic conditions. Malawi therefore needs to take concrete steps to put in place measures to mitigate the adverse effects of climate change and enable the population take advantage of these changes where possible.

As in most instances, adverse circumstances have more profound impact on the poor and the vulnerable. Hence the need for policy makers and advocates of poverty reduction to make special consideration of the circumstances of this group. For Malawi, the majority of the poor and the vulnerable engage in small-scale agriculture. Droughts, floods, crop pests and diseases have more adverse consequences on this group. In developing measures for adapting to climate change therefore this group should be given special consideration.

This report outlines key elements of disasters the country has experienced over the years and the policies that have been developed for tackling these climatic changes and disasters. The report gives a synopsis of poverty situation in the country on how it is impacting on the rural people. The background to climate change and its impact to smallholder farmers have been covered together with the mechanisms proposed for adaptation and the institutions that are responsible for managing climate change and food security in the country.

The main observation is that disasters have indeed increased over the years and with this various policy responses have been designed and implemented. The Disaster Preparedness and Relief Act 1991 sought to provide an institutional framework for coordination of disaster relief efforts. Policies developed after this Act, especially those related to environment and natural resources, have addressed climate change and disaster management in various ways but very little regard has been paid to this Act. It would seem the Act itself is narrow in scope in that it focuses on relief effort with little regard to addressing the sustainability of interventions. The National Adaptation Programme of Action 2006 addresses these weaknesses comprehensively. What is required however is to develop public awareness, capacity building and implementation procedures that respond to the cross sector nature of climate change and disaster management. Specific interventions should address the factors that define the vulnerability of smallholder

farmers such as landlessness, access to agriculture inputs, infrastructure, health and other essential services. Adaptation should recognize and seek to reinforce traditional coping mechanisms including conservation of traditional plant varieties and animal breeds. Many of these have been reflected in the NAPA but require advocacy and follow up for those involved in actual disaster relief and management.

1. Introduction and Poverty situation in Malawi

Malawi is a landlocked country that is located in south-eastern Africa between latitude 09° 25' and 17° 08' south, and longitude 32° 40' and 34° 55' East. The total land area is 11.8 million hectares, of which 9.4 million hectares are land and the rest is covered with water bodies dominated by Lake Malawi. Of the total land area 6.5 million is suitable for rain fed agriculture, 32% is marginal and 37% is unsuitable for agriculture. The country's population is currently estimated at more than 11 million and growing at the rate of about 1.9% per annum. About 85% of the population live in rural areas, and 51% of the total population are women.

Malawi's economy is largely agro-based with almost all other economic industries depending on land and natural resources. Agriculture contributes 35-40% of the gross domestic product (GDP) and accounts for more than 90% of the total national export earnings. It employs more than 85% of the workforce, provides 60-70% of the inputs into manufacturing sector and dominates the commercials and distribution industry.

1.1 Poverty Situation

According to National Statistics Office (NSO 2005), **poverty in Malawi demonstrates that** over 52 percent of Malawi's population live below the poverty line, though the United Nations Development Human Development Report puts the figure at more than 65, the same level it was in 1994. Per capita income was estimated at US\$220 in 1999. Income distribution is highly inequitable with a gin coefficient of 0.62. Population density is high and data from the 1997/98 Integrated Household Survey estimate that 32.3 percent of smallholder households cultivate between 0.5 and one hectare, and 24 percent of households are female headed. HIV/AIDS is pandemic in Malawi with the sero-prevalence rate estimated at 14 percent. Child mortality estimated at 234 per 1000 is one of the highest in the region. Less than half the population has access to safe water and two fifths of the population is illiterate.

Poverty in Malawi is caused by various factors. Many of these are constraints on the economic productivity of land, labour, capital, and technology. Constraints on the productivity of land include rapid environmental degradation and limited or inadequate access to land. Constraints on labour include generally low levels of education, poor health status including HIV/AIDS, lack of or limited off -farm employment, rapid population growth, and gender inequalities. The key constraint on capital is lack of access to credit. These factors are exacerbated by generally weak institutional capacity within the country.

1.2 Background to Climate Change, Impact and its significance

The annual rainfall ranges from 600-2000 mm and its spatial and temporal distribution is greatly influenced by the heterogeneous topography and Lake Malawi. Residual tropical cyclones that occasionally reach Malawi from the Indian Ocean cause heavy rainfall and damaging floods especially in the southern parts of the country.

The temperature regime is tropical continental and is greatly modified also in its spatial and temporal distribution by the highlands and Lake Malawi. The country's latitudinal position exposes it to the influence of extra-tropical systems that move eastwards around the Southern African coast. Hence in winter (May-August) cool/cold moist air influx from the southern latitudes reaches the country and periodically causes ground and air frost.

Malawi is facing serious socio-economic and environmental problems as a result of rapid population growth, agriculture expansion into unsustainable areas, overgrazing and deforestation. These problems impact directly on the health and livelihoods of the population, which in turn have resulted in a cyclic pattern of more environmental degradation and increased poverty. The major challenges to environmental management include limited institutional, legal and administrative capacity to implement environmental policies, and to ensure the enforcement of environmental laws and regulations, a situation that is exacerbated by limited finances and increased poverty. In addition, the country faces natural disasters in form of floods and drought which adversely affects livelihoods and exacerbate the existing poverty and capacity constraint.

Malawi has not been spared from the adverse impacts of weather and climate as evidenced by recent floods and drought. These extreme climatic events cause loss of life, damage property and infrastructure, affect food security and hinder efforts in poverty eradication. The loss of human, natural, financial, social and physical capital, caused by the adverse impacts of climate change, especially floods, drought and landslides, among many other natural disasters and calamities, is of great concern to Malawi. The threat posed by extreme climatic events to food, health, water and energy led to the preparation of Malawi's National Adaptation Programme of Action (NAPA).

1.3 Climate Impact and its significance

Too little rain or too much rain has a greater impact on smallholder farmers. Most agricultural production in the country is rain fed which mainly falls in the months of November to March. Droughts cause crops to wither or wilt as such affecting productivity and adversely affect food security. Floods on the other hand, wash away top soils, crops, animals, and infrastructure and in some cases cause human death. This also has a bearing on food insecurity in the country. The Lower Shire Valley comprising Nsanje, Chikwawa and Mwanza districts and other low lying parts of the country like Ntcheu, Salima and Karonga have witnessed frequent droughts and floods and therefore food insecurity over the past few decades.

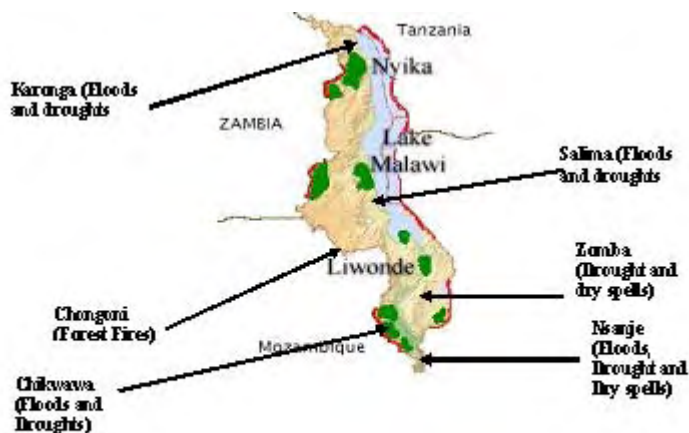


Figure 1: Map of Malawi showing vulnerable areas

The Inter-Governmental Panel on Climate Change (IPCC 1995) has stated that the most common climate change impacts on agriculture include (i) direct effects of atmospheric carbon dioxide enrichment on plants, (ii) an increase in global and local temperatures, (iii) changes in water balance, and (iv) changes in frequency distribution of temperature and rainfall. According to Phiri et al, 2005 there is evidence of variation in temperatures and rainfall in the Lower Shire observed from 1970 to 2002. Mean temperatures increased by 3.2% while mean maximum temperatures increased by 2% between 1970 and 2002. Changes in total rainfall were not as obvious but the incidence of drought years increased during the late 1970s and early 1990s when compared with earlier decades.

Malawi signed and ratified the United National Framework Convention on Climate Change (UNFCCC) in June 1992 and April 1994 respectively. The ultimate goal of the UNFCCC convention is to achieve, in accordance with the relevant provisions of the Convention, stable greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with climate system. The Convention obliges countries to, among other things, formulate, implement, publish and regularly update national and, where appropriate, regional programs containing measures to mitigate climate change; cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas affected by droughts and desertification, as well as flood.

This paper outlines the key issues arising from the impact of climate focussing on smallholder farmers. The paper addresses some the major issues, policy responses and challenges to policy implementation. The aim is to outline the context for addressing

sustainable adaptation and coping mechanisms to climate change. A number of policy instruments including national plans are therefore analyzed. The paper is mainly derived from a desk study of available Government documents and other literature. This was supplemented by limited stakeholder interviews conducted among key sector officials. The study was therefore limited both due to time and financial resources. It is hoped however that the recommendations outlined herein can form the basis of further work or can complement existing efforts to address the impact of climate change on vulnerable groups in Malawi.

2. Disasters and their impacts on Smallholder Farmers

Malawi experiences a variety of extreme weather events that have recently increased in frequency of occurrence and intensity resulting in loss of life and damage to infrastructures and buildings. El Nino and La Nina global phenomena cause local floods and droughts. Natural disasters occur more especially in the rainy season (October-April). Such disasters include drought, floods, landslides, pests and disease outbreaks. Tornado type wind systems occur frequently and cause structural damages to buildings. The country experiences earth tremors/earth quakes; the severest tremor attained 6.7 on the Richter scale in March 1989, and caused loss of life and extensive structural damage to buildings and other infrastructure (GOM 2002). The natural disasters hinder socio-economic developmental efforts because agriculture, which is mainly subsistence, is adversely affected. The country has a low capacity to either adapt or mitigate the impacts of these extreme climatic events.

Just a year after the Second World War in 1946 the country experienced landslide (Napolo) which affected Mtiya Village in Zomba. The number of people affected in this calamity is not well known but a lot of people died. This was followed by a country wide drought in 1949 and lots of lives were lost due to starvation. In 1970s as seen from Figure 2 lots of people were affected from floods due to heavy rains and poor harvests. Over 16000 people were affected within a period of 4 years.

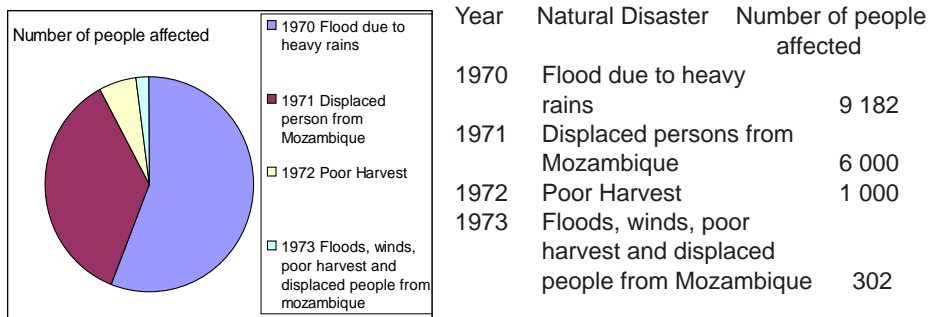


Figure 2: A Pie Chart and table showing disasters from 1970-1973

In 1975 floods affected several families in Mangochi, Machinga, Zomba, Mulanje and Nsanje. About 800 families were left homeless and without food. Four years later Floods swept crops and houses in Rumphu in the northern part of the country. This occurred along the lake shore area from Chitimba to Mlowe. Flooding destroyed crops and animals in several districts such as Rumphu, Lilongwe, Machinga, Nkhata Bay, Mulanje, Dedza, Balaka, Mangochi, Karonga, Ntcheu, Nsanje and Chikwawa. In March 1991 the country experienced another catastrophe of flash floods in Mulanje – Phalombe area which left about 500 people dead, 8041 people were rendered homeless and 128,140 people were affected in one way or another. As if this was not enough, the whole country experienced a severe drought in 1991/92 season and more than 6.1 million people were affected. Figure 3 below summarises the impact of these disasters on affected communities.

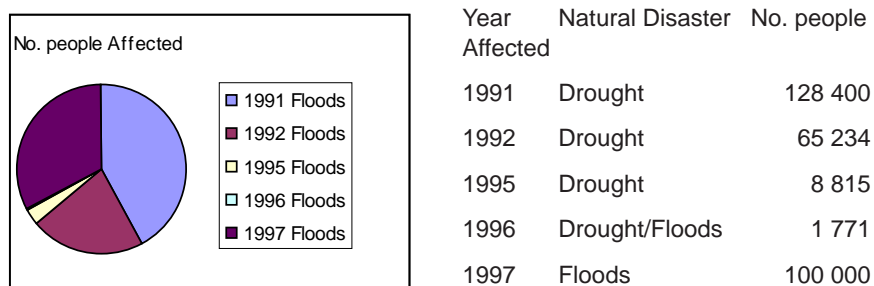


Figure 3 Pie Chart and table showing disasters from 1991-1997 ¹

In 1996/97 floods and droughts destroyed several properties and crops. In Phalombe, Zomba, Nsanje and Machinga a total of 1771 houses were destroyed affecting several families. In January 1997 a total of 100, 000 households in Chikwawa and Nsanje had their houses damaged and their gardens washed away by floods. In Karonga 78 villages in TA Kilipula and Kyungu had their rice fields, houses and property damaged in April 1998. This had great impact on the livelihoods of smallholder farmers whose survival was dependent on rice that was washed away. The most recent event is the 2001/2002 growing season, where farmers were faced with a combination of floods, drought and poor governance. Close to half a million individuals were affected across the country. It must be noted that from 2001 to 2003 the whole country was faced with food crisis due to erratic rains in the 2001/02 crop season and floods. Over 3 million people were affected throughout the country. It is estimated that over 200, 000 metric tonnes of food was distributed in the country through a Joint Emergency Food Aid Program (JEFAP). Figure 4 gives a summary of disasters for the period.

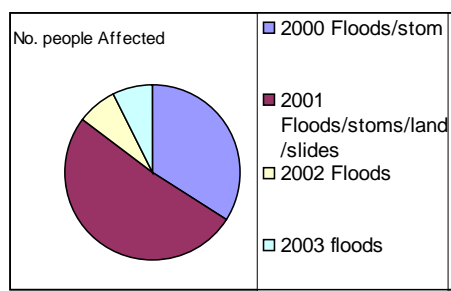


Figure 4 Pie Chart and table showing disasters from 2000-2003

Particular weather systems cause outbreaks of pests such as armyworm and diseases like cholera and malaria leading to illness, loss of life and reduced agricultural productivity.

Some measures and strategies exist to deal with the adverse effects of extreme climatic events. A Department of Disaster, Relief and Rehabilitation was established to handle most aspects of the effects of extreme weather events and other natural disasters. Non-Governmental Organisations (NGOs) and Faith Groups also have programmes dealing with disasters. Malawi has a Flood Warning System based in the Water Department. In addition the Meteorological Department provides weather information to the general public though the accuracy and timeliness of such information may not be confirmed. The National Disaster Management Plan for Malawi includes mitigation measures for drought and flood disasters but has no specific adaptation measures.

3. Review of national policies and legislation

3.1 Economic Instruments

In 1998, Malawi launched the Vision 2020, a policy instrument that articulates the country's aspirations for sustainable economic growth and development, and for the sustainable utilization of natural resources and the environment. This was followed by the Malawi Poverty Reduction Strategy Paper (MPRSP) in 2002 (MG, 2002b), aimed at reducing poverty through socio-economic and political empowerment of the poor. It is built around four pillars, which are the strategic components grouping various activities, policies and strategies, into a coherent framework for poverty reduction. These pillars are: (i) rapid sustainable pro-poor economic growth and structural transformation, (ii) human capital development, (iii) improving the quality of life of the most vulnerable, and (iv) good governance. The strategy also mainstreams cross-cutting issues, such as HIV/AIDS, gender, science and technology and the environment, including climate change, which are all very relevant to the development of this NAPA document (NAPA, 2006: 3).

In order to stimulate pro-poor economic growth of at least 6% per annum necessary to reduce poverty by half by the year 2015, the Government of Malawi developed a Malawi Economic Growth Strategy (MEG) in 2003. The strategy provides an approach for implementing income reduction interventions stipulated under pillar one of MPRS.

3.2 Environmental Instruments

After the Earth Summit in Rio de Janeiro, Brazil in 1992, Malawi launched its National Environmental Action Plan (NEAP) in 1994 (EAD, 1994; 1995). NEAP is Malawi's operational tool for the implementation of Agenda 21 and identifies and highlights several environmental problems. These include high soil erosion, low soil fertility, deforestation, overgrazing, over-fishing, loss of biodiversity, water resources degradation and depletion, human habitat degradation, air pollution, and climate change.

A National Environmental Policy (NEP) was adopted in 1996 followed by the Environment Management Act in the same year. The NEP as revised in 2004 addresses climate change in section 4.11 dealing with Air Quality and Climate Change. The policy objective is to minimize the adverse impact of climate change and variability. Among the key strategies is the need to strengthen the existing national climate/metrological database and monitoring networks; assess and monitor the potential impact of climate change on the functioning of ecosystems, vegetation patterns and net carbon sinks; use climate data to help guide land use and economic development; and promote regional and international cooperation for the effective exchange of climate information and control of trans-boundary atmospheric air pollution. As a framework instrument the NEP is expected to guide lead agencies in agriculture, fisheries, forestry, energy, industry and water resources management in so far as their activities affect the environment and natural resources management. However the influence of the environmental instrument is government policy making is limited considering that the priority is poverty reduction, now, and not necessarily, sustainable development.

The Malawi National Strategy for Sustainable Development (MNSSD), 2004 provides more concrete actions for implementing the principles in the NEP and other instruments. The MNSSD addresses climate change under theme 3 of the Johannesburg Plan of Implementation of the World Summit on Sustainable Development (WSSD). The theme deals with the protection and management of the natural resources base of economic and social development. It calls upon states to improve management of effects of climate change and variation. The NSSD stipulates the WSSD goals which specifically deal with weather and climate and calls upon Government to:

- By 2015 reduce by 50% the world's poverty through provision of appropriate weather and climate information; and
- Mitigate effects of drought and floods through improved use of climate and weather information and forecasts, early warning systems, land and natural resources management, agricultural practices and ecosystem conservation.

The Malawi Goals under the MNSSD include the need to reduce damage to property and loss of life caused by weather and climate natural disasters (floods, disasters etc); contribute to the sustainable production of food and fibre, contribute to sustainable industrial production and meet the UNFCCC obligations. Again the generation and dissemination of reliable weather and climate information is key for disaster early warnings, public

awareness, agriculture production, and industrial use and water resources management. The key strategies include procurement and installation of necessary equipment and training, promoting awareness among vulnerable groups, among others.

The National Water Policy provides, *inter alia*, for sustainable water resources management and in this respect calls for formulation of mitigation measures to reduce the impact of climate change and variability as a means of disaster preparedness and management. Disaster management is specifically addressed and recognizes the severe economic and cultural disruption and dislocation facing the most vulnerable population of the affected communities. The policy seeks to establish preparedness and contingency plans for water related disasters and emergencies, as an integral part of water resources management. Amongst the objectives and strategies are timely provision of portable water and sanitation, information dissemination, flood warnings and providing information to the Ministry responsible for disaster preparedness and relief.

Finally, in response to the country's obligations under the Convention on Biological Diversity, Malawi adopted a National Biodiversity and Action Plan (NBSAP) in 2005 which outlines key biodiversity issues and specific interventions by various stakeholders. Of particular concern to climate change are strategies for species monitoring and recovery, conservation of traditional agro-biodiversity resources among others.

3.3 National legislation

Many of the above policy instruments have not been incorporated into national legislation. However, the Disaster Preparedness and Relief Act (DPRA) (No. 24 of 1991) enacted in the wake of the Phalombe flush floods disaster provides some framework for disaster management. The key provisions deal with the institutional framework for dealing with disasters such as floods, disease, food crisis and others. The Act establishes the office of the Commissioner for Disaster Preparedness and Relief (Part II), a National Disaster Preparedness and relief Committee (Part III) planning subcommittee and civil protection plans (Part IV). In addition, the Act makes provision for organization of civil protection areas (Part VI), participation of volunteers in civil protection (Part VII), and powers of civil protection officers. The Act gives power to the President to declare national disasters (Part IX), and creation of a National Disaster Preparedness and Relief Fund (Part X).

The Act however focuses on relief and does not deal with adaptation measure for sustainable management of climate change in general and disasters in particular. The roles and participation of affected local communities are not clearly spelt and, in view of the National Decentralization Policy, the Act needs to be revised to reflect local management frameworks. There is also little regard to restoration of factors of production such as inputs supply and storage and the need to ensure that affected communities do not lose their traditional or indigenous coping mechanisms. The Act should stipulate guiding principles for disaster management and thereby incorporate the policy instruments outlined above including the need to strengthen inter-sector coordination among lead agencies.

The Environment Management Act 1996 does not specifically deal with climate change

and disaster management but the revised bill (Environment Management Bill 2006) currently going through government approval specifically addresses climate change and disaster management issues. Many of the sector legislation such as forestry, fisheries, water address issues which respond to climate change but not in specific terms.

4. Adaptation to Climate Change

Some of the above policy frameworks were used to set strategic goals and objectives to guide in the preparation of the National Adaptation Programme of Action (NAPA), which include: (i) achieving food security, (ii) reducing poverty, (iii) attaining and maintaining positive economic growth, (iii) improving the welfare of women, the elderly, children and the physically challenged, and their access to production resources, (iv) addressing the special needs of orphans, and recognizing the role of women, female- and children-headed households, (v) safeguarding hydro-electric power generation, and (vi) minimizing the loss of life and sustainable livelihoods owing to natural disasters and calamities, such as droughts, floods and mudslides.

The National Adaptation Program of Action (NAPA) proposes a list of priority areas that that needs to be implemented. These are

a) Improving community resilience to climate change through the development of sustainable rural livelihood by;

- Improving access to water, including water treatment works;
- Improving water management to withstand erratic rains through water harvesting, water conservation, and small-scale irrigation;
- Improving community storage systems for seed and food reserves;
- Promoting sustainable utilization of dambos, wetlands and river valleys under sustainable dimba cultivation;
- Diversifying crops and livestock to improve nutrition and food security;
- romoting low-cost nutrition supplements; and
- Raising and improving awareness.

b) Restoring forests in the Upper, Middle and Lower Shire Valleys catchments to reduce siltation and the associated water flow problems by:

- Creating buffers along the Shire River, and other rivers, such as the Ruo, to reduce siltation and the transfer of chemicals and other pollutants in water ways;
- Planting fast growing tree species in catchments; and
- Building capacity, especially training, of rural communities.

c) Improving agricultural production under erratic rains and changing climatic conditions by:

- Improving the choice of crop varieties to accommodate the increasing incidence of droughts and aridity;

- Developing improved crop varieties and providing adequate seed;
 - Improving early warning and climate observational systems to improve extension delivery systems to the farming communities; and
 - Improving extension services to improve information flow to farmers.
- d) Improving Malawi's preparedness to cope with droughts and floods by:
- Conducting rapid assessment of drought and flood risk by producing zoning maps;
 - Designing and testing appropriate strategies, policies and laws to facilitate urgent efforts in dealing with climate disasters;
 - Preparing drought and flood preparedness plans;
 - Integrating climate change plans into land use planning;
 - Constructing and rehabilitating dams and other flood mitigation measures in key areas, including climate proof critical bridges; and
 - Building multi-purpose dams.
- e) Improving climate monitoring to enhance Malawi's early warning capability and decision making and sustainable utilization of Lake Malawi and lakeshore areas resources by:
- Enhancing the capacity of monitoring stations in terms of data collecting, retrieval and distribution;
 - Building capacity;
 - Developing fish breeding facilities in Lake Malawi, rivers and fish ponds to help restock fish in the lake and rivers; and
 - Developing a fish farming enterprise.

5. Institutional Framework for Climate Change and Disaster management

The Disaster Preparedness and Relief Act was passed in 1991 'to make provisions for the coordination and implementation of measures to alleviate effects of disasters'. It provides government and other stakeholders an enabling framework and instruments for disaster planning and management. The Act provides for establishment of institutional mechanisms and implementation of several measures to deal with disasters.

A Draft National Disaster Plan was developed to help operationalizing the provisions of the Act. The Plan has been in draft form since 1997. The Department of Poverty and Disaster Management Affairs is responsible for national planning, coordination and policy formulation on disasters and safety nets. Implementation is done at district level and in sectoral ministries. The Department is planning to develop a Disaster Management Policy which will guide development of district level disaster management plans. Other institutions involved in disaster management and climate change in the country include

the Environmental Affairs Department, the Department of Meteorological Services, the Department of Fisheries, the Department of Water, Non-Governmental Organizations and Faith based organizations.

6. Key Challenges and Constraints to Policy Implementation

Lack of Intersector coordination

The planning and management of climate change and disaster management is currently carried out on a sectoral basis and the involvement of local communities is limited. The absence of an overall planning and management strategy such as land use planning, water resource management, developed with the participation of local level resource users, hampers the successful adaptation to climate change. The resources affected by climate change are governed by sectoral laws and policies. This sectoral separation is one of the challenges affecting adaptation because it does not facilitate a holistic response to climate change. The National Decentralization Policy and the National Environmental Policy however offer opportunities for cross sector coordination.

Capacity constraints

There are capacity constraints within government institutions at the district and local levels to coordinate climate coping strategies and sustainable land management in an integrated manner. A number of enabling sectoral policies that promote climate change adaptation have not been effectively implemented partly due to lack of proper procedures for translating policy prescriptions into field guidelines. There is also limited capacity (skills and resources) at the local level to implement these policies and extension services are limited.

Insufficient livelihood alternatives

The heavy dependence on natural resources to sustain livelihoods directly such as use of firewood for fuel, or charcoal for cash income has resulted in over-exploitation of natural resources hence limiting available options when disaster strikes. Further despite extensive feasibility studies on the potential expansion of irrigation in drought or flood prone areas such as the Shire River Basin to improve agricultural production and thus achieve food and nutrition security, extension services to promote sustainable irrigation do not exist. Further, the investments in large-scale irrigation projects envisioned by government over the last decade have not been implemented.

Unreliable Seasonal Forecasts and Early Warning Systems

The Department of Meteorological Services has in the past operated monitoring, seasonal forecasts and early warning systems in collaboration with other

government institutions. These systems are: (i) Seasonal forecasting (with emphasis on drought monitoring) in collaboration with the SADC Drought Monitoring Centre (based in Harare, Zimbabwe), (ii) Early warning System for Food Security, in collaboration with the Ministry of Agriculture, (iii) Flood Forecasting and Warning System for the lower Shire, in collaboration with the Water Department, and (iv) Tropical Cyclone Monitoring and Early Warning System, in collaboration with the Commissioner for Disaster Preparedness, Relief and Rehabilitation. These services have however proved unreliable for smallholder farmers who have at times been promised rain that never came or vice versa.

7. Conclusions and Recommendations

Climate change has adversely affected smallholder farmers in Malawi. As observed in the discussion above the frequency of floods has increased over the years. The Lower Shire Valley is most affected area with flooding and drought. Crops and houses have been washed away by torrential rains and floods prompting humanitarian aid the area. The other affected areas include Zomba, Mangochi, Machinga, Ntcheu, Salima, Rumpi and Karonga.

National Initiatives should prepare agricultural systems in vulnerable areas such as the shire valley to cope with and adapt to climate change. Climate change should be considered as a resource for agriculture by enhancing the capabilities of stakeholders in the agricultural sector to respond to climate variations. This entails enhanced preparedness to prepare for climate hazards by reducing vulnerability. There is also need to enforce adaptive strategies that mitigate the effects of adverse climatic change, as well as taking advantage of likely improvements in climate in some regions.

There is need for early warning systems and adequate preparedness plans and an enabling mechanism that would provide support and relief to affected communities, and implementation of the projects to mitigate drought and floods thus enabling vulnerable households to adapt to those conditions while achieving sustainable livelihoods. There is need for better coordination between key departments such as those responsible for Meteorological Services, Agriculture, Environment, and Poverty and Disaster Management.

References

Malawi Government (2005) National Adaptation Program of Action. Lilongwe, Malawi

Government of Malawi (2005) Second Integrated Household Survey. Lilongwe Malawi

Malawi Government (2002) Initial National Commutation of Malawi. Lilongwe, Malawi

Phiri M. G. Ibrahim & Saka R Alex (2005), The Impact of Changing Environmental Conditions on Vulnerable Communities of the Shire Valley, Southern Malawi. Lilongwe, Malawi.

Saka, J D (2006) Situation Analysis of Sustainable Land Management and Adaptation to Climate Change in the Shire River Basin (UNDP, Lilongwe).

List of Acronyms

DPRA	Disaster Preparedness and Relief Act
MNSSD	Malawi National Strategy for Sustainable Development
MPRS	Malawi Poverty Reduction Strategy Paper
NAPA	National Adaptation Programme of Action
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
NSO	National Statistical office
UNFCCC	United Nations Framework Convention on Climate Change
WSSD	World Summit for Sustainable Development

Endnotes

¹ The country experienced a severe drought in 1991/02 which affected about 6.1 million people across the country.

The urgent need to increase adaptive capacities: evidence from Kenyan drylands¹

Siri Eriksen, Postdoctoral researcher at the Department of Sociology and Human Geography, University of Oslo, Norway, and a GECHS (Global Environmental Change and Human Security) associate.

Kirsten Ulsrud, Project assistant of the GECHS project office at University of Oslo, Norway

Jeremy Lind, Research Officer at the London School of Economics

Benard Muok, Research Scientist at the Kenya Forestry Research Institute

Introduction

The consequences of existing climate stress and future climate changes are becoming less manageable for a growing section of dryland populations due to diminishing capacities and options to adapt. In this discussion 'adaptive capacities' refers to the options and capacity of households to adjust their livelihoods to multiple and interacting stressors. Although people are continuously adjusting their livelihoods to stressors, the decline in dryland people's adaptive capacities is manifest in an eroded asset base, particularly in livestock; a lack of security that restricts access to key drought resources such as grazing areas, water and forests; statutory restrictions on resource uses; and localized degradation of resources in secure areas that are drawing growing numbers of people in search of safety. In many dryland areas of sub-Saharan Africa, conflict, referring to competition for resources, livestock raiding, banditry, violence against women and the vulnerable, and a generalized climate of criminality and impunity, influences livelihood decision-making in the short and longer term. This paper presents new research findings on the interactions between conflicts and climate change adaptation, and points out several recommendations for actions to address critical issues for assisting the adaptation and development process of people in a constant state of crisis. These findings were discussed at a policy workshop in Nairobi in October 2006 and at the Can Africa Feed Itself conference in Oslo in June 2007. An earlier version of this text was first published as an African Centre for Technology Studies policy brief in November 2006 and presented at the United Nations Framework Convention on Climate Change Conference of the Parties in November 2006.

Vulnerability to climate change in Africa

Climate change is emerging as an important threat, where Africa and its poor populations are often characterized as 'most vulnerable'. Projected changes include increasing temperatures, increased drying (in particular in southern Africa), as well as risk of increased rainfall in other areas, intense rainfall events and flooding, increasingly unpredictable rainfall, and sea level rise and salt water intrusion in coastal areas. These are

expected to have serious implications for ecological and social systems, including aspects such as water resources, health, agriculture and biodiversity. In line with this recognition, there is growing interest in integrating climate change adaptation measures into official development assistance. Efforts so far have focused largely on managing climate risk, such as through strengthening early warning and evacuation procedures for flood situations or making technical or sectoral adjustments to specific climate parameters, such as promoting drought resistant crops in areas predicted to become drier under climate change. While these are important measures, they are unlikely to be effective on their own in reducing vulnerability among populations in Africa. This is because people have to respond to a range of climatic factors, including seasonal variability, droughts, and floods. Risk from one event cannot be separated from the way that people manage climatic variability. In addition, a range of societal processes in addition to physical climate conditions generate vulnerability, including conflict. Vulnerability can be considered as groups or individuals being in a state of inability to secure well-being in the face of climatic change. In the context of this paper, vulnerability to climatic change refers to inability among households to engage in strategies to cope with and adjust to extremes such as droughts that form part of current climate variability and which may increase in frequency and/or intensity in future. This state, while manifested in local crises such as entitlement failure, is often caused in part by structural processes operating in the long term.

There is a need to understand household vulnerability and coping strategies as these also form part of adaptation (adjustments in practices, processes or structures) to climate change in the long term. In addition, vulnerability is highly socially differentiated and is not synonymous with poverty. Not all of Africa is equally vulnerable, not are all poor people vulnerable nor all vulnerable people vulnerable in the same ways. The processes that generate their vulnerability and their responses to cope and adapt to changing circumstances vary. In a context of conflict in particular, non-poor people can also be vulnerable to the joint pressures of violence and drought. These insights form the background to this study of household vulnerability to climatic change in a context of conflict.

Declining adaptive capacity in Kitui and Turkana Districts

A critical finding from the research into the adaptive behaviour of households in Kenya drylands is that people's adaptive capacity to climate stress is deteriorating. This means that a relatively minor meteorological drought now triggers catastrophic events. This trend is particularly worrying since climate change may lead to an increase in droughts and the unpredictability of rainfall. Insights from fieldwork in Kitui and Turkana Districts, two dryland areas in Kenya, are presented in this section to illustrate the processes and drivers of diminishing adaptive capacity in two local settings. Conflict and insecurity play an important part in these processes.

First, people adapt their livelihoods in relation to multiple and inter-related sources of insecurity, of which climate stress may not be the most important. Many Turkana people

identify large scale livestock raids by neighbouring tribes as well as attacks by home grown *ngoroko*, or bandits, as the primary threats to their livelihood and well-being. In Kitui, there has been historical raiding of cattle between the agropastoralist (Kambas) and pastoralist (Orma and Somalis) that has led to migration and landlessness, as well as tension within villages over free access to water sources during drought and exclusion from forest resources by the government. In both areas, large areas of grazing are considered unsafe, for many inhibiting the keeping of large herds of cattle so necessary to survive drought. Climatic changes add stress in an already precarious situation.

Second, conflict has had a fundamental impact on adaptation to climate stress through the creation of absolute destitute groups. In Turkana, the loss of herds in violent attacks is a near universally shared experience. The population considered to be destitute, meaning people who are unable to meet their annual food needs even in 'good' years, has expanded greatly. With no livestock or regular source of livelihood, many destitute have routinised survival strategies such as producing charcoal for sale, collecting wild foods and relying on irregular food aid distributions. In Kitui, raiding by pastoral groups as well as eviction from the forest has created a group of landless people who are unable to harvest well or keep cattle, therefore having to live from hand to mouth based on wild foods, casual employment and migration.

Third, vulnerability among dryland populations is shaped by the marginalisation of certain groups and areas, both in terms of the poor provision of policing and security by the state and in terms of low levels of investments in basic infrastructure like water, roads, schools and health facilities in remote rural areas. Furthermore, inequalities that date back to colonial times accentuate socially differentiated patterns of adaptation. In Kitui, a few families with superior land can benefit during drought period by generating additional income through renting out wells or by trading with visiting herders in search of water.

The policy implications: What does adaptation add to development?

These findings imply that the strengthening of adaptation encompasses a broad set of measures to support livelihoods, possibly including social protection efforts that aim to protect and enlarge the assets of the poorest and most vulnerable. Strengthening adaptation also involves enhancing the regulated access to resources that are important in coping with drought, such as forest resources in the case of Kitui, as well as measures to reduce conflict and insecurity. At the moment, Endau hilltop forest which has been providing the local population with most of their basic needs is a gazetted government forest to which the local population has no access right. Implementation of the new forest policy needs to facilitate local forest uses associated with strategies to adapt to frequent droughts.

A comprehensive effort to support livelihoods, natural resource management and improve public services is certainly not only a climate change adaptation strategy, but also has many overlaps with good development efforts, taking peoples and communities'

needs into account. Nevertheless, adaptation is a new dimension that needs to be added to development work, implying that development activities in many cases should be changed, because of the role of climate-related stressors. First, reducing climate risk by considering the sensitivity of new crops or technologies to climatic uncertainty and change and by building early warning and emergency management systems, needs to be considered in any development interventions. Second, measures to strengthen people's current coping strategies, such as storing food, grazing animals in areas of good fodder during drought, and forest product utilisation, also specifically contribute to adaptation. Third, adaptation can take place through targeting the causes of vulnerability. In addition to the marginalization of dryland groups noted above, sedentarisation of people who have traditionally moved their livestock to follow the rains as well as increasing exposure by farmer households to fluctuating global prices on agricultural produce are important causes of vulnerability in many areas of Africa.

This latter aspect of adaptation means that consideration of vulnerability should be brought to the center of development planning. Particular consideration should be given to how development actions, sometimes unintentionally, may contribute to the creation of 'losers' by exacerbating the vulnerability of certain individuals and groups in society. There are many examples of development that has reinforced the vulnerability of destitutes who were meant to be assisted. Examples from the case of Turkana are the 'rise and fall' of Kalokol fish factory and Katilu irrigation scheme. The vulnerability of many beneficiaries was ultimately increased because the new sources of livelihoods proved unreliable and precarious, and the settled population no longer had livestock livelihoods to fall back on. Although it is commonly appreciated that the livelihoods of beneficiary groups should be considered in development planning and design, there is still often insufficient understanding of people's adaptive strategies, livelihoods, potential of the sustainable use of natural resources and the ways that people respond to new and evolving threats. Without this understanding, development interventions may worsen an already difficult situation. But if based on sufficient interaction with affected populations and insights into their problems, strengths and potentials, interventions can improve local adaptation. In particular, it should be considered how existing development initiatives that support dryland livelihoods can more specifically target those who are most vulnerable to climate stress.

Critically, the research shows that targeting the causes of vulnerability involves addressing the economic and political structures that are making people vulnerable. For example, current economic structures encourage the spreading of precarious forms of cultivation into increasingly arid environments. Current economic structures reflect generations of land use planning and economic strategy that favoured the promotion of 'modernized' farming systems to the detriment of supposedly 'backward', customary forms of pastoralism or forest uses. Formulating land use policy for drylands that promotes pastoralist uses of the environment and use of indigenous plants and discourages the uptake of rainfed and irrigated farming involves a conscious policy shift, therefore.

There is a need for incentives and structures to encourage the adoption of production systems that are adapted to normal climate stress such as pastoralism and investment in valuable trees in drylands. Encouraging and developing livestock keeping through better veterinary services, legal protection of access to key resource areas for livestock keeping; opening migration paths and enhancing security among key migratory routes used by livestock herders, technical assistance and development of market infrastructure, would contribute to a more efficient and less climate sensitive use of drylands than cultivation. Furthermore, although forest resources in Endau are resilient to drought and potentially of a high commercial value, there are few efforts to encourage tree planting, nor processing, value adding or marketing of forest products. Here, creating and facilitating marketing outlets for processed forest products, provision of infrastructure including hospitals, schools and roads, and decentralizing watering points through piping water from the hilltop forest into different areas would lead to economic structures that are better adapted to climate change. Such measures would also address the economic marginalization that is contributing to vulnerability of dryland peoples.

Adaptation in conflict areas, what can be done?

The way that people adapt to climate stress in conflict areas demonstrates the importance of political structures, in terms of power relations and institutions, in shaping vulnerability. When adaptation is discussed, it is normally assumed that the area in consideration is peaceful. This research project however, has demonstrated that adaptation strategies possible in areas of conflict differ from the options in peaceful areas. Conflicts seriously affect coping and adaptation strategies. In Turkana, coping and adaptation, such as seasonal movement to borderland grazing sites in highland areas, are compromised by threats attributed to large-scale livestock raids and smaller-scale opportunistic attacks by armed bandits. In Kitui, the hills are particularly important for coping with drought, which has been ongoing since 2004 with only brief periods of respite. Nevertheless, conflicts in this area in the form of raiding and theft, as well as tension with authorities and between different groups over access to the forest and water, constrain the coping opportunities represented in existing sources of water, food, grazing and income during drought.

In some cases, conflicts are used as a deliberate strategy to secure economic or political interests. In the Kitui case, political motives by individuals were fuelling conflicts, made possible by the uneven power relations between visiting pastoralists and local farmers on one hand and politicians and government administration on the other hand. Some few individuals are often able to manipulate customary and formal institutions to their end. As a response, civil society at the local level in Kitui has taken action to reduce conflict through informal peace committees consisting of elders and direct communication between pastoralist and farmer groups as well as with district administration. In addition, formal, government led peace committees are important institutions in resolving conflicts. Both in Kitui and Turkana, it was found that the extent to which these formal committees were accountable to local needs, rather than being perceived as pursuing 'outside'

agendas, is critical to their success. These committees are able to link up with neighboring districts in order to manage peaceful interactions between people that migrate and use shared resources. The workshop revealed that useful measures implemented by USAID-supported peace initiatives include cross border programs, promoting common watering points, creation of market structure for mutual trade between competing groups, and cooperation on tree planting projects.

An important observation that was made in Kitui was that drought strengthened collaboration and peace between different ethnic groups due to their mutual need to access drought water sources and to trade food and domestic commodities. For some, such trade became an important adaptation to frequent droughts. It was well known that violent raiding only ever occurred when rains and water were plentiful. This observation counters the common assumption that ecological scarcity such as increased droughts necessarily lead to conflicts. The relations between climatic changes, collaboration and conflict are complex. Political and economic developments, such as uneven power relations and strategies to secure particular political interests, as well as lack of police and security infrastructure, may be more important in shaping conflicts than ecological conditions *per se*.

Conflict reduction and peace-building efforts can thus be turned into a way of promoting adaptation. However, both local administration, researchers, policy makers and development agency staff attending the workshop expressed the common concern that it does not suffice to address the conflict problem isolated from other problems. If implemented as isolated activities, neither peace promotion, improved roads, schools, water supply, health services nor the diversification of livelihoods will lead to the structural changes that are needed in order to reduce the overall vulnerability of people and communities in deep crisis. Instead, many activities should be implemented simultaneously, in a coordinated way. For example, while peace committees can contribute to reducing conflicts in general, they do not necessarily address the needs of the destitute. Welfare measures and safety nets are needed. In addition to conflict resolution, livelihood support should be a critical element in adaptation policies because the absolute destitution prevalent in these areas makes most adaptation options unavailable to the most vulnerable populations.

Furthermore, the strengthening of civil society is critical not only in the management of peaceful interactions, but also in ensuring types of local development that can contribute to adaptation. The extent to which politicians can be held accountable for the use of development funds that they govern, for example, depends on a strong civil society in terms of awareness of local people of their rights and ways to effectively influence decisions and counteract bad decisions. Efficient use of such funds enable the development of boreholes and water provision that enhance the accessibility of grazing and reduces competition over existing water and grazing resources. Currently, there is little political price to be paid for the failure to invest in arid and semi-arid areas in Kenya. Capacity building for local leaders, and strengthening and legalizing informal institutions, such as

the informal peace committees, are ways of enhancing civil society of a type that promotes adaptation to climate stress and the management of conflict. Building up the strength of local organizations to be vocal is one such measure. In addition, provision of better transport and infrastructure for peace committees would address a major constraint to the rapid response of such committees to conflict incidences, and thus the effectiveness of their work.

National and international adaptation imperatives

Vulnerability and adaptation to climate change are problems that belong not only to the civil society and local level institutions. The national government is responsible for developing basic needs for its citizens, which makes adaptation a part of government responsibilities. If some of the economic and political structural causes of vulnerability are to be addressed, action is required both by national and international institutions. Since local adaptive capacity is overstretched and may be inadequate in the face of climate change caused by global emissions, the international community also needs to address adaptation. Outside assistance is required if people are to go beyond the current coping systems and proactively find more viable ways of adapting to climate stress. This does not mean that exotic solutions should be implemented that run the risk of increasing dependency and exacerbating vulnerability. Instead, mechanisms need to be found where adaptation is driven by community aspirations. Linkages between institutions at national and local level are particularly important for achieving such adaptation. It was noted that research conducted on the ground regarding coping and adaptation can play an important role in promoting adaptation to climate change by providing empirical information of local situations and imperatives to such national policy efforts.

In Kitui, a diversity of institutions at local and national level has been involved at the ground level in managing conflict. These include the provincial administration, the formal peace committee, the informal peace committee, and the Arid Lands Resource Management Project (ALRMP). The Arid Lands project, under the Office of the President, exemplifies a type of effort that addresses a number of critical issues that together may contribute to adaptation, such as tapping of water and introduction of trees and crops, in addition to peace committees. At the same time as contributing to such local actions, the programme provides a link with national policies through its participation in their development. National policies relevant to adaptation that are currently being developed include the Disaster Risk Reduction Strategy for Kenya and the National Policy on Sustainable Development of Arid and Semi-Arid areas.

At the same time, several challenges exist even where such programmes and policies are under development. First, a project like ALRMP easily becomes overstretched, and cannot alone effectively carry out all the infrastructural, peace building and vulnerability reduction measures required to have a real impact. Active, informed and coordinated involvement by a number of government, NGO, church and aid agencies is therefore important. Second, adaptation is critical to all of Kenya and not just restricted to arid

areas. Mechanisms to support adaptation efforts need to be in place that are not limited by their geographic focus. Kenya does not yet have a climate strategy, but intends to develop one where adaptation will form a big part. It was pointed out that because adaptation is a cross-sectoral issue, adaptation cannot be handled by the Ministry of Environment alone. While the importance of climate change implies that the status of the Ministry of Environment should be strengthened, adaptation must also be linked to and integrated into development. There is therefore a need for developing a framework for cross-sectoral linkages. One suggestion emerging from the workshop, is the forming of a multidisciplinary team (national steering committee) under the Office of the President, Ministry of Finance or National Planning to spearhead the issues of climate adaptation and ensure that it is mainstreamed in the national development.

The funding options for adaptation-related development activities is a new and undeveloped field. At the national level, sectoral budgeting systems allow for few funds for climate change adaptation as awareness and prioritization of climate change in individual sectors may be low. So far, there has been insufficient support through the UN climate change convention mechanisms for developing countries to implement adaptation measures. International negotiation over adaptation funding has been slow. It is also unclear whether or not such mechanisms can support broader, comprehensive type adaptation efforts represented by peace building and livelihood support. It has been argued that adaptation funding need to provide mechanisms that civil society and local communities can access. Few options exist where local communities can directly access such funding today, neither from national nor UN sources. Given the high vulnerability and declining adaptive capacity documented in this research, the need to get such funding in place is urgent. A critical message to the COP12 (twelfth meeting of Parties to the climate change convention) in Nairobi November 2006 was the extreme need for adaptation funds, particularly for Africa.

Further information

Eriksen, S., Gachathi, F.N., Muok, B., Ochieng, B., Owuor, B. (2006). Synergies in biodiversity conservation and climate change adaptation: The case of hilltop forests in Kitui, Kenya. In *The Savanna Biome System*, eds J. Mistry and A. Berardi. Ashgate, pp. 187-226.

Eriksen, S., Klein, R.J.T. Ulsrud, K., Naess, L.O., O'Brien, K.L. (2007). *Climate Change Adaptation and Poverty Reduction: Key interactions and critical measures*. Report prepared for the Norwegian Agency for Development Cooperation (Norad). GECHS Report 2007:1, University of Oslo. 42 pp. <http://www.gechs.org/downloads/reports/2007-1.pdf>

Eriksen, S., Owuor, B., Nyukuri, E., and Orindi, V. (2006). *Vulnerability to Climate Stress – Local and Regional Perspectives*. Proceedings of two workshops. January 27-28, 2005

World Agroforestry Centre, Gigiri, Nairobi and February 14, 2005, KEFRI Research Centre, Kitui. CICERO Report 2006:1.

<http://www.cicero.uio.no/media/4135.pdf>

Hulme, M., Doherty, R., Ngara, T., New, M. and D. Lister. (2001). African climate change: 1900-2100. *Climate Research* 17, 145-168.

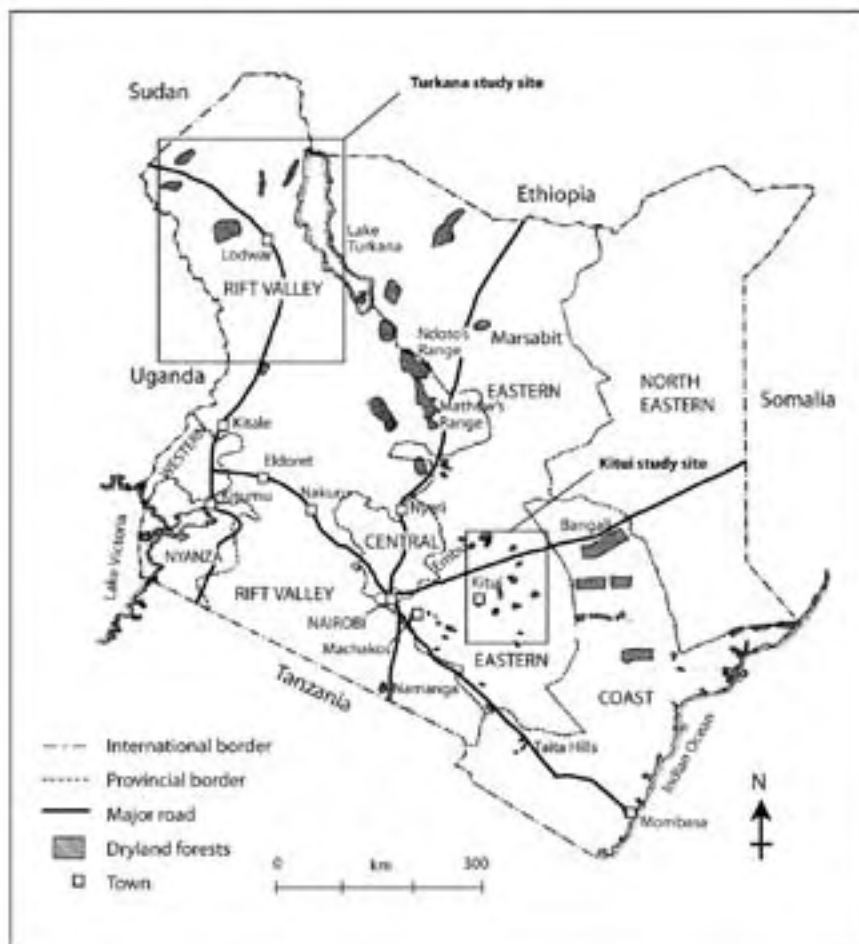
IPCC. (2007). Ch 9. Africa, in Fourth Assessment Report of the IPCC: Impacts, Vulnerability and Adaptation. Cambridge University Press, Cambridge.

Lind, J. and Eriksen, S. (2006). The impacts of conflict on household coping strategies: evidence from Turkana and Kitui Districts in Kenya. *Die Erde*. 137(3), 223-240.

Endnotes

1. This paper outlines some of the findings from a three-year Research council of Norway funded project aimed at understanding how conflict affects people's ability to adapt their livelihoods to climate constraints and how, within communities, the effects of conflict on livelihoods are experienced differentially. The study involved conceptual development as well as detailed fieldwork in two dryland areas of Kenya, Kitui and Turkana Districts. A multi-disciplinary team of researchers from the University of Oslo, Kenya Forestry Research Institute, the African Centre for Technology Studies and King's College London carried out the research from January 2004 up to December 2006. The main findings of the research were presented for feedback at a policy workshop in Nairobi in October 2006, the outputs of which are incorporated into the recommendations outlined here.

Map of Kenya and the location of the case study sites



The Sub-Saharan African agriculture: potential, challenges and opportunities

Regassa Feyissa

Community Biodiversity Development and Conservation (CBDC Africa) ¹

Agriculture in the sub-Saharan Africa Region is a leading socio-economic activity on which about 80% of the population live, contributes more than 40% of exports and 30% of the GDP, covers 30% of foreign exchange revenue and over 70% of employment. Agricultural production is dominated by small-holder farmers, and depends on diverse farming and agro-ecological systems and cultural practices.

The Region also is a center and origin of diversity for many important food crops/plants of the World. Different domesticated crops/plants and their wild relatives are used as sources of food and income in almost all parts of the Region. There are over 2000 native grains, roots, fruits and species of native grasses whose seeds are eaten and widely spread across the Region. Among them are diverse types of millets, sorghum, legumes, vegetables and root crops and their wild relatives. These are all food heritage that have fed Africa for generations, and remain Africa's legacy of genetic wealth upon which a sound future of Africa can be built.

Despite its catalytic role in the overall socio-economic development of the Region, agriculture however, is lacking proper attention. Investing on agricultural development for example, is not considered as a development priority by national governments, donors and by the international financial institutions. Investment on agricultural development in most sub-Saharan African countries is as low as below 10% of the total public spending, and as trends show decline from time to time.

On the other hand, where most regions of the world have gained a dramatic rise in standards of living, and their international trade and economic development increased at exponential rates, the sub-Saharan Africa by all statistical measures is out of this development growth. In the contrary, the average standard of living in the sub-Saharan Africa has continuously been falling and its share of world trade declined from 7.5% to 2.6%. As estimates show, Africa in general is diverging from the rest of the world at the rate of 5% per capita income each year, and over 40% of Africans live on less than \$1 dollar per day. About 73% of the least developed countries are in Africa, with many of these countries moving backwards in terms of key social indicators.

In short, Africa that used to feed itself and even export agricultural produce, to date, lives with about 200 million of its population as affected by food shortage, and spends as much on food imports as it does on aid. The blame for Africa to live with a declining development growth is on the poor governance and leadership, as combined with the unjust global treatment of Africa that exerts a devastating impact on the continent, destabilizing it and inhibiting its economic growth.

The primary responsibility for ratifying this deficit of Africa's development growth rests with African governments themselves. African Governments have the responsibility to take concerted actions to pull the continent out of where it is now. African governments should also be held accountable for hindrance of the continent's development, and for the abuse of its citizens and resources. The international systems and communities, as well as donors, also have the responsibility to support the enhancement of Africa's development, and for holding governments to account for the mismanagement of the continent's resources and development.

The feature of the sub-Saharan African agriculture

Agriculture of the sub-Saharan Africa has a unique set of features that make it very different from other regions of the world. It is based on diverse agro-ecological conditions, varying farming and seed systems and cultural practices. Diversity on farms is a unique characteristic of the production system. The farming systems are complex, and the nature of the complexity varies across countries as well as within a country. The variation of soil, landscape and characteristics of the climate determine the types of crop/plant species used across the Region. For simplicity, the farming systems can be grouped as cereal-livestock mixed farming system, cereal-root crop farming system, forest based farming system and the pastoral system. These diverse farming systems occur on the highlands, on the intermediate elevations and in the lowlands.

The ***Mixed Cereal-Livestock*** farming system is important in the Eastern, Southern and some part of West Africa, covering the plateaus and the highlands. This farming system supports the highest rural population where land use is intense and holdings are growing very small due mainly to land fragmentation among members of families. The system is based on different cereal, legumes and roots crops as well as on perennial such as enset (false banana), coffee, banana and plantain. Livestock is important as a life-bank that provides household economic security. Soil degradation is a critical challenge under this farming system.

The ***Mixed Cereal – Root Crop*** farming system is practiced in areas of intermediate and lower elevations where the problem of tsetse flies limit the presence of livestock and the use of animal traction in much of the area. Cereals such as sorghum, maize and millets are dominating where animal traction is possible, while root crops are more important in areas with limited use of animal traction. Because of lack of infrastructure, the abundant arable land is under-utilized, and soil acidity is becoming a major problem due to prolonged use of chemical fertilizers and depletion of soil organic matter. Introduced weeds such as striga are among the major production constraints affecting the productivity of sorghum, a crop that has a high potential to survive harsh conditions of marginal areas.

Forest Based System is another important farming system upon which about seven per

cent of the sub-Saharan African farmers depend. Tree crop farming is part of this system, and shifting cultivation is practiced with periodical vegetation clearance to have new cultivation plots. Although traditional way of fallowing is practiced to enable the recovery of the cleared vegetation, the practice can have some negative impacts on the occurrence and population structure of some species of the vegetation cover. Different root crops, maize and sorghum, beans, cocoyam, coffee and different forest products including wild game are the main sources of food and cash.

The other important farming system is the *Pastoral Farming System* on which similarly about seven per cent of the sub-Saharan African agricultural community live. This farming system occurs across a large area of the arid and semi-arid zones of the Region. The farming system has strong links to other farming systems found in more humid areas, and to large feedlots of mixed cereal/root crop farming systems for grass, water and crop residues.

These simplified groups of African farming system can have a number of other components and forms, very specific to different spots even within a single country farming system. This clearly shows that it is impossible to generalize the sub-Saharan African farming systems when it comes to strategies to enhance agricultural productivity. Each specific farming system requires different approach that well fits to the unique agro-ecological requirement and agro-biodiversity system.

The common denominator for all farming systems is genetic diversity on farms. Genetic diversity in both crops/plants and livestock is critical for promoting stabilized production and for minimizing risks. It provides the opportunity to intensify production with limited resources, and to access different sources of food and income. It is also a security against crop failure where small-holder farmers grow several genetically distinct varieties of crops in a single field. This is how they always spread the risk of crop failure due to pest and diseases or adverse environmental conditions.

Despite such complexity of the farming systems, the sub-Saharan African agriculture is usually measured by the standard of chemical input-based intensified production of rice and wheat under more uniform condition of Asian agriculture. This reduced view of the Region's complex production system has shrunk the opportunities to enhance food production, inducing dependency on varieties of a few crops. This view remains the main cause for the neglect of the development of many important native crops, detracting efforts and investments from the improvement of the potential of such crops. Consequently, overlooking diversity as a norm in the farming systems, narrowed down options for planting materials and disregarded plenty of sources of food available in the Region.

The tragedy of food self-insufficiency

Although Africa as a whole has vast economic potential, 36 out of the 49 least developed countries of the World are found in Africa. Much part of the continent remains victim

of famine and malnutrition accompanied by high infant mortality and low average life expectancy ceiled at 43 years. The impacts of communicable diseases such as tuberculosis and HIV/Aids, and that of the increasingly spreading malaria, have reached the level where they reverse the scant gains in economic development, particularly in the sub-Saharan African countries. These among others represent the combined failures and misguided policies of African governments and that of the donor and international communities.

The impact of government policies

Although agriculture is the most critical economic activity, Africa has not been able to increase the productivity of its lands. As Africans are capable of feeding themselves, millions are affected by shortage of food and by the lack of proper policies to support this capability. The scenario is that production, especially in the sub-Saharan Africa has failed to keep pace with population growth, and yields are growing far below the level required to feed the people. There are a number of factors behind the poor performance of the Region's agriculture, the main one being absence of conducive policy environment for improvement. The agricultural sector, particularly since independence, has been hit hard by both the indifference of national leaders and harmful government policies, to the extent that famines are usually created by policies rather than by pests and diseases or by drought.

Most of the sub-Saharan African countries lack political and economic freedom while the socio-economic underperformance continues to be the norm. Governments pay very little attention to agricultural development, and much of the investment is rather channeled to the urban development. Little resource is invested on the development of rural areas while purchase of weapon and corruptions absorb the greater portion of the resource. In short, agriculture for some political leaders is simply a milk cow for non-agricultural sectors, while little is done for agriculture to support the same.

The level of resources allocated to agricultural development in the sub-Saharan African countries has consistently been low when compared to the sector's size and its contributions to the economy of these countries. Extreme urban bias in public spending, and adoption of ill-suited agricultural, industrialization and market strategies penalize agricultural activities, being disincentives to increase productivity. The elites in the political circles usually neglect agriculture, considering it backward and primitive, while those in the agricultural research circle do the same to native agricultural crop resources and practices. On top of that, measures such as control on prices and market as well as heavy taxation remain production burdens, particularly to small-scale farmers. In general, there is a link between a decline in investment on agriculture and a decline in performance of the sector. These are among the reasons why Africa, the sub-Saharan Africa in particular, is suffering from food self-insufficiency.

The other factor challenging African agriculture is the lack of supporting infrastructure. African leaderships very much overlook agriculture and rural infrastructure as top priorities to attract investment for increasing the productivity of the agricultural sector

They overlook that increased rural access to roads would not only make it easier for crops to reach market, but would also significantly lower the cost of production and increase the level of incentives to enhance productivity. It is difficult to imagine development in agriculture and access to food to happen, without access to roads for farmers produce to reach market, and for channeling the produce to deficit areas. In Ethiopia, for example, the high cost of transporting food by road from the food-surplus regions in the southern part of the country to the food-deficit regions in the northern creates price discrepancy as high as five times. Shortage of irrigation and post-harvest infrastructure is another drawback to enhance productivity in the most parts of Africa. Africa's arable land under irrigation is less than 4%.

Land tenure is another important factor that has impact on the enhancement of agricultural productivity. Land tenure system that does not ensure ownership and use rights is a barrier to the boosting of productivity. The lack of secure rights to use or own the land discourages farmers from making long-term investments that the land requires. It is also directly related to dangerous land-use practices and lower production per unit area of land. African land use policy should strictly consider improvement of land tenure systems that remain disincentive to increase agricultural productivity.

Equally important is good governance, the absence of which has become an impasse to the development growth of the majority of African nations. Poor leadership accompanied by prolonged dictatorship and autocracy is contributing much to the stagnated development in Africa. Corruption has gone far to such an extent that for some, there is little or no distinction between own property and that of the state. According to African Union, for example, African countries lose about US\$148 billion each year to corruption alone. Leaders in so many cases have failed to be clean of corruption and tackle it to provide sound governance for their citizens. They failed to ensure equitable and transparent management of the public wealth. They also failed to pursue viable and pragmatic economic strategies to raise the standard of living of citizens.

Much of the resource revenue generated in oil-and mineral-rich countries is looted. Some developed countries, in fact, condemn autocratic and corrupt African leadership, but at the same time, turn a blind eye to their own financial institutions that take care of the embezzled money from Africa. The international community also has failed to counter looting, and to rehabilitate public funds stolen from the African nations. Living with such mess, it is not a surprise that African nations that are so wealthy in terms of their natural resource base, beyond being so poor, have become sources of horror news.

Impact of externalities

The green revolution that helped Asia, and the Latin America to some extent, could not reach Africa for various reasons, except that, some of its leftovers indiscriminately pushed to Africa at the end of its good days are disrupting Africa's agriculture. The packages of these retired products are now seriously affecting farming and seed systems as well as the native crops of especially the sub-Saharan Africa. It has made agricultural research

handicap, uncreative and dependent, and blind folded it to see the need to develop proper technological alternatives to improve the sub-Saharan African agricultural systems and native crops.

One can easily come up with a long list of the impacts of external pressure on Africa's development. But to mention a few of them only: to date, it is decided by the externals for Africa to grow cash crops for export and cater for tourists to earn income. To date, it is externals that decide on behalf of Africa for free market to determine how Africa feeds itself. For this to happen, African governments are ordered not to subsidize their farmers or provide crop price support. As unfair as it is, development assistance to agriculture in Africa dropped down to less than \$5 billion a year, while developed countries' subsidy to their farmers shot up to about \$311 billion in the early 2000 for example.

The subsidies that protect the developed countries farmers from low world market price, and at the same time depress global prices by encouraging over production, remain disincentives for the sub-Saharan African farmers to enhance productivity. The fall in the world grain price by 50% over the past two decades, for example, has caused high production cost for the produce of the unsubsidized sub-Saharan African farmers. To date, it is cheaper for food processing industries in Ethiopia to import wheat than to purchase the same within the country.

Developed countries and the international community have their share of the blame for the stagnation of the sub-Saharan African agricultural development, but not much less than governments in the Region. The fact is that, while restrictive economic policies of governments are largely to be blamed for the collapse of the agricultural sector, the international community did little to improve the situation. For instance, despite some provision of technical assistance and funds, nothing is done when Africans do manage to grow production and face the highest tariffs in the world- an average of 33.6%.

Inability of the international community to deliver a world trade agreement that lowers barriers to the export of African agricultural products is a serious charge on Africa. Inability and unwillingness to eliminate subsidies in developed countries that have contributed to the distortion of Africa's agricultural development is another one. The estimate is that the potential revenues lost as a result of these trade barriers and subsidies are much higher than anything Africa receives through aid.

The other charge, on the sub-Saharan African countries in particular, is the tough conditions imposed by the international financial institutions. For the last 25 years, these entities almost controlled the entire policy processes for agricultural development. The imposed standard structural policy package as a precondition for lending and support is one example. These entities forced governments to rush into privatization and to eliminate marketing boards, forced to increase interest rates and user fees on government-provided services, and forced to reduce government spending on agriculture and social services.

They also forced lower expenditures on health and education, forced devaluation of currencies and freezing of wages, and forced the reduction of the size of the public services. In general, the imposed policies of these entities eliminated domestic support

to agriculture, exposing many sub-Saharan African countries to subsidized food imports due to forced decline in farm incomes from domestic agriculture. Ultimately, the entities incredibly induced increased poverty levels in the sub-Saharan Africa, making the poor, poorer.

Both the World Bank and IMF should have played such a role, where small-scale farmers were supported to enhance productivity, and were empowered to negotiate for fair prices for their produce, which could have served as an incentive to increase production and the quality of produces. It is simply ironic and absolutely unfair that agricultural sub-Saharan African countries are denied a legitimate right to establish marketing boards while the rich countries are allowed to do so.

International donors have also failed to provide Africa with sound and well-projected assistance, while they have also been failed to examine the effectiveness of their aid programs. Evaluation and transparency could not have space in most cases of their development aid programs, and despite severe damages reluctance in aid management could cause, even easily detected liabilities of their aid programs have often been treated as peripheral concerns. This has been the way how aid programs in Africa has been operating for a number of decades, and with often clear evidences of their ineffectiveness.

And this is how obstructed development growth charges the sub-Saharan Africa, affecting one-third of its population, exposing its farms to soil degradation, and its natural resources to depletion. With all these on the ground, it therefore, cannot be a surprise to see food shortage, the greatest deforestation, and expansion of the trend of desertification in Africa as a whole.

The impact of climate change

Many of the food insecure African countries are socially, economically and environmentally vulnerable, and climate change is further exacerbating the situation, making the realization of the goals of poverty and hunger eradication much difficult. Land degradation, water scarcity, pest and disease epidemics, and political instability; all constrain the achieving of sustainable development. Prolonged drought lasting for a season or longer, but over a wider area, is becoming the most serious climatic hazard affecting agriculture, water supplies and ecosystems. As droughts become more common, widespread and persistent, many sub-humid and semi-arid regions face difficulty in sustaining viable agricultural systems.

Countries with low level of economic development and institutional capacity are among the most vulnerable to the impacts of climate change. As temperature continues to rise, and as precipitation becomes more unpredictable, agricultural productivity in these countries is likely to be affected more seriously. The impacts are expressed through economic shocks resulting from threats to water sources, flooding that take away many lives including livestock and the crops, and from extreme weather that affects agriculture as a whole. In some countries, climate change is threatening development and economic

stability as well as the ecosystem services that rural communities in particular are largely depending on. The problem has the potential to further disrupt the progress made in improving the socio-economic development, and may be compounded by many factors such as widespread poverty, human diseases, and high population density, as well as by the exacerbation of environmental degradation.

As agriculture in Africa is mainly rain fed, decline in precipitation highly induces the sensitivity of the yields of the common crops such as sorghum, maize and millets to climate variations. Agro-pastorals, that entirely rely on grass and browse in the semi-arid regions will also be sensitive to prolonged drought, particularly when grazing resources are depleted and its regeneration stops or becomes slow. From this point of view, climate change is not only a conservation problem for Africa, it is also a socio-economic issue that must be dealt with seriously. Africa's pursuit of sustainable development would therefore, largely depend on its ability to have proper strategies to mitigate the impacts of climate change, and on its ability to build its capacity of adaptation to the new impacts. Adaptation to climate change should be a priority for Africa that may severely bear the effect of climate variation through loss of food production.

Opportunities

What have been overlooked starting right from the colonial time are the complexity of African agriculture and the abundance of sources of food throughout the continent. As a matter of fact, there should be no doubt that Africa can feed itself. The real question however, is how Africa should project its move to be food-self-sufficient. African agriculture requires a comprehensive set of strategies where agricultural research and technologies can be effective when only it is able to be responsive to diverse agro-ecological requirements. It does not at all give sense to think of a single magic "technological bullet" to bring a radical change in Africa's agriculture.

Africa has many native agricultural crops that have largely been by passed by modern science and technology. There is a need to draw much attention toward the improvement of such crops. African finger millets, pearl millets, fonio, sorghum, tef, wheat, African rice and several dozen of their wild relatives are among many that are used as food, and require attention for improvement. To make Africa food-self-sufficient using its own resources, lots of realistic and change oriented strategic actions need to be implemented. Right now there are few technologies that aim at African staples, and in general, African crops are out of the interest scene of national authorities and agricultural researchers. It is mainly because of this that African crops could not keep pace with those crops on which much has been invested.

Myths that African crops are not as nutritious, not as high yielding, not as flavorful, not as stress and disease tolerant, etc., have significantly contributed to under-development and disappearance of these crops. Many African crops are pushed off the development line, principally being seen as the foods of the poor and the rural areas. Without their use values are being enhanced - hundreds of leafy vegetables, roots, tubers, corms, rhizomes,

bulbs, buds, shoots have been displaced irreversibly. This attitude should be changed to the positive move toward sustainable exploitation of Africa's agro-biodiversity.

For many, rice is exclusively an Asian crop, while rice (*Oryza glaberrima*), as an African domesticate has been grown for at least 1500 years, particularly in parts of West Africa. Efforts to expand rice production in Africa however, have largely ignored this African heritage, and focused rather on introducing Asian rice. And yet, African rice outstands Asian rice at tolerating unfavorable growing conditions such as fluctuating water depth, excessive rain and low level of soil fertility. This potential should be drawn upon.

To combat hunger in Africa, shift of development paradigm and strategies in Africa's agriculture is essentially required. Strong commitments and actions to raise farm incomes and to create economic activity in rural communities should be among priority measures to be taken in order to retain farmers on the farms. This measure will help in reducing the massive unemployment that floods most cities and towns of the sub-Saharan Africa, and can also bring changes in the efforts made to reduce poverty in the Region. Increased agricultural research, education and extension services, proper market access as well as technical assistance and investment in local processing operations should be promoted to sustain productivity on African farms.

There are many crop/plant species of national importance, in many countries of the sub-Saharan African countries, but receive little investment in terms of conservation or improvement. These crops include many locally important minor staples that perform well under marginal conditions. However, crop improvement activities and investment have mainly been focusing on potential production areas, and on a few crops such as maize, rice, sorghum, and to some extent on wheat. As a result, modern plant breeding has had little success in producing varieties, which meet farmers' needs, particularly in physically and economically marginal environments.

Although there are some efforts toward improving resource poor farming systems under marginal area, it is important to increase the use of genetic resources to promote sustainable agriculture in such areas. For example, there are only limited crop improvement program for yam in West Africa, even though yam is of great importance as a food crop in the sub-region. The same is true for almost neglected other important cereal food crops of West Africa such as minor millets, fonios, African rice, and for legumes such as bambara nut.

It is understood that the balance between the use of local crops versus introduced germplasm by crop improvement programs varies from country to country. This mainly depends on factors such as breeding capacity, available technologies and diversity of genetic resources, as well as on the priorities set for crop improvement programs in response to the agricultural needs of the country. But generally, there is a little effort and investment toward the improvement of indigenous crops well adapted to local conditions as compared to commercially important ones. The major focus still is on maize, wheat and rice that received particular attention of the "Green Revolution", and continue to be the focus for major improvement efforts in most countries of the sub-Saharan Africa.

Diversity based production of local agriculture where farmers traditionally grow more diverse mixtures across soil types and topography, as strategy of mitigating crop failure should be promoted.

Most sub-Saharan African countries have comparative advantage with respect to their indigenous crops, where this crops are used daily, contribute to healthy and balanced diets, and offer farmers opportunities for agricultural diversification and additional income. However, many of these indigenous crops fall outside of the mandates of National and International Agricultural Research programs. Despite their enormous contribution to the national food system of countries, they are simply left out or remain orphan crops. These crops require the attention of the national and international research institutions to enhance their potential support to the livelihoods of the rural poor.

At times, major international lending institutions such as the World Bank are encouraging non-traditional agricultural exports, as a means of reducing poverty and for diversifying sources of foreign currency. Some countries therefore, give more priority for major export crops such as rubber, coffee, cocoa and oil palm, while food sources are in deficits. The private sector also focuses mainly on generation of high income, investing on crops such as maize, soybean, wheat, rice, sugar beet or tomato. Biased emphasis on non-indigenous crops however, creates dependency and erodes the national comparative advantage in terms of developing and using own crop genetic resources that are important for both food and export.

Public sector funded improvement programs are needed for the improvement of African indigenous crops, as there is little commercial incentive to conduct improvement programs for these crops. Staples such as millets, cassava, sweet potato, plantains, and others, where the commercial incentive is much less, for certain require public sector's funding for their improvement. International Agricultural Research Centers should also broaden their crop improvement mandate to extend more attention to African native crops.

Different Farming systems in Africa require different approaches to the utilization of plant genetic resources. In most East African countries, for example, food production is still heavily dependent on traditional varieties and farming systems. This is partly because of the difficulties in developing varieties that are compatible with the diverse traditional agricultural practices and the complex agro-ecological environments. Observations show that while well-defined crop-specific programs for improvement exist for major crops grown on potential areas to favor commercial and semi-commercial sectors, the effort ignores subsistence farmers who are large in number and still practice traditional agriculture.

Since the majority of African farmers practice farming in marginal areas on a subsistence basis, this production system needs a more subtle and diverse approach. At the same time, although production is a primary concern, maintaining rural populations on the land and preventing any further degradation of land that is already marginal should be important policy considerations. The strategy of farmers should be taken into

account while promoting crop improvement practices. Similarly, crop improvement and varietal development objectives and activities should consider local needs and priorities, and should also be based on ecological approach as decentralized and oriented to the specificity of ecological requirements.

The greater use of landraces or their enhanced forms, as they are of a low input character, should be promoted for small-scale farmers who are the majority of the rural population. These are mainly farming communities who live in areas that have fewer natural resources, are prone to natural disasters, and are far less able to purchase inputs such as fertilizers and pesticides. We have to learn from the limitations of the varieties of the Green Revolution in marginal areas, where enhanced farmers' varieties actually do better. As crop improvement for such areas is more complex, it should be based on strategies aimed at farming systems, and at less reliance on external inputs rather than particular crops. It requires greater use of genetic diversity, including approaches in plant breeding that should make use of specific adaptation.

The approach also requires greater involvement and full participation of farmers. While breeders have the scientific knowledge and methods, farmers are good at selecting materials, which suit their particular environments and resource level. It is therefore, important that farmers and breeders work together, and formal institutions become more sensitive to the practices and to the actual and potential contribution that farmers can make to the breeding process. The conventional breeding should also change its views and approaches, and promote farmers participation especially in the improvement of landraces.

Similarly, decentralized varietal development strategy helps in responding to the requirements of specific agro-ecological areas, and to the needs of farming communities. Such approach can speed up the process of developing new varieties for different purposes, and can also help in promoting the wide use of genetic diversity by increasing the maintenance and development of locally adapted genetic resources.

There is a need to carefully look into the danger Africans are scared of where a number of countries are becoming the target of outside interests to promote greater agricultural productivity through the introduction of modern technologies such as genetically modified crops. The products of such technologies are usually designed for favorable conditions, may not fit the conditions of most African farms, and would instead pose a threat to the existing biological resources and the farming systems.

There is also a concern over the designation of African major food crops such as sorghum, with a danger of being modified for purposes other than food, but using this same technology. This would be a dangerous situation for Africa's food security, and governments and agricultural research community should be alert of the possible consequences, and focus on strategies for proper and safe development and use of such technologies.

Strengthening the seed supply systems

The service scope of the formal seed sector in the sub-Saharan Africa is so limited that its coverage of seed supply is far less than 10%. Production and distribution of formal seed is mainly carried out by the public sector, which usually is with a limited capacity and investment to meet seed requirements of small-scale farmers. Farmers save seeds for own use and for local distribution, managing the informal seed sector that totally dominates in most countries. Thus, farmer retained seed from own harvest and farmer-to-farmer exchange of seed therefore, remain the major sources of planting materials. This informal sector functions outside legal regulation, being source of both formal and farmers' varieties.

There are however, some emerging impacts of the globalized seed industry that imposes introduction of intellectual property rights over plant varieties in some sub-Saharan African countries. Seed legislations under this imposition have become mechanisms for expelling farmers' varieties from farms. The legislations extremely favor seed enterprises such as the ones in industrialized countries, suppressing the occurrence of farmers' varieties on farms, excluding them from the market and exposing them to the risk of extinction. The situation is negatively affecting farmers' varietal development practices and the conservation and use of their own varieties.

On top of that, instead of strengthening the poorly functioning public seed sector, governments have cut subsidies to the sector due to imposed structural adjustment programs. The programs forced governments to reduce the sectors' service to the small-scale farmers that is provided through research and extension. Public research and extension services are reorganized to reduce the role of public agricultural input and marketing services, while greater emphasis is given to the private seed companies. Nevertheless, the objective of the private seed companies is at odds with the needs of small-scale farmers, who require multiple varieties of seed for all crops, and in small amounts, at the right time and at a reasonable cost. Similarly, the private seed companies do not produce and distribute seeds for subsistence crops or, for farmers living in economically marginal and environmentally diverse areas. For the private seed companies, link with such farmers is economically unviable business.

But still, farmers' seed system supports the livelihoods of the poor in areas that cannot be covered by the products of the formal plant breeding. To ensure seed security in such areas, the capacity of the informal seed sector should be established for the reliable supply of locally adapted varieties. In order to increase benefits to farmers practicing production under complex environments, formal breeding system should promote Participatory Plant Breeding programs. The activities of such programs need to be built upon the inherent ability of farmers to select and develop planting materials suitable to their condition and requirements.

This approach can create complementarities between the practices of formal breeders and those of farmers. It would also increase the effectiveness of variety development

activities and broadens farmers' access, especially of those in more marginal environments, and whose needs the formal crop improvement programs could not address. In some cases small-scale farmers' own community-based seed dissemination mechanisms that can provide farmers with access to seed of both traditional and modern varieties, in the quantities they require, in time for planting and at a cost they can afford. The quality of seed reaching farmers in this way is comparable with that of formal sector seed companies.

Community-based seed diffusion mechanisms have, however, the capacity to handle only small quantities of seed within a limited geographical area. Such mechanisms need to be strengthened to increase the level of seed reserves at community level. There is also a need to put in place adequate capacity to enhance, multiply and distribute landraces and their enhanced forms to farmers. Similarly, appropriate roles should be set for the public sector, private seed industry- where they exist, and for the informal sector, in such a manner that the roles of these sectors complement each other.

There are several programs in Africa that promote important community level seed activities, and have a tremendous experience and pool of expertise that should be drawn upon. The Seed of Survival (SOS) program initially developed in Ethiopia being supported by USC-Canada, for example, has done a significant work in building the technical capacity of African farmers and researchers on on-farm conservation, landrace enhancement and on community level seed production strategy. This program still operates in Eastern and Western African countries. There are reliable experiences effectively working on the conservation and improvement of local cultivars, on community seed banking systems and seed multiplication that increased options for planting materials.

It is necessary to further expand and promote such experiences in a networking manner where regional level of exchange of experience and expertise is possible. Programs like CBDC that have a remarkable reputation at community level seed activities, for example, should be strengthened and expanded to operate beyond the eight countries of Southern, Eastern and Western sub-Saharan African. The effectiveness of NGOs' operating in the seed sector should also be strengthened by improving their financial capacity and their technical skills in seed production. It is important that such NGOs operate in a concerted manner with national or local agricultural development programs, but at grass root level, where the major target should be strengthening of farming community's capacity to manage community level seed production and supply.

Conclusion

African governments and the international community should give a high priority to agriculture and the rural sector through resource allocation and adoption of development policies that are locally relevant, regionally and globally consistent for responding to food security and climate changes in Africa. A national and regional concerted policy action is necessary for Africa's agricultural research to respond to food security and climate change problems in timely manner. Networking of researchers, priority setting, allocation of funds, inter-regional and inter-country technology transfer, institutional development

and strengthening are needed for Africa's agriculture to respond to food security and climate changes. It is only then that a progress can be made in the effort to combat climate change and eradicate hunger and poverty in Africa.

While Africa becomes victim of "wheat trap" using its scarce foreign currency to import wheat, the traditional crop varieties suffer internal exile, but out of farms lacking improvement investment and adequate market. There is a need to review seed regulatory frameworks for their effect on the conservation, improvement and use of native crops. Flexibility of implementation or creation of special categories to allow for the distribution and commercialization of landraces and their enhanced forms should be promoted. Such measures have the potential to contribute to the sustainable conservation and utilization of traditional varieties and under-utilized crop species. Evaluation of certain landraces for special characteristics and adding of values and promotion of these values would enhance their exploitation in niche markets.

It is also more appropriate and positive that African governments are supported to establish their own agricultural policies and marketing systems, instead of imposed rigid policy prescriptions that negatively affect small-scale farmers income in particular. Such prescribed policies have already played a role in drastically lowering the income of the majority of the poor farming communities of the sub-Saharan African countries. Those who prescribe unsustainable 'one-size-fits-all' development strategy from far should hear the voice of the poor farmers of Africa. There is a need to work at grassroots level in order to provide proper responses tailored to local conditions and poor farmers needs and development objectives, rather than imposing conditions from a distance.

References

Aregay Waktola and Bayush Tsegaye.2003. Biotechnology related policy, management and negotiation competence: Case study from Ethiopia. Noragric Report No.14-B. pp.4-10.

Conny Almekinders and Japp Hoardon (eds): Bringing Farmers back into breeding. Experiences with participatory plant breeding and challenges for institutionalization. AgroSpecial no.5.

FAO. The State of the World's Plant Genetic Resources for Food and Agriculture. Background documentation prepared for the International Technical Conference on Plant Genetic Resources. Leipzig, Germany, 17-23 June, 1996

G.Z.Banda, M.A Munzara and T.A Mushita. Review of biotechnology, Biosafety, Biodiversity and Trade Policies in Malawi, Zambia, and Zimbabwe. Southern Africa biodiversity, biosafety and policy initiative (SABP). Policy research Series, No.1. 2007

Hardon, Japp.2004. Plants Patents beyond control. Biotechnology, Farmers Seed Systems and Intellectual Property Rights, AgroSpecial No.1. pp. 11-15.

Lost Crops of Africa: Volume I: Grains. Board on Science and Technology for International Development. National Research Council. National Academy Press. Washington, D.C. 1996.

M.A. Munzara and T.A. Mushita (eds.), AoA or EPAs: Which way to go for southern African countries? (Harare: CTD, 2006)

M.A. Munzara and T.A. Mushita (eds.), Rights Based Approach to Trade in Agriculture (Harare: CTD, 2006).

Michael Halewood and John Mugabe, 2001. Policy incentives for on-farm conservation and use of Africa's Agro-biodiversity. In: Incentive measures for sustainable use and conservation of Agro-biodiversity. Experiences and lessons from Southern Africa. Proceedings of a Workshop. Lusaka, Zambia. 11-14 September, 2001. pp 74-86

Overcoming 40 years of failure : A new Road Map for sub-Saharan Africa. The Standing Senate. Committee on Foreign Affairs and International Trade of Canada. February 2007.

Padmavathi, Chintalapati and et al. 2001. The shift to cereal mono-cropping, a threat or blessing? : Toward sustainable agricultural production in the highlands of southeast Oromia, Ethiopia, Working document Series 92 (Addis Abeba: ICRA, EARO, KARC, ODP, ABRDP).

The Crucible Group: People, Plants and Patents. The Impact of intellectual property on Biodiversity, Conservation, Trade and Rural Society. IDRC. 1994. pp. 16-21.

Pistorius, Robin. 1997. Scientists, Plants and Politics – A history of the Plant Genetic Resources Movement . International Plant Genetic Resources Institute, Rome, Italy. pp: 34-47

Regassa Feyissa, 2000. Community Seed banks and Seed Exchange in Ethiopia: a farmer led approach. In: E.Friis-Hansen and B.Stapit (eds), Participatory approaches to the conservation and use of plant genetic resources. Rome: IPGRI, pp. 142-148.

Seedling Solutions: Volume 1: Policy options for genetic resources: People, Plants, and Patents revisited. Co published by: IDRC, IPGRI and the Dag Hammarskjöld Foundation. 2000. pp. 11-20.

T.Berg, A.Bjorstad, C.Fowler, T.Skroppa. 1991. Technology options and the gene struggle. Development and Environment No.8. NORAGRIC Occasional Papers Series C.pp.5-20

T.Berg and C.Fowler 1998. Plant Genetic Resources for Food and Agriculture. Issues for consideration in Norwegian Development cooperation with countries in Southern and

Eastern Africa. A NORAD.Noragic frame agreements study. pp. 1-10

The Crucible Group: People, Plants and Patents. The Impact of intellectual property on Biodiversity, Conservation, Trade and Rural Society. IDRC. 1994. pp. 16-21.

The Crucible II Group: Seedling Solutions: Volume 1: Policy options for genetic resources: People, Plants, and Patents revisited. Co published by: IDRC, IPGRI and the Dag Hammarskjold Foundation. 2000. pp. 11-20.

Endnotes

1 Community Biodiversity Development and Conservation (CBDC) is a global program developed by governmental and non-governmental organizations and is implemented in countries of Africa, South East Asia and the Latin America. It is local community oriented program to ensure and strengthen the conservation, development and enhancement of agricultural biodiversity.

Members of the CBDC Africa program are Zimbabwe, Zambia, Malawi, Lesotho, Ethiopia, Mali, Burkina Faso and Sierra Leone. The program is supported by the Development Fund (DF)- Norway, Hivos-Oxfam Novib Biodiversity Fund- the Netherlands and Swed-Bio-Sweden

How can women's position be strengthened through efforts for food security and environment sustainability?

Gertrude Kenyangi Kabusimbi

Support For Women In Agriculture And Environment (SWAGEN)

Mindful of the fact that many people are not conversant with not to mention appreciative of the women's struggle for emancipation I felt it prudent to analyze the concepts of environment sustainability and food security, critically analyze the function of women in both and discuss the obstacles that hinder women from fulfilling these roles before I can conclude by examining the recommendations from various African fora for strengthening women's position.

Definition of Concepts

To put the discussion in perspective, kindly allow me to give a working definition of these concepts:

Environment sustainability

Environment sustainability means *utilization and management of natural resources to meet the needs of the present without compromising the ability of the future generations to meet their needs*. It involves maintaining or enhancing environment quality and resource productivity on a continuous basis with no end in sight.

Food security

Food security is a contested concept. It means different things to different people depending on their orientation and outlook. However, the International Conference on Nutrition in Rome 1992, provided a working definition of Food Security as "access by all the people, at all times to the food needed for an active and healthy life".

Food security occurs at national, household as well as individual levels.

At national level, "a country and people are food secure when their food system operates in such a way as to remove the fear that there will not be enough to eat".

At household level, a household is considered food secure when it has access to adequate food, in terms of quantity, quality, safety and cultural acceptability, needed for a healthy life for all its members and when it's not at undue risk of losing such access.

At individual level, food security can most simply be defined as the absence of hunger and malnutrition. It is possible for an individual to be food insecure in a household that is food secure owing to prevailing conditions such as sickness, inadequate care or inequitable food allocation.

Women and men have different farming activities arising out of their socially and culturally ascribed roles. Women's role in Food Security and Environment sustainability can best be analyzed through their participation in the food chain activities. The "food chain" refers to a sequence of events by which food enters households and is transformed first into a consumable form and then into nutritional intake. Practically, however, because women in households do not produce food in uni-directional sequential activities, but in a cyclic manner, the concept of food cycle is more appropriate. The events involved are such as cultivation, weeding, harvesting processing, cooking and serving. In all these the tools of trade used are from the natural environment, e.g. soil, seeds, fuel-wood, water, utensils made with raw materials from wetlands such as clay pots.

Statistics from different studies and government surveys show that women in sub Saharan Africa constitute 80% of agricultural labour force producing 90% of the food and 50% of cash crops using rudimentary tools such as the hand hoe and depending on natural climatic conditions, e.g. rainy seasons. In addition women have traditionally kept small livestock such as sheep, goats and poultry for home consumption. It is therefore in their interest to ensure food security and environment sustainability if only to make their work easy.

Post harvest activities

Studies indicate that 100% food processing and storage at household level is carried out by women. It involves winnowing, hulling, milling, pounding, grating, peeling and / or drying using indigenous techniques and rudimentary tools like the mortar and pestle. Fuel-wood and open sunshine are favorite forms of energy for drying.

Food marketing, distribution and purchase

Researches done show that women in sub-Saharan Africa give priority to household food security as an item on which to spend their hard earned income. Women are a common sight in markets buying food to meet shortfalls in their households or along trunk roads and village paths selling food items to travelers to generate cash income to support households with basic requirements like soap, salt, medicine, etc.

Food Preparation and Serving

Universally until the advent of their struggle for emancipation became official, 99% women prepared and served food to their households. It is still true for African women especially in Sub-Saharan Africa. They feed the children and the ill. Breastfeeding is almost universal at 98% in Sub-Saharan Africa. Women therefore contribute to food security of the babies through breaks milk. They need fuel-wood, fertile soles and water to perform their tasks. Therefore environmental sustainability that guarantees availability of forests and water courses is a pre-requisite to their success.

Obstacles to ensuring food security and environment sustainability

Although women contribute almost single handedly to food security and environment sustainability, there are a host of constraints that impinge on their efforts; e.g;

1. Unequal gender relations between men and women to determine how power is distributed between the genders. These relations;

- Create, reproduce, entrench systemic and systematic discrimination in men's and women's positions in our societies.
- Define the ways in which responsibilities, claims and entitlements are allocated and the way in which men and women are given value and respected at the household, community and wider society.
- Determine who gets access and control and who owns important household resources such as land, technology credit, income, skills, knowledge and information that are essential pre- requisites for food security.
- Determine division of labour in the food cycle between women and men. The fact that women perform almost all the tasks in the food cycle reflects unequal gender division of labour and consequently low position and exploitation of women.

2. The changing role of women in African Society

With the advent of women's emancipation struggle, they are no longer limited to the private sphere performing reproductive roles. They have seized the moment and are involved in community management roles in addition to their traditional production and care roles. The emerging roles do compete for the women's time and energy for food production and search for fuel-wood, and water thus threatening food security and environment sustainability.

3. High prevalence of poverty

Experience has shown that poor farm households are forced to sell-off portions of their harvests (not the surplus) often at low post-harvest prices and to sell off other household assets e.g. land, woodlots etc in order to provide for other household requirements. Such "distress sales" do not only compromise food security and sustainable access to fuel-wood and land for cultivation but also lead to encroachment on natural resources reserves and increased tensions, conflict and domestic violence between women and men in the households.

Strengthening women's position through efforts for food security and environmental sustainability

The Dark –African Platform for Action (1994) and Beijing Global Platform for Action (1995) for Advancement of women recognized women's poverty, insufficient food security

and lack of economic empowerment as one of the priority areas of concern.

At the mid-decade evaluation of the above platforms that took place in Addis Ababa on 22 – 26 November 1999, African governments and NGO's did note some achievements in this critical area of concern but agreed that a great deal remains to be done and recommended the following actions.

Redress the imbalances which arise from existing gender inequalities.

Sub-Saharan African (SSA) countries are the only countries in the world where women are major contributors to both household and national food security and environment sustainability. It's only in these countries where women work longer hours cultivating, gathering fuel-wood and fetching water, caring for the young, elderly and sick, for as long as 16 hours per day with minimal resources. Yet SSA countries still face hunger and malnutrition as a result of food insecurity and environment degradation. Putting in place strategies therefore, that aim at increasing women's efficiency in production may not be the right solution.

Making food security and environment sustainability priority concerns for both women and men on the continent, involving men in food security and environment conservation activities particularly production, regenerative tree planting, water harvesting, energy efficient devices will be a step towards eradicating the poverty, food insecurity and environment degradation that plague Africa.

Translate policy intentions of African governments into action in order to have the benefits reflected at the individual women's level.

During this decade a lot of resources and efforts have been channeled to policy development, legislation and formulation of action plans at national, sectoral and district levels. To translate action plans into action calls for empowerment of government as well as NGOs and CBOs; that is top-down and bottom-up approaches.

Improve women's access to and control over productive household resources which include income, credit, technology, land information, knowledge and skills. This calls for measures like:

- Land reforms to give women co-ownership rights and security of tenure so that they are confident to carry out long term developments like establishment of woodlots to meet the household needs of timber and fuel-wood and for sale to generate income.
- Availability of labour saving appropriate technology to reduce drudgery and women's workload in unpaid tasks such as food production, processing, cooking cleaning, fetching water, gathering fuel-wood thereby freeing women's time for economic development and income generation. In addition it will improve efficiency in natural resource utilization thereby contributing to environment sustainability.
- Women's economic empowerment through enhanced women's economic productivity.

This can be achieved by instituting mechanisms that will enable women acquire credit, control it and the proceeds thereof. Women's economic empowerment tilts the domestic power relations in their favour, lifts their status in the immediate family as well as society in general giving them leverage to negotiate.

- Empower women with information, knowledge and skills.
- The adage "Educate a woman, a nation educated" is well known. Female literacy and schooling are associated with a more efficient management of limited household resources and hence improved food security and environment sustainability. Educational policies should therefore seek ways to increase female enrolment rates, reduce drop out rates, and improve quality of education and target women specifically for functional adult literacy programs.

Conclusion

This paper has discussed the various roles of African women in food security and environment sustainability, their constraints and strategies to alleviate these constraints. Please note that the roles women play in this field and the constraints they faces are numerous and could not all be discussed. This paper has therefore concentrated on a few of these so as to stimulate discussions. It's my prayer that this conference will come up with strategies not only to improve the role of women in food security and environment sustainability but how to achieve them in each of our countries.

REFERENCES

Gillipse S. and Mason J. (1991): Nutrition Relevant Actions. Some experiences from the eighties and lessons for the nineties.

United Nations (1995): Women and Nutrition ACC /SCN Symposium Report. Nutrition Policy Discussion Paper No.6.

United Nations (1995): Platform for Action and Beijing Declaration.

United Nations Economic Commission for Africa (1999): Women's Poverty, Insufficient food and lack of economic empowerment.

Uganda Ministry of Agriculture Animal Industry and Fisheries (1993): P r o p o s e d Gender Oriented Policy Document.

Uganda Ministry of Planning and Economic Development (1995): National Food Strategy.

World Bank Publication (1998): Agriculture and Environment

Overcoming Market challenges for smallholder farmers: the case of groundnuts in Malawi

Moses Siambi, International Crops Research Institute for the Semi-Arid Tropics, ICRISAT

Juan Estrada, Formerly Senior Scientist - Economics, ICRISAT

Richard Jones, ICRISAT

National Smallholder Farmers' Association of Malawi

Summary

The literature as well as development history are replete with examples of failures in attempts to link smallholder farmers to better markets. These failures have become arguments against the globalization of the agri-food markets, thereby assuming that smallholder farmers do not have the ability to engage in marketing activities. Grades and standards (i.e. food safety, quality, social, and environmental) are among the most common challenges facing small farmers throughout the developing world; not only due to technical and financial capacity required for compliance but also due to the ever-changing character of standards themselves.

The work reported here is from experiences of on-going work in Malawi and strengthens the case for greater investments in the establishment of systems of grades and standards that enables smallholder farmers to access better markets. A project undertaken since 2003 established a “hybrid” system for ensuring the achievement of standard requirements for the export of groundnuts from smallholder farmer associations in Malawi. This has enabled NASFAM associations to use grades and standards as a tool for product differentiation.

Development assistance should target Farmer Associations with the aim of commercializing smallholder enterprises to make farming attractive and improve rural livelihoods

Background

The Green Revolution that increased productivity and alleviated poverty and hunger in Mexico and Asia did not bear similar results for the African continent. Several reasons have been advanced why African agriculture never benefited from this phenomenon (Holt-Gimenez et al., 2006; Thomson, 2007). However, recent analysis of the pre-conditions that enabled the Asian continent and most specifically India, to benefit from the new technology gives insight into a much clearer understanding of the technology diffusion

process and why Africa did not benefit (Munshi, 2003). Over the past decade, new challenges have emerged for participation in global markets because of the enforcement of stricter standards (Giovannucci and Reardon, 2002). This has had an impact on most crops that were considered to be of “commercial” value and important to the economies of many African countries. The collapse of the collective bargaining ability of smallholder farmers as a result of market liberalization, and the dismal performance of agricultural cooperatives left smallholder farmers vulnerable to the exploitative tendencies of unscrupulous traders.

Groundnut production in Malawi declined in the early nineties because of failure to participate in the major European markets partly as a result of inability to meet the required grades and standards. The decline was also attributed in part to the liberalization of marketing in Malawi which removed the monopoly of the government parastatals. The Agricultural Development and Marketing Corporation (ADMARC) was the major outlet for many agricultural commodities and also played a key role in ensuring availability of inputs. However, in the case of groundnuts the changing market requirements overseas also contributed immensely to the decline in production and putting Malawi out of the global groundnut markets.

Adoption of many legume crops is hampered not only by the lack of improved seed, but also availability of seed in sufficient quantities and at prices that smallholder farmers can afford. To make improved seed affordable to smallholder farmers there must be a reliable market for the grain products. Farmers are then able to purchase new seed because of the earnings; and are willing to invest into increased acreages and quality because of the availability of markets for their produce.

Groundnuts are increasingly subject to stringent maximum allowable levels (MALs) of aflatoxin contamination. Aflatoxins are toxic metabolites produced by two strains of fungi – *Aspergillus flavus* and *Aspergillus parasiticus*. The fungi do occur naturally in the soil and infect the groundnut pods during pod development or through poor post-harvest handling. This has prevented smallholder producers from most African countries access to high-value markets in the European Union. A recent study by the World Bank suggests that the reduction of MALs to 4 parts per billion (i.e. 4 grams per metric ton) of total aflatoxin has resulted in annual losses of over US\$670 million for African countries, in terms of forgone exports (Otsuki et al, 2001). Therefore, assisting smallholder farmers to participate in these markets should be inherent in any serious attempts aimed at alleviating poverty in many African countries through support to agriculture. Ability to determine the status of aflatoxin contamination of a groundnut consignment at source not only reduces the risks of loss of shipment associated with a food safety event, but also results in maintenance of market share on the international market.

ICRISAT and NASFAM (National Smallholder Farmers' Association of Malawi) developed a project in 2002 that set out to test the hypothesis of whether smallholder farmers can participate in regional and global markets by meeting the stringent grades and standards for levels of aflatoxin contamination. The objectives of this project were:

1. To increase productivity of groundnuts by providing improved varieties and the accompanying crop management options
2. To develop a system of Grades and Standards to enable smallholder farmers to participate in regional and international markets and assist in Standard Certification
3. Assist in development of a Market Information System

Methodology

Crop management to improve quantity and quality

On-farm demonstrations were set up with farmers to show the importance of several agronomic practices that would lead to increased productivity. These fields were also used for farmer training during various crop development stages and also for field days. Optimal plant population, time of planting, harvest and post-harvest drying and handling were the most important practices that farmers needed to follow to improve productivity and product quality. Training courses in groundnut production and marketing were held once a year for Extension staff. Farmers were also made aware of labour-saving equipment that would ease the problem of shelling and ensure proper handling.

A “hybrid” system for establishing Grades and Standards was used so that NASFAM could have a better choice of the markets. Most European markets use *performance standards* for groundnuts whereby the levels of a contaminant in the product are determined at a given time e.g at port of entry. A decision is then made to accept or reject the consignment based on the allowable limits. However, for aflatoxin management the production system is important since contamination can occur when the crop is still in the field. Therefore, we adopted *production standards* as well so as to ensure that farmers follow certain crop management practices to reduce the chances of infection by the aflatoxin-causing fungus.

A related course on HACCP (Hazard Critical Control Point) was also carried out to help the Extension staff to understand the critical points in the management of aflatoxin at each important stage - from production to harvest, and handling to processing.

Establishment of an Aflatoxin analysis laboratory

The food safety requirements for export of groundnuts to the European Union have established the maximum allowable levels (MALs) of aflatoxin contamination that many smallholder producers cannot achieve unless a systematic approach is used to identify the sources of contamination and provide the necessary solutions. The ICRISAT-NASFAM partnership project initiated the establishment of an aflatoxin analytical laboratory at ICRISAT-Malawi in April 2004. The initial phase involved stocking the laboratory with equipment, glassware and consumables. The laboratory was already in existence for doing pathology-related research work.

ICRISAT designed and instituted a system for quality assurance, which involved

sampling and estimating levels of aflatoxin contamination in the groundnuts purchased by NASFAM. For every bag of groundnuts weighing 50 kg that was offered for sale, a sample of 200g was taken and clearly labeled to identify the farmer and the Marketing Action Centre where it was purchased. A sampling auger was used to collect groundnut samples from each bag. A composite sample derived from several samples was sub-sampled and 200g was extracted for analysis. This sample was put in Ziploc bags and brought to the laboratory for processing.

The coding, recording and grinding of samples were done at the ICRISAT laboratory at Chitedze Research Station in Malawi; while the determination of aflatoxin contamination was done at the ICRISAT headquarters in India.

A total of 3806 groundnut samples were shipped for analysis in 2004. The results of the analysis were sent back to ICRISAT-Malawi where they were decoded and provided to NASFAM. Using these data, it was possible carry out product differentiation and targeting for the different markets based on the maximum allowable limits.

Marketing organizational structure and Traceability

The NASFAM Associations are organized into units referred to as Chapters, which are divided into Marketing Action Centres (MACs). These are further sub-divided into smaller units called Clubs. For marketing purposes, several farmer groups or clubs sell their produce at designated marketing points (MACs). This structure allows for easy traceability because the producers are known.

Levels of aflatoxin contamination in groundnut produced by NASFAM farmers in Mchinji during the 2003/2004 season

A total of 3806 samples were collected from the produce bought by NASFAM and processed for aflatoxin analysis during the 2003/2004 season. Based on the results, 39.0% of the groundnuts sampled were aflatoxin free and 29.4% had aflatoxin levels in the range 1.0 - 2.0 ppb. 19.6% of the groundnut samples had aflatoxin levels of 2.1 - 4.0 ppb. 12% of the groundnut samples were found to contain aflatoxin contamination levels of greater than 4.0 ppb. The variation in the aflatoxin analysis results gave a significant indication that farmers had started applying the GAPs and good post harvest handling procedures that have an impact on bringing down, or even eliminating aflatoxin contamination.

Comparing the frequency of groundnut samples from farmers at each level of aflatoxin contamination across different Chapters, it was evident that Mikundi, and Chiosya Chapters contributed a greater proportion of good quality groundnuts with aflatoxin levels of between 0 - 4.0 ppb (Fig. 1). Based on the Maximum Allowable Levels (MAL) of 2 ppb of aflatoxin, Mikundi Chapter gave excellent quality nuts when considering total cumulative frequency of groundnut samples that registered low aflatoxin contamination. The chapters of Mlonyeni and Msitu were not included in the determination of the best performing chapter as fewer samples were collected from these Chapters.

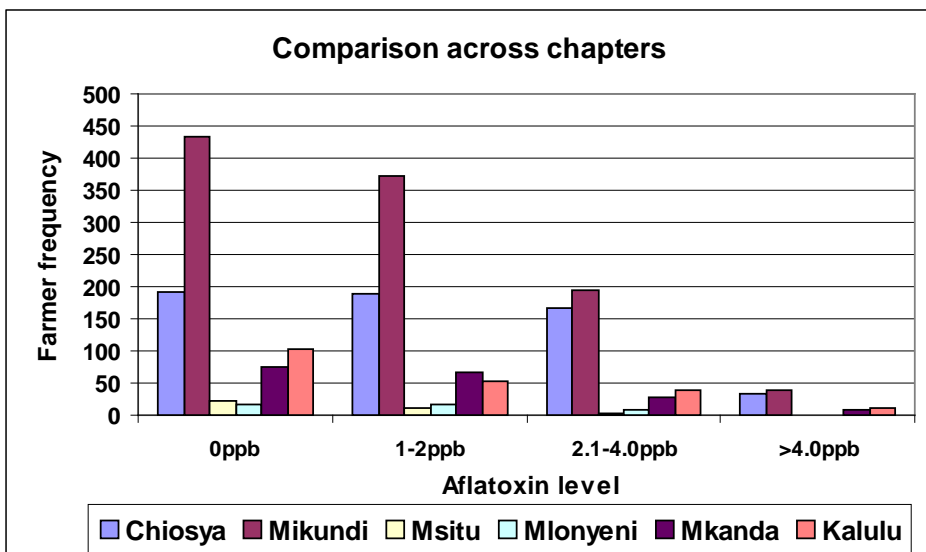


Fig.1: Levels of aflatoxin contamination in groundnut produced by NASFAM farmers from different chapters in Mchinji during the 2003/2004 season.

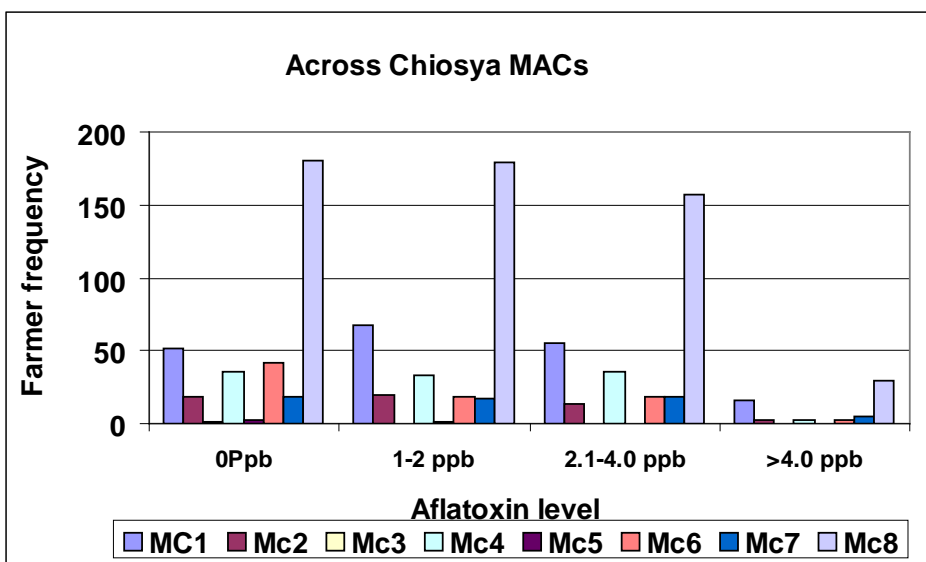


Fig.2: Levels of aflatoxin contamination in groundnut produced by NASFAM farmers from Chiosya Chapter in Mchinji during the 2003/2004 season.

Out of the 8 MACs in Chiosya chapter, MACs Number 1, 4, 6 and 8 contributed a greater portion of good quality groundnuts with low levels of aflatoxin contamination (Fig. 2).

Standard Certification

The establishment of food safety and quality assurance systems enables a firm to access demanding markets. However, in order to maximize the returns to investment, it is important to recognize the ability of these systems to be used as tools for product differentiation. Harnessing the benefits of compliance with standards in support of product differentiation often requires “Third-party” certification. Having successfully established a system for monitoring quality, the project set out to assist the farmer association with Fair Trade certification. The Mchinji Farmers’ Association (MASFA) was certified for Fair Trade in 2004. This has enabled the association to obtain a premium on the price of their groundnut sales and make bonus payments to its members.

Conclusions

The use of ELISA technique for aflatoxin analysis enabled NASFAM to differentiate its products for the different markets, thereby giving an opportunity to smallholder farmers to participate in markets that they would otherwise have never accessed. The collaboration between producers, traders and scientists in developing procedures for the management of aflatoxin requires resources and cannot be done as a “once-off” initiative if sustainable improvement in quality has to be achieved. As the results have shown, even within Chapters there is variability in levels of aflatoxin contamination; clearly indicating that the use of this technique can provide information for better targeting of training of farmers or handling of produce from specific areas. For markets that require traceability, this system offers the development of a database for traceability. This provides an opportunity for improvement of the production system to ensure better quality products that fetch higher prices for smallholder farmers.

Acknowledgements

We would like to thank the Rockefeller Foundation for providing funding that supported the laboratory analysis work and USAID for funding of the project. The farmers of NASFAM, NASFAM Field Officers and NASFAM Head Office are greatly acknowledged for the partnership and support without which this work would not have been possible.

References

- Giovanucci, D., T. Reardon 2002. Understanding Grades and Standards - and How to Apply Them. In “A Guide to Developing Agricultural Markets and Agro-enterprises, edited by Daniele Giovanucci. The World Bank.
- Holt-Gimenez, E., M. A. Altieri, and P. Rosset. 2006. Ten Reasons Why the Rockefeller and the Bill and Melinda Gates Foundations’ Alliance for Another Green Revolution Will

Not Solve the Problems of Poverty and Hunger in Sub-Saharan Africa. Policy Brief No. 12, Food First/Institute for Food and Development Policy

Munshi, K. 2003. Social learning in a heterogeneous population: technology diffusion in the Indian Green Revolution. *Journal of Development Economics* 73: 185- 213

Otsuki, T., J. Wilson, and M. Swadeh. 2001. Saving two in a billion: quantifying the trade effect of European food safety standards on African exports. *Food Policy* 26 (5), 495-514

Thompson C. B. 2007. Africa: Green Revolution or Rainbow Evolution? *Foreign Policy In Focus*, July 17, 2007. Washington, DC

Agricultural development in drylands of West Africa

Adama Coulibaly, Institut d'Economie Rurale, IER, Bamako, Mali

Jens B. Aune,

Department of International Environment and Development Studies, Ås, Norway

Mamadou D. Doumbia, Institut d'Economie Rurale, IER, Bamako, Mali

Introduction

Food security is a critical issue in the drylands of West-Africa. The percentage of the population suffering from malnutrition is estimated at 20%, 36%, 36%, and 44% for Mali, Burkina Faso, Niger, and Ethiopia, respectively (FAO 2003). Cereal production has increased in the last decades, but per capita cereal production remains the same and the adaptation of new technologies is low.

There are no simple answers as to how to improve food security and agricultural productivity in the Sahel. However, the International Food Policy Research Institute has identified 5 key factors for agricultural development (the five Is): Innovations, Inputs, Infrastructures, Institutions and Incentives (a favorable policy).

It is difficult to promote agricultural development because all the 'I' factors must be in place. We will in this paper particularly discuss how innovation, inputs and institutions and incentives can improve agricultural productivity. In addition we will discuss the relationship between the environment and sustainable intensification in the Sahel. We base our analysis of lessons learned of the activities of the Dryland Coordination Group and Institut d'Economie Rurale in Mali.

Innovation and inputs in appropriate in the Sahel

Most agricultural research in the Sahelian countries has focused on the more humid areas where it is possible to grow cotton and maize. Much less research has been focused on agricultural development in the drier areas where pearl millet, sorghum and cowpea are grown. Yet, for addressing the food security issues in the Sahel, it is of vital importance that also these food crop productions are addressed. These crops do not have a global market, but they are important commodities in the regional trade.

There has not been much change in the traditional cropping systems for millet and sorghum in the Sahel. The crops are sown at a relative low density and methods used to improve soil fertility include fallow, intercropping and manure application based on availability.

We will discuss particularly in this paper, how the agricultural technologies seed priming and microfertilization (fertilizer microdosing) can improve agricultural productivity.

Seed priming

Research by the Dryland Coordination Group and IER in Mali has shown that it possible to increase millet and sorghum yield 50 % and 100% by practicing seed priming only and seed priming associated with complex mineral fertilizer microdosing respectively (Coulibaly and Aune 2006). Seed priming consist of soaking the seed for 8 hours prior to sowing. This is a method that has been developed in India and Pakistan by the University of Bangor in Wales. The effect of seed priming is to stimulate germination, promote earlier plant establishment, and ensure more uniform plant establishment, more rapid vegetative development, earlier harvest and higher yield. It has also been reported that seed priming also can increase the plants resistance to diseases and pest.

Seed priming in Mali is most appropriate where the farmers have the tradition of sowing after the rain. Priming should start immediately when a sufficient rainfall has been achieved. This method is appropriate for the farmers because it doesn't increase the workload and it can be implemented without any financial cost to the farmers. Note that with unprimed seed (farmer practices) 50 % of farmers have their yield between 800kg and 1400kg/ha whereas those with primed seed only and primed seed plus mineral fertilizer microdosing had better yields in the soudano Sahelian zone of Mali.

Soil fertility management in the drylands

Soil in the drylands of west-Africa are generally low in nitrogen and particularly in phosphorous. In Mali, research results have shown that in areas receiving more than 300 mm of rainfall, plant nutrients are rather more limiting to plant growth than water. Farmers' first choice to improve soil fertility is to use the organic fertilizer that is available. However, farmers in general do not have access to manure in sufficient quantities to fertilize adequately their fields, and it is also very difficult to transport the manure or compost to fields more distant from the homestead. Use of rock phosphate is an option for phosphorous fertilization, but the rock phosphate is not easily available in Mali as the mine in Tilemsi has been closed down. Use of legumes is important for fixing more nitrogen, but the legumes cannot fix much nitrogen unless the phosphorous supply is sufficient. Cultivation of leguminous crops must therefore go hand in hand with measures to improve phosphorous supply.

Mineral fertilizers have for many years been considered not an option for Sahelian farmers because of the low profitability of their use in a dry environment and the high risks associated with use of fertilizer. However, research by the Dryland Coordination Group in Mali, IER, ICRISAT and others have shown that by changing the application method from broadcasting to hill application it becomes economically interesting for the farmers to use fertilizer. Millet and sorghum in the Sahel **are** sown in pockets distant by about one

meter and by applying the fertilizers directly in the pockets at sowing higher fertilizer use efficiency can be obtained than the traditional application method by broadcasting.

When the Dryland Coordination Group initiated a study on soil fertility management in Mali in 1998, we came across a farmer (Lamine from the village Bangou Marka in cercle of Macina) that was practicing his own method of micro-fertilization. His method was to mix seeds and fertilizer in a 1:1 ratio. We tested his method in different parts of Mali and we found that this method increased millet and sorghum yield by 50 %. This application rate is equivalent to 0.3 g of fertilizer per pocket and corresponds to 3 to 8 kg of fertilizer per hectare depending on planting density. This is an extremely low rate and most farmers can afford to buy this amount as it corresponds to about two Euros per hectare. The economics of the method was also studied and it was found that one money unit invested in fertilizer gave a return of about 8 money units.

We have also tested the application rate of 2 g NPK per pocket in millet and sorghum and this doubled the millet and sorghum yields. This rate can be applied one to two weeks after sowing.

We have also worked on combining priming of seeds with mineral fertilizer. The result showed that the risk of fertilizer application can be reduced if combined with seed priming and the profitability of fertilizer is higher when combined with seed priming. We got very good results with combining seed priming with application of 2 g mineral fertilizer applied two weeks after sowing (Table 1).

Technologies	Sorghum	Millet
Without seed priming + 2g/ hill of complex fertilizer (50kg/ha)	13.5	9.5
Seed priming + 2g/ hill of complex fertilizer (50kg/ha)	24	20

Table 1. Fertilizer use efficiency (kg of grain produced per kg of fertilizer) as affected by seed priming and mineral fertilizer micro dosing in farmer field, Sahelian zone of Mali.

The Dryland Coordination Group in collaboration with Institute d'Economie Rurale in Mali has also worked on mechanization of the microfertilization method in millet and sorghum. Time is very crucial at the beginning of rainy season because the soil dries up very quickly and there is a flush of nitrogen from the soil in the beginning of the rainy season. The research has focused on modifying the disk in the sowing machine so that fertilizer and seeds can be sown simultaneously. The modified disk and specific mixture of seed and fertilizer allow sowing of an indicated number of seeds and precise dose of

fertilizer per hill (pocket). This makes it possible to sow with precision from 6 to 8 times more land in one day as compared to manual application of seeds and fertilizer. Since many farmers are already using sowing machines, this will make it easier for the farmers to use microfertilization. We have worked in collaboration with local blacksmiths to modify the disk in the sowing machine.

Farmers differ with regard to access to financial resources. Some farmers have very limited capital for agricultural intensification, while others are better endowed. For the poorest farmers without any resources and that are practicing sowing following a rain shower, it is very interesting to practice the method of seed priming. Another option particularly for the farmers that are practicing dry sowing is to mix the seeds and fertilizer in a one to ratio. For better endowed farmers, it is recommended to apply up to 2 g NPK per pocket. This application can be done 2 weeks after sowing and should be combined with seed priming (Table 1).

Institutional issues in agricultural intensification

There are several institutional issues related to agricultural intensification in Mali. These issues relates to introduction of new technologies, scaling up- of new technologies, building of farmers organizations and access to input.

Our approach to the introduction of new technologies has been an approach similar to the farmer's field school approach. In each village 4 to 5 test farmers are chosen among the people in the village. These farmers will have the responsibility to conduct the experiments in collaboration with the researchers and to train other farmers. Farmers make observations during the growing cycle, and these observations are shared during a workshop at the end of the growing season. The program for the coming season is adjusted based on the lessons learned during the season.

Scaling-up is a difficult issue in the Sahelian countries because the public extension systems have to been shut down in a large degree. In this project the researchers work in partnership with NGOs which are part of the Dryland Coordination Group to scale up the activities. The results of the activities are each year presented to about 30 national NGOs in Mali that are part of the Dryland Coordination Group in Mali. Working with national NGOs has proven to be an efficient way of scaling-up the results since these organizations have contacts all over Mali. We also share our results with international research institutions like World Agro forestry Centre, ICRISAT and CIRAD-France.

Access to fertilizer is not always easy in Mali and farmers do not have the funds to purchase fertilizers. We have been working in collaboration with the NGOs to establish farmers' organizations that can take the responsibility for the purchase of inputs and facilitating the transport of seeds and input. Such an approach lowers the cost of inputs and makes fertilizers more affordable for farmers. We have observed that farmers have started to purchase fertilizer in small quantities independent of any support from the project. As a result of the demand of input from the farmers, dealers of fertilizers and other agricultural inputs are increasingly making inputs available in village distant from the major markets.

Agricultural policies for sustainable intensification in the Sahel

One of the critical factors for agricultural development in the Sahel is the relationship between price of grains and price of input. It is partly the responsibility of the government to make sure that this relationship is favorable. If this relationship is not favorable, the effect of other factors influencing intensification such as credit will be reduced. One of the factors which makes the relationship unfavorable, is the import of grains as part of food aid. It is appropriate only to import cereals after catastrophic years. It is better to use purchase food on the regional market in west-Africa than to import grain from overseas. This will have much less harmful effect on agriculture in the Sahel.

The USAID monetization program implemented by some American NGOs is an example of import of grain that has a harmful effect on sahelian agriculture. The NGOs receive USAID support in the form of rice and american vegetable oil. These products are sold in the sahelian countries and the income from the sale is used to finance the development activities of these american NGOs. Although millet or sorghum is not sold, there is a substitution involving the different cereals.

In sahelian countries, there are cereal reserves under governmental control and the sale of this stock has a major effect on the price of cereals in the market. In Niger, the government often starts selling cereals when the price is higher than FCFA 200 per kg. This policy is beneficial for the urban populations who purchase cereals, but at the expense of farmers.

The probability for the agricultural season to be catastrophic is about 14% in those areas where rainfall does not exceed 400 mm of rain per year in Niger. During the catastrophic seasons, farmers need support, as is the case in developed countries. The best way to help them without harming their dignity is to initiate public works such as road maintenance, the construction of bridges, or environmental activities such as regeneration of degraded lands or tree planting. Such works may be remunerated either in cash (money for work) or in kind with checks /food coupons (food for work).

The environment and agricultural intensification

Farmers in the Sahel are cultivating in a very fragile environment. There are no firm scientific evidences for how the rainfall in the Sahel will develop in the future, but temperatures are very likely to raise as in the rest of the world. This will have a very negative effect on agriculture, because the temperature particularly in the beginning of the growing cycle is close to the upper limit for plant survival. In order to prepare the Sahel for high temperatures, it is important to build soil organic matter and to practice mulching systems which can lower soil surface temperatures. Development of mulching system in the Sahel is however difficult because free grazing is practiced after harvesting.

From an environmental point of view, it is important to build soil organic carbon (humus). This will increase the water holding capacity of the soil and improve water

infiltration. However, it is very difficult to build soil organic matter in the Sahel because of the high temperatures and the free grazing system practiced. One approach to build soil organic matter is to increase agricultural production by combining organic and mineral fertilization. Use of mineral fertilizers alone has been shown to increase soil organic matter through higher biomass production (including roots), but it is more efficient to combine organic with mineral fertilization.

Cereal production has increased in the last decades in the Sahelian countries, but this production increase is due to expansion of the cultivated area. Yields of the cereals have remained fairly stable. When farmers expand their cultivated area, this will inevitably release CO₂ into the atmosphere because a part of the carbon in the organic matter will be released as CO₂ when cultivation is initiated. From a climate change point of view, it is therefore better to increase productivity on land that is already under production than to expand the cultivated area.

The methods of micro-dosing and seed priming is therefore interesting from an environmental point of view because the methods will contribute to increase biomass production and because they will make it more interesting for the farmers to intensify production on land that is already under cultivation than to expand the cultivated area.

Conclusion

We have discussed in this paper the possibilities for sustainable intensification in Sahel. We have shown that in order to achieve sustainable intensification there is a need for innovations, input, institutions, infrastructure and innovations. Nobody knows how agriculture in the future will develop, but the agricultural development in northern Nigeria may give an idea about what may happen. This area has the same agro-ecological conditions as the French speaking Sahel, but has a higher population density. Here agricultural intensification is characterized by more crop-livestock interaction, stall feeding of animals and increased use of organic fertilizer and supplementary use of mineral fertilizer.

Technologies for agricultural intensification presented in this paper are low-cost and feasible also for the poorest farmers. This makes possible for the farmers that are distant from the market to take part in agricultural intensification. However, in order facilitate the agriculture intensification, favorable agricultural policies are needed.

Literature Cited

1. Coulibaly, A. et J. B. Aune. 2006. Etablissement des cultures vivrières en zones soudano sahélienne du Mali. Groupe de Coordination des Zones Arides, Mali.
2. Doumbia, D. M, A. Berthe, and J. B. Aune. 2005. **Integrated Plant nutrient** management in Mali. Groupe de Coordination des Zones Arides, Mali.

A new green revolution: an answer to the challenge for Africa?

Monty Jones

General Secretary, Forum for African Research

Africa's opportunities, challenges and progress

Approximately 80% of all Africans depend directly or indirectly on agriculture for their livelihoods. Agriculture provides 70% of Africa's full time employment, one third of total GDP, and 40% of total export earnings. Thus, Africa's overall economic performance is inextricably linked to the performance of its agricultural sector.

There is enormous potential for agricultural growth in Africa. Africa has twelve times the land area of India, which is self-sufficient in food production with twice as many people to feed. Despite HIV/AIDS, Africa has a growing labour force and a widening range of higher yielding agricultural technologies and improved farming systems. The large gaps between actual and potential yields present opportunities for raising productivity. Rapid urbanisation is creating local markets for agricultural products, and trade liberalisation and globalisation are opening markets abroad. Raising the output of the majority of small farmers would raise rural family incomes and improve food security. It would also lower urban food prices and stimulate the rest of the economy. It has been shown that each 1% increase in agricultural productivity in Africa reduces poverty by 0.6%. Thus, a smallholder-led growth strategy has the potential to make a very significant impact on food security and poverty reduction. The 2.5% annual growth since 1980 is a sign that some of this potential is being realised.

Over the past decade the overall state of governance and economic development in Africa has vastly improved. A number of countries have emerged from conflict. That, coupled with global economic expansion, higher demand and higher prices for commodities, has given Africa its best economic performance in many years, with a high of 5.1% growth in 2004.

However 2.5% annual growth is not fast enough to get ahead of Africa's population growth rate (among the highest in the world) while coping with environmental degradation, civil conflict, and health problems such as malaria, tuberculosis and HIV/AIDS. The realisation that much more rapid progress is required is reflected in the African Vision established by AU-NEPAD, which aims to achieve an annual growth in productivity of 6% per annum by 2015. Pressure to achieve this vision has led to several important institutional innovations. Amongst these is the AU-NEPAD Comprehensive Africa Agriculture Development Programme (CAADP), supported by an innovative Framework for African Agricultural Productivity (FAAP). FAAP provides guidelines and criteria to encourage implementers and investors in African agricultural research and development to work in harmony at the scale and time frame required to achieve the African Vision.

In such a complex industry characterised by highly diverse social, economic, environmental and political contexts, there is no panacea. Achieving the required increases in productivity will require sustained improvements in human and institutional capacity and policies that encourage innovation in all aspects of agriculture and related industries and services. High levels of investment are required by all actors in the production-to-consumption value chains, including policy makers and Africa's development partners. A strategy is needed to ensure that Africa acquires the necessary capacity for agricultural innovation.

Green revolution in the 1940s-1960s

The green revolution in the 1940s to 1960s started in Mexico when the Presidential administration of Manuel Avila Camacho worked with the Rockefeller Foundation in 1943. President Camacho declared that the presidential focus will be on agriculture to lead the industrial development and economic growth in Mexico. The government invested heavily on rural development infrastructure and adoption of new varieties. The new varieties on wheat and maize were developed by scientists from the United States and Mexico through funding from the Rockefeller foundation. This joint research was conducted by the Office of Special Studies in Mexico which later became CIMMYT. In 1951, Mexico became self sufficient in maize and wheat and turned to be an exporter of these crops.

Later on, the Rockefeller foundation wanted to spread this success story to other nation. They started with India with the support of Ford Foundation who was already heavily involved in the country. These two foundations together with the government of India imported several tons of wheat from Mexico for use in India. Then India began its own Green Revolution program of plant breeding, irrigation development, and financing of agrochemicals. By the late 1970s, the Green Revolution raised rice yields in India by 30 percent and bought India the vital time to curb its population growth without suffering a recurrence of the devastating famines of the 1940s.

The two foundations later established the international rice research institute (IRRI) in the Philippines to further spread the green revolution to other countries

There have been several analysis on the impact of green revolution. There are contentions on whether it really doubled the agricultural production to meet the demands of the Asian population during this decade.

What is important to note is that the green revolution created two changes. The first is the social change where rural farmers were able to access on rural credit. Although this has facilitated the buying of farm input such as fertilizers, some would say that it has increased the liabilities of farmers who could not meet up the debts acquired. As an effect, to this, there was an increase in rural-urban migration, creating more complicated issues for developing countries programs on poverty alleviation. The Second challenge created was ecological. Pesticides were introduced, there was an increase in water demand, biodiversity was destroyed due to blanket recommendations on which crops to use.

Farmers were encouraged to adopt these new technologies displacing traditional farming or local knowledge of its diverse cultural practices.

Lessons that could be learnt

The green revolution in the 1940s to 1960s could be considered a success due to four areas of interventions. The first is government investments and commitments through sound policies and infrastructure develop to get the enabling environment the farmers require to increase their productivity.

The second factor is the investment partner's commitments. Two of the biggest charitable foundations that supported the green revolution are Rockefeller Foundation and Ford Foundations. These two foundations gave the required seed funding to push for the development of new technologies such as improved crop varieties and crop management practices i.e. water management and fertilizer use. Their investments in international research centres which later expanded to 15 centres comprising the CGIAR, have provided the world with important works on agricultural technology and capacity building of national research systems.

The third factor is the spread of existing technologies to other parts of the world. The very obvious example is when the new maize variety from Mexico was transferred to Asia to improve their crop productivity. The use of fertilizers commonly used in Europe or the USA was transferred to Asia and Latin America increasing the agricultural productivity of the farmers. This of course was supported with support to farmers on rural credit to allow them to buy the necessary inputs.

Reflecting on the success of green revolution, if we want to apply the concept to Africa, it is recommended that four factors should be considered:

1. political commitment is crucial so that appropriate policies to encourage investments by all stakeholders in agriculture. Presidential initiatives are important so that there is clear agenda that all concerned institutions or organizations can measure their contributions.
2. environmental concern. As we move into the 21st century, where there is growing concern for climate change, it is critical that whatever new technology we introduce whether it is improved seeds or management practices, should take into consideration the environmental effects. It should not disrupt the biodiversity of local communities rather it should strengthen the local knowledge to create agricultural innovations. Natural resources are increasingly degrading that farmers have to be more aware on how to sustainably increase their productivity without mining the soil or destroying biodiversity.
3. access to market should be ensured for the extra production of farmers. As farmers increase their yield, they should have access to markets with very competitive price for their produce. Hence increasing their income.

4. Entrepreneurship. If the government can create enabling environment to encourage private individuals or companies to invest in agriculture, agricultural research for development community should catalyze innovations and entrepreneurship in agriculture.

Political commitment

Already, the African Union has articulated in NEPAD's Comprehensive Africa Agricultural Development Programme (CAADP), the need for purposeful direction and careful husbandry of the available human, infrastructural and financial resources. CAADP recognises that investors must have confidence in the capacity and determination of Africa's agricultural innovation systems to deliver and achieve the necessary levels of impact in improving livelihoods. The Framework for African Agricultural Productivity (FAAP) was developed to guide and assist the development of Africa's agricultural innovation systems and promote harmonisation of internal and external actions and actors.

CAADP calls for significant new funding for agricultural research from development agencies, the private sector and African governments. The goal is to double current annual spending on agricultural research within 10 years from US\$ 0.199 billion in 2002 to US\$ 0.496 billion in 2015. FARA's stakeholders are encouraged by the widening support amongst their own governments and Africa's development partners for the integrated and far reaching concepts indicated above.

Environmental concerns

Sustainable agricultural development can be achieved if we promote innovations systems approach, have the institutional and human capacities to use and spread the concept and have the access to information and knowledge.

Innovations systems approach promotes multi-sectoral orientation to problem diagnosis. It is an integrated approach using hard and soft sciences to address problems while making the most out of available opportunities. It encourages research that to intensify subsistence-oriented smallholder farming systems, sustainable management of natural resources while intensifying their use, development more efficient markets as well as enabling policies.

But any research approach is not going to be a success if they don't have the adequate institutional and human capacities for its development and application. Capacities to conduct research as well as proper management of research institutions or organizations. Capacities can be further sustained if there is adequate funding and financial management for each of the African ARD institutions. Scientific capacities are then assured by capable scientists who are open on strengthening collaboration with other institutions within the country as well as across countries or inter-regional collaboration.

Access to information and knowledge will strengthen the capacities of African stakeholders to make the required decisions to improve their livelihoods. As well as

provide the right information to scientists that will promote agricultural innovations in Africa, broadening the diversity of stakeholders benefiting from successful technology-based innovation. African policy makers can also implement the right policies for an enabling environment accelerating the intra-regional spread of innovations.

Conclusion

Africa is ready for new green revolution. It has the right institutional arrangements established by the African leaders. Political commitment is given by African Union through the endorsement of AU/NEPAD's CAADP and FAAP as the guiding framework for agricultural productivity program, guiding not only African institutions but also development partners working in Africa.

In addition, the agricultural research community especially the African research institutions are broadening their partnerships to include civil society organizations that will ensure that technologies or innovations are created that will transform African agriculture. FARA and the SROs are leading this initiative through the FAAP principles. National research institutions are no longer working in isolation, rather it is more and more working with NGOs, farmer's organization and extension workers to solve critical challenges in agricultural productivity programs.

At the same time, African governments are pressured to respond to their commitments of 10% contribution to agriculture including agricultural research for development. Due to this positive environment, we can observe the increasing number of African entrepreneurs that could spearhead the new green revolution in Africa.

The Not So Green Revolution: Lessons from India

Vandana Shiva,
Navdanya, India

The Rockefeller and Gates Foundation have set up an alliance for a Green Revolution for Africa. The acronym is AGRA. However, this Agra will not create a Taj Mahal for Africa's agriculture. The new Green Revolution for Africa is in fact the old Green Revolution for Asia. And as the Punjab experience shows, the Green Revolution was neither Green in terms of ecological sustainability and conservation of natural capital of soil-water-biodiversity nor revolutionary in terms of increasing equality and promoting justice for small and marginal peasants.

This not so green revolution is now being proposed as a solution for hunger and poverty in Africa.

AGRA has a \$ 150 million "program for Africa's Seed System (PASS) and a fertilizer access program. The program assumes that "improved seed" and chemical fertilizers are necessary for improving Africa's farm productivity. The strategy is based on promoting private seed companies and commercializing the seed supply. It is also based on increasing the sale of chemical fertilizer. As Gary Toenniessen of Rockefeller Foundation and head of AGRA writes in "securing the harvest", "no matter what efficiencies genetic enhancement is able to build into crop plants, they will always draw their nutrition from external sources" (p x v) and "no alternatives to the use of inorganic nitrogen currently exist for densely populated developing countries" p.36.

This ignores the successes in Asia, Africa and Latin America of doubling and tripling farm productivity through biodiverse organic farming based on farmers breeding, biodiversity conservation, and agro-ecology.

What is the Green Revolution?

The "Green Revolution" was in fact the name given to U.S style industrial agriculture based on seeds bred to respond to agricultural chemicals. It was introduced under heavy coercion and conditionalities in India.

The occurrence of drought in 1966 caused a severe drop in food production in India, and an unprecedented increase in food grain supply from the US. Food dependency was used to set new policy conditions on India. The US President, Lyndon Johnson, put wheat supplies on a short tether. He refused to commit food aid beyond one month in advance until agreement to adopt the Green Revolution package was signed between the Indian agriculture minister, C.S. Subramaniam and the US Secretary of agriculture, Orville Freeman.

Lal Bahadur Shastri, the Indian Prime Minister in 1965 had raised caution against the rushing into a new agriculture based on new varieties. With his sudden death in 1966 the new strategy was more easy to introduce. The Planning Commission, which approves all large investment in India, was also bypassed since it was viewed as a bottleneck.

Rockefeller agricultural scientists saw Third World farmers and scientists as not having the ability to improve their own agriculture. They believed that the answer to greater productivity lay in the American styled agricultural system. However the imposition of the American model of agriculture did not go unchallenged in the Third World or in America. Edmundo Taboada, who was head of the Mexican office of Experiment Stations, maintained, like K.M. Munshi who was the Agriculture Minister in the 1950's in India, that ecologically and socially appropriate research strategies could only evolve with the active participation of the peasantry.

'Scientific Research must take into account the men that will apply its results... Perhaps a discovery may be made in the laboratory, a greenhouse or an experimental station, but useful science, a science that can be applied and handled must emerge from the local laboratories of ... small farmers, ejidatorios and local communities.'

Together peasants and scientists searched for ways to improve the quality of 'criollo' seeds (open pollinated indigenous varieties) which could be reproduced in peasant fields. However, by 1945, the Special Studies Bureau in the Mexican Agriculture Ministry, funded and administered by the Rockefeller Foundation, had eclipsed the indigenous research strategy and started to export to Mexico the American Agricultural Revolution. In 1961, the Rockefeller financed center took the name of CIMMYT (Centrol International de Mejoramiento de Maiz Y Trigo or the International Maize and Wheat Improvement Centre). The American strategy, reinvented in Mexico, then came to the entire Third World as the 'Green Revolution'.

The Green Revolution approach is flawed both from the perspective of participatory development and from the perspective of science. It is external expert led, thus discounting the centuries of knowledge of breeding and farming in agrarian societies and peasant communities. It leaves out the experts of local agriculture, the farmers. You cannot begin with researchers, if you are designing a sustainable agriculture system. You have to begin with the land, with indigenous biodiversity and indigenous knowledge. Unfortunately, the Green Revolution strategy is based on destroying the very foundation of sound farming.

The Green Revolution strategy is scientifically flawed because it is reductionist. It fragments and reduces agro-ecosystems. Reductionism allows false claims to be made about yields and productivity of chemical monocultures compared to biodiverse organic systems which build on indigenous knowledge and resources.

The Myth of "Improved Seeds"

"Improved Seeds" is what the Green Revolution aims to bring. The question is improved in what aspect? For whom?

For Asia's Green Revolution, "improved" seeds were the so called "high yielding varieties" (HYV). For Africa's Green Revolution, "improved" seeds will include hybrids and genetically engineered seeds.

HYV's were not high yielding in and of themselves. Nor were the native varieties they displaced low yielding. As Dr. Palmer concluded in the United Nations Research Institute for Social Development's 15 nation study of the impact of the seeds, the term 'High Yielding Varieties' is a misnomer because it implies that the new seeds are high yielding in and of themselves. The distinguishing feature of the seeds, however, is that they are highly responsive to certain key inputs such as fertilizers and irrigation. Palmer therefore suggested the term 'high-responsive varieties' (HRV's) in place of 'high yielding varieties' (HYV). In the absence of additional inputs of fertilizers and irrigation, the new seeds perform worse than indigenous varieties. With the additional inputs, the gain in output is insignificant compared to the increase in inputs. The measurement of output is also biased by restricting it to the marketable part of crops. However, in a country like India, crops have traditionally been bred and cultivated to produce not just food for man but fodder for animals, and organic fertilizer for soils.

According to A.K. Yegna Narayan Aiyer, a leading authority on agriculture, as an important fodder for cattle and infact as the sole fodder in many tracts, the quantity of straw obtainable per acre is important countries where small farms need animal energy for work and organic manure for fertilisers. Some varieties which are good yielders of grains suffer from the drawback of being low in respect of straw. He illustrated the variation in the grain-straw ratio of rice with yields from the Hebbal farm in Karnataka.

Grain and Straw Production of Rice Varieties

Name of Variety	Grain (in lb. Per acre)	Straw (in lb. Per acre)
Chintamani Sanna	1663	3333
Budume	1820	2430
Halubbalu	1700	2740
Gidda Byra	1595	2850
Chandragutti	2424	3580
Putta Bhatta	1695	3120
Kavada Bhatta	2150	2940
Garike Sanna	2065	2300
Alur Sanna	1220	3580
Bangarkaddi	1420	1760
Banku (rainy season 1925-26)	1540	1700
GEB (rainy season 1925-26)	1900	1540

Straw biomass was deliberately sacrificed in the Green Revolution because the tall indigenous varieties which give good yields of grain plus straw tend to “lodge” or fall under the intensive application of chemical fertilizers, thus putting a limit to fertilizer use. Native varieties were displaced not because they did not produce enough food but because they did not consume chemicals. The issue therefore was not yields but re-engineering crops to suit them to chemical inputs.

This might be “improvement” for the fertilizer industry. It is not an improvement for seeds, for the soil, or for the peasant. This strategy reduced biodiversity, desertified soils, and impoverished the peasants, pushing them into a debt trap through purchase of costly seeds and costly fertilizers and pesticides.

Seeds of Suicide

The introduction of hybrids and genetically engineered seeds has worsened the crisis. First hybrids, both GMO and non-GMO's do not breed true and have to be bought every year. This dramatically increases the financial burden on small peasants, as we have witnessed in India. Since the 1990's when cotton hybrids were introduced, followed by genetically engineered Bt. Cotton. For the first time in India's history, an epidemic of farmers suicides began as a consequence of debt caused by non-renewable seeds especially Bt. Cotton, and the chemicals that these seeds require. More than 150,000 farmers have committed suicide in the past decade of trade liberalization and globalisation. Most suicides are concentrated in the cotton belt of India which is fast becoming a Bt. Cotton belt.

Our studies monitoring Bt. Cotton performance since 1997-98 when the trials first started have shown that Bt. Cotton does not increase farmers incomes or production. It is in fact a recipe for debt, since the costs are higher than the returns.

	Bt. Cotton Rs.	Non Bt. Hybrids Rs.	Desi Varieties Rs.
A. Expenditure on Inputs (Seeds, Fertilisers, Pesticides, Irrigation etc)	9700 2 quintals	5750 10 quintals 16500	None 5 quintals
B. Total Yield	3300		8250
C. Output Value			
C – A	Loss of Rs. 6400 / acre	Saving of Rs. 10750 / acre	Saving of Rs. 8250 / acre

Cost Benefit Analysis of Bt. Cotton vs Other Cotton in One Acre in Madhya Pradesh

	Bt. Cotton	Non-Bt. Cotton
a. Expenditure on Inputs (Seeds, Fertilisers, Pesticides, Irrigation, Labour)	Rs. 6675	Rs. 7005/-
b. Expected total yield	4.01 quintals	7.05 quintals
c. Output Value	Rs. 7218/- (Rs. 1800 Quintal)	Rs. 13320 (Rs. 1800/- per quintal)
C – A	Income of Rs. 543/- acre	Profit of Rs. 6315/- acre

Cost Benefit Analysis of Bt. Cotton vs Other Cotton in One Acre in Karnataka

	Bt. Cotton	Non-Bt. Cotton
a. Expenditure on Inputs (Seeds, Fertilisers, Pesticides, Irrigation, Labour)	Rs. 8925	Rs. 7005/-
b. Expected total yield	3.82 quintals	7.05 quintals
c. Output Value	Rs. 7640/- (Rs. 2000 Quintal)	Rs. 13320 (Rs. 1800/- per quintal)
C – A	Loss of Rs. 1285/- acre	Profit of Rs. 3750/- acre

A report of the Center for Sustainable Agriculture came to the same conclusions. This suggests that the farmers who used non-Bt. Cotton in the 2005 Kharif season had net incomes almost 62 percent higher than those who opted for Bt. Cotton. This was because inspite of having a marginally higher yield, the cost of cultivation for Bt. Cotton was much higher – by over 33 per cent. (Kaushik 2006).

In case of Bt. Cotton, average cost of cultivation was Rs. 6184.11 per acre, yield 4.97 quintals per acre and sale price Rs. 1843.60 per quintal, giving a gross income of Rs. 9148.00 and net income of Rs. 2963.95.

For non-Bt. Cotton, the average cost of cultivation was Rs. 4138.16 per acre, yield 4.71 quintals per acre and sale price Rs. 1898.00 per quintal, giving a gross income of Rs. 8929.58 and net income of Rs. 4791.00.

Thus, the average income of non-Bt. Cotton farmers was higher by Rs. 1827.05 or 61.64 per cent, due to the lower cost of cultivation. The difference between average cultivation cost was Rs. 2045.95 or 33.08 per cent.

The economics of Bt and non-Bt production show that farmers who cultivated Bt. Cotton spent 15% of the total cost of cultivation on the seed as against 5% in case of non-Bt. Farmers, in the hope that it would reduce their spending on pesticide sprays and improve their yields substantially. Bt in reality, expenditure on plant protection was only around 25 rupees / ha less for Bt. Cotton farmers. Non-Bt. Cotton farmers averaged a yield of 276 kg / ha compared with 180 kg/ha for Bt. Cotton farmers, which represents a net 35% decrease in yield. So, inspite of spending 3.5 times more on pesticide – resistant seed, a Bt. Farmer had only a 4% reduction in pesticide costs, and ended up with a 35% loss in final yield (CSA 2005).

Monsanto is involved in the false propaganda and presenting the exaggerated claims about the yield of Bt. Cotton, 15 – 20, quintal per acre. The photograph of one Radhey Shyam has been shown on the poster of Monsanto. The poster claims that Radhey Shyam got 20 quintal per packet / per acre. However, the investigation reveals that Radhey Shyam got 20 quintal in 5 packets / 5 acres, which means that the actual yield is not more than 4 quintal per acre. For Monsanto, this is a normal way to advertise its seeds, there is nothing unethical.

The company pamphlet cleverly in very small print says “crop management is beyond our control, for the crop yields farmers are entirely responsible”. It is obvious that in the case of failure of seeds, company wants to absolve itself from any responsibility. But the claims in bold and big letters totally contradicts what is written in small print. The farmers want to know why the Bt. Cotton brands are marketed as bringing higher yield.

Bt. Cotton is not an “improved” seed from the perspective of farmers who are getting into debt, or the perspective of quality of cotton fibre. Nor is it improved from the perspective of the goats and sheep which died after grazing on Bt. Cotton fields.

“Seed improvement” from nature’s perspective and the perspective of small farmers needs to conserve biodiversity, enhance resilience to climate change, improve nutrition, taste and quality of the food produced.

The Green Revolution has done the opposite. It has destroyed biodiversity and promoted monocultures. The first Green Revolution destroyed biodiverse farming systems and replaced them with monocultures of HYV rice and wheat in Asia. India had 200,000 rice varieties and 1500 wheat varieties before the Green Revolution. This rich biodiversity has been for ever lost. Pulses which provide protein for humans and free nitrogen to the soil disappeared. Oil seeds disappeared. Agro-forestry species were cut down to make way for tractors, leaving farms more vulnerable to draught. The Green Revolution package was built on the displacement of genetic diversity at two levels. Firstly, mixtures and rotation of diverse crops like wheat, maize, millets, pulses and oil seeds were replaced by monocultures of wheat and rice. Secondly, the introduced wheat and rice varieties reproduced over large scale as monocultures came from a very narrow genetic base, compared to the high genetic variability in the populations of traditional wheat or rice plants. When HYV seeds replace native copying systems diversity is lost irreversibly. The destruction of diversity and the creation of uniformity simultaneously involves the destruction of stability and the creation of vulnerability. The Second Green Revolution is further reducing biodiversity by focusing on four crops – Soya, Corn, Canola and Cotton and two traits based on herbicide resistant and Bt. Toxin genes.

The claims that without genetic engineering we will not be able to evolve draught tolerance varieties to deal with the impact of climate change is also false. Traits of draught tolerance, flood tolerance, salt tolerance have been evolved by farmers living in draught prone and cyclone / hurricane prone regions. Navdanya has started to save these crops and varieties in community seed banks to adapt to climate change. Biotech industry will merely pirate the genes, and patent them, denying farmers facing climate emergency, access to seeds (Navdanya, Genetic Engineering a Laggard Technology, 2005, New Delhi). In any case, both genetic engineering and Green Revolution are based on monoculture farming and monocultures are the least resilient in the context of climate change. We need to conserve, breed and cultivate diversity in times of climate chaos. Unfortunately, diversity has no place in the Green Revolution strategy.

In Appendix I attach the principles for breeding seeds for the future from the Manifesto on the Future of Seed of the International Commission on the Future of Food (Manifesto on the Future of Seed).

Chemical Fertilisers and the Chemical Tread Mill

The Green Revolution strategy is based on seeds adapted to chemical inputs, such as the high response varieties for chemical fertilizers or the GM herbicide resistant seeds which are tolerant to herbicide use.

This chemical intensive strategy is ecologically and economically non-sustainable. The use of chemical inputs needs to be constantly increased. And instead of giving more food, chemical fertilizers impoverish both the soil and the peasant.

After the wars, there was cheap and abundant fertilizer in the west, and American companies were anxious to ensure higher fertilizer consumption overseas to recoup their

investment. The fertilizer push was an important factor in the spread of the new seeds, because wherever the new seeds went, they opened up new markets for chemical fertilizers. In 1967, at a meeting in New Dehi, Borlaug was emphatic about the role of fertilizers in the new revolution. 'If I were a member of your parliament', he told the politicians and diplomats in the audience, 'I would leap from my seat ever fifteen minutes and yell at the top of my voice, "Fertilisers!...Give the farmers more fertilisers"'. There is no more vital message in India than this. Fertilisers will give India more food.'

In Punjab, which was the launching pad of India's Green Revolution, the use of fertilizer for rice cultivation increased from 84 Kg/ha in 1974 – 75 to 195.49 Kg / ha in 1996-97. The costs increased from Rs. 387.67/ha in 1974-75 to Rs. 1723.63/ha in 1996-97. Pesticide costs shot up from Rs. 0.31 in 1974-75 to Rs. 825.04 in 1996-97. In the case of wheat, fertilizer costs went up from Rs. 208.6/ha in 1970-71 to Rs. 2315.34/ha in 1997-98. Pesticide costs increased from Rs. 0.41/ha to Rs. 428.83/ha. This is a recipe for keeping small farmers and peasants locked in a chemical treadmill and a debt trap.

Crops fertilized chemically are also more prone to higher pest attack and disease vulnerability. Chemical fertilizers which are an essential part of the package of the new seed technology thus contribute to pest vulnerability by reducing resistant. The reduction in the genetic base from which the new varieties are developed also contributes to pest vulnerability, even when pest-resistance is part of the plant breeding strategy. Varieties may not be permanently resistant, because pests can change. A limited or even shrinking gene pool faces pests which continue to adapt through mutation, a process often increase by pesticide use. Pest resistance is an ecological state, not an engineered one. Pesticide breed more pests by destroying friendly insects that control pests and by contributing to emergence of resistance in pests. Chemically fertilized monocultures also increase the occurrence of weeds. Herbicides use to kill weeds create super weeds.

The reductionist strategy of the Green Revolution therefore requires even more dependence on chemical fertilizers, pesticides and herbicides. This serves the interests of the agri-chemical industry, which is also the seed industry. But it works against the land which becomes diseased, desertified, deficient of micronutrients while also getting poisoned. And it works against the peasants who get deeper into debt and poverty.

Promotion of chemical fertilizers in the context of climate change is also inappropriate. Industrial agriculture, with its chemical intensive and fossil fuel intensive inputs is responsible for large contributions of greenhouse gases. It is responsible for 25 percent of the world's carbon dioxide emissions, 60 percent of methane gas emissions and 80 percent of nitrous oxide, all powerful greenhouse gases.

Nitrous oxide is 200 times more potent than carbon dioxide as a greenhouse gas and is produced by the use of nitrogenous fertilizers. Around 70 million tones of nitrogen fertilizers are used in agriculture contributing to 22 million tones of annual nitrous oxide emissions.

Emissions of carbon from the burning of fossil fuels for agricultural purposes in England and Germany were as much as 0.046 and 0.053 tonnes per ha, while they are only

0.007 i.e roughly seven times lower in non-industrial agriculture. (Ref: Edward Goldsmith – *How to feed people under a regime of climate change*, Ecologist)

Atmospheric pollution due to greenhouse emissions is aggravated due to drought and floods. This climate instability is a threat to agriculture and food security. A shift to ecological agriculture and organic farming is therefore an ecological and economic security imperative.

The Real Green Revolution : Biodiverse Organic Farming

The seed / chemical package of the not-so-green revolution is justified on the basis of higher productivity and higher incomes, which in turn are supposed to reduce hunger and poverty.

However, both in terms of productivity and incomes, for the small peasant in Asia and Africa, costly non-renewable seeds and costly chemicals create a negative economy, with farmers spending more on inputs than they can earn from the produce. This is made worse by globalised free trade and dumping of subsidised products on markets of the South, which further lower prices, and rob farmers of incomes. Indebtedness and farmers suicides are rooted in this crisis of falling incomes due to rising costs and falling prices.

The solution to hunger and poverty is to increase food output per unit acre and reduce inputs. Biodiverse organic farming increase output per unit acre while reducing costs of inputs. Across Asia and Africa small organic farms based on biodiversity are producing more food than chemical monocultures.

Organic producers of wheat using native varieties are getting 6.2 tonnes per ha in Western U.P in India. Under all agro-climatic zones, biodiversity intensification increases output while reducing input costs.

Navdanya's member Rajender Singh of Village Pulinda in Uttaranchal is earning Rs. 90,000/- per ha growing diversity of 35 crops organically on his 0.5 bigha (1/10th of an acre) farm. Yogambar Singh is earning Rs. 69500/- per ha growing 13 crops. Chemicals are intolerant to diversity. They need monocultures.

In Uttaranchal, biodiverse farms give the farmers Rs. 24,000 per acre and yields of 14 quintal / acre. While monocultures give Rs. 6720 / acre and yields of 12 quintal / acre.

In Rajasthan, monoculture farms give 10 quintals / acre and Rs. 1805 as income while biodiverse give 11.9 quintal / acre and Rs. 5835 as income.

Biodiverse organic farming, based on indigenous crops, using participatory breeding, is the solution to hunger and poverty.

We need to promote biodiversity intensive agriculture, not chemically intensive agriculture as the Green Revolution model promotes. The Real Green Revolution based on biodiverse organic farming is already happening in the fields of farmers. These small-farmer centered, ecologically sustainable initiatives need scaling up to protect the environment, protect the land and livelihoods of small farmers, and produce more food.

Is the green revolution a solution to the challenges facing Africa?

Kenton Lobe

Canadian Foodgrains Bank

The interest of the Canadian Foodgrains Bank in this topic relates most particularly to Canadian foreign aid for agriculture and our work to ensure more AND better aid for small farmers in Africa. I will speak from that context.

I would like to open with a quote by Henry David Thoreau written towards the end of the 19th century. It reads:

When I see a man coming to my home to offer me help, I run out the back door, lest I get some of his "good" done to me!

The conversations about power and definitions of "the good" are at the centre of this quote, and of this gathering, I think. Power is of course about relationship, and it is this idea of relationship and power that I would like to bring to the conversation about a Green Revolution for Africa.

Is an African Green Revolution the solution to the challenges facing Africa? That is a big, and a loaded question... I will try to provide some context on current policy discourse around the African Green Revolution, where it is coming from as well explore some of its assumptions about soil fertility and small scale farmers in sub-Saharan Africa.

Asking a question about the challenges facing African agriculture is of course very tricky business. Close to 800 million people live in Africa. They represent over 1000 different cultural groups, speaking well over 2000 different languages. Approximately 75% of the population – some 490 million people – make their livelihoods farming and live in the rural areas. Farming is done primarily by women, and the large majority of farmers are subsistence-oriented in their production – growing food primarily for household consumption. As Dr. Tewolde helpfully pointed out this morning, there are at least 18 major farming systems that have emerged from the diversity of African agro-ecosystems, and within each system there is of course significant internal diversity. So, the first thing I would add to this conversation is that to speak of "Africa" or "African agriculture" as a single thing would seem to ignore the incredible social and ecological diversity of the continent and of the agricultural systems that have evolved there.

The challenge of hunger and the ability of people to feed themselves is closely related to both the quantity and quality of support for agriculture from the donor community – both are part of the current hype around a Green Revolution for Africa.

The 2005 Millennium Report highlights the lack of progress in achieving the Millennium Development Goals (MDGs) in sub-Saharan Africa (SSA). The first of the MDGs, to halve poverty and hunger by 2015 warrants particular attention - as the number

of hungry people in SSA is in fact on the rise. With so many of Africa's people dependent on the land and the soil for their livelihoods, the importance of agriculture in addressing hunger would seem a foregone conclusion. However, while growing food is one of the key livelihood strategies at the local level, small-scale agriculture has been strangely absent from the international policy agenda for almost two decades now.

Until recently, the push for more and better international support for small-scale agriculture came largely from civil society and farmers' organizations. But a growing chorus of supporters for African agriculture is now emerging in cities like Abuja, Rome and New York, and from institutions like the Rockefeller Foundation, the World Bank, the New Partnership for Africa's Development (NEPAD) and the Food and Agriculture Organization (FAO). Individuals like Bill Gates and Jeffrey Sachs are talking about the critical role small-scale agriculture must play in addressing food insecurity in sub-Saharan Africa. They, and others, are talking about a new Green Revolution for Africa – a radical change – highlighting the role of “improved” seeds and inorganic fertilizers as keys to unlocking the productive capacity of African agriculture.

So, after almost two decades of structural adjustment programs that cannibalized national level support for agriculture and for farmers (another idea from outside of Africa), it would seem that small scale agriculture is back on the agenda. The money is ready to flow from the Gates and Rockefeller foundation, from Google, Syngenta and other philanthropic donors. One can be sure that small-scale farmers, civil society and farmer's organizations are encouraged by this renewed attention. But as the momentum builds, it seems an appropriate time to ask: For whom, and by whom, is the revolution being planned? What type of agriculture is being advocated? What have we learned from the past?

What have we learned?

Let's start with the last, first; what have we learned from the past? As Dr Shiva has reminded us, the first Green Revolution was far from the panacea to global poverty and hunger. Initiated in the 1960s utilizing a top-down, transfer of technology approach to agricultural development, the Green Revolution kept food production in step with population growth in south Asia through the introduction of high external input farming. Through a variety of mechanisms, farmers were provided with a “package of inputs” – inorganic fertilizers, improved seeds, and agricultural chemicals – intended to facilitate the structural transformation of agriculture and fuel economic growth – two very specific goals. While food production and GDP did increase dramatically, many argue that the poorest of the poor fell between the cracks of this blueprint plan and that the model continues to have significant negative consequences for class, gender and local agroecosystems – this to say nothing of actual hunger. While the percentage of people who are food insecure has declined, the FAO's 2006 State of World Food Security suggests that, some 30 years after the Green Revolution, India continues to have a greater number of people who are food insecure than all of Africa combined – some 212 million people. In addition to this

question around social equity and distribution arising from the first round of technical fixes, further consequences are illustrated in a recent New York Times article documenting the dramatic rise in farmer suicides in India - one of the hotbeds of the green revolution. In this story, the “package of inputs” model of agriculture left many farmers in a situation of unbearable debt, dependent on costly inputs to secure a livelihood from the land.

This points to our second question – what type of agriculture is on order for Africa? This is a particularly relevant question as crop yields from the first Green Revolution now begin to slow, and as the social and ecological costs become more apparent. Are we heading down the same road of a technical fix for the complex agricultural realities of Africa?

The “package of inputs” approach has emerged as the option of choice to “kick-start” agricultural production in Africa. Advocates for an African Green Revolution argue that declining soil fertility is one of the roots of stagnating agricultural production on the continent. In 2005, the Millennium Project Report identified the need for a massive replenishment of soil nutrients for smallholder farmers on lands with nutrient depleted soils. It argued that this should be accomplished through free or subsidized distribution of chemical fertilizers by the end of 2006 as one of the “Quick Wins” in the efforts to eradicate extreme poverty and hunger.

The fertilizer summit

The Africa Fertilizer Summit held in Abuja, Nigeria in June of last year, was meant to determine the practical steps needed to overcome the barriers to greater fertilizer use in Africa. Sponsored by national and international donors, and attended by many African leaders, the summit was hosted by the International Fertilizer Development Center (IFDC), an NGO based in Alabama, that receives considerable funding from both the energy and agricultural inputs sector and which has produced much of the research around soil fertility in Africa. You will of course remember that the Haber Bosch process, which allows the fixing of nitrogen from the atmosphere, is heavily dependent on the use of fossil fuels. As the price of these fuels increase, so do the costs of fertilizer. This is to say nothing of the environmental impacts of the mining, processing and transportation of potassium and phosphorous. The Rockefeller Foundation was also in attendance at the Fertilizer Summit and was quoted as saying that “fertilizers represent the golden bullet for African agriculture”.

Ndiougou Fall, head of the largest farmers organization in West Africa attended the fertilizer summit and had this to say:

Although we acknowledge that this is a fertilizer summit, we do feel that the focus of the summit should be more on soil fertility management, combining both organic and chemical fertilizers to achieve agricultural intensification to assure the livelihoods of the farmers of today and future generations and to protect the environment.

[W]e think that an appeal for an African Green Revolution is not right; a series of 'rainbow evolutions' are needed, adapted to the circumstances of various regions of Africa and the farmers of Africa.

For someone from the historical peace church tradition, the language of bullets and revolution is more than a little disconcerting. Rainbow evolution seems like a much more constructive use of language and metaphor that builds upon the rich diversity of African people and their particular places. So, while agriculture is of course dependent upon the land, and upon the health of the soil, there is considerable debate on the actual soil fertility “crisis” in Africa and the potential approaches to resolving it. Researchers from the International Institute for Environment and Development and the Institute for Development Studies at Sussex suggest that current discussions about declining soil fertility in Africa have been heavily influenced by a series of nutrient balance studies conducted in the early 1990s. Calculated throughout Africa at the country and continental levels, these studies were widely quoted in policy circles during the 1990s to support claims that soils are deteriorating at alarming rates and threatening the livelihoods of African farmers. These studies are in turn being used to provide a strong rationale to increase the use of external inputs – inorganic fertilizer being at the top of the list of the Green Revolutionaries.

Millennium Villages

I have just returned from Ethiopia, and can tell you that the revolution is well under way there already. Jeffrey Sachs' Millennium Villages have taken on the seed and fertilizer package approach across Africa in 14 different countries. During a recent visit to one of his “model” Millennium Villages in northern Ethiopia, I had the chance to talk with the project coordinators and hear how they were addressing soil fertility in Koraro. Farmers in the millennium village received free fertilizer for their fields during year one, while in year two, required farmers to pay 50 BR of the total market price of 375BR for the fertilizer. In this, the third year of the project, farmers will pay 100 BR of the market price, which has now risen to 480 BR, and so on until year 5 when the farmers will pay the entire price of the fertilizer as the project phases out. Project staff were quick to add that the fertilizer has greatly increased yields, and that as part of the “project” farmers are required to donate 10% of this harvest towards local school feeding programs. They also indicated that the past two years had been excellent rainfall, but that drier years would present significant challenges to their approach. When asked how many of the resource poor farmers would stick with the fertilizer when it was costing them full price; staff indicated that this was also the question that regional government officials had asked them and it was clear that there was ongoing discussion even within the project.

Soil fertility

Of course, the fertilizer package approach has a long history in Ethiopia, particularly linked to Sasakawa Global 2000 – a partnership that brings Japanese philanthropist

Sasakawa together with former US president Jimmy Carter in an attempt to drastically increase fertilizer use on the continent. However in Ethiopia, the dominant memory of SG 2000 is more often than not linked to the news stories of farmers who were thrown in jail during the late 90s when they were unable to pay the debts they had taken on to purchase fertilizer as a part of SG 2000s work. Interestingly, since their inception in 1993, SG2000 grew to work in 14 countries, but has more recently been scaled back to only 4. In Ethiopia, it is clear that the “golden bullet” approach has left many running for cover and asking the question of how resource poor farmers will afford the rising cost of fertilizer.

In contrast to the narrative of scarcity derived from the now iconic nutrient balance studies by Stoorgveld and Smaling in 1990, field level studies and project experience from across Africa demonstrate that, while there are indeed issues of soil degradation in many parts of the continent, the issue of soil fertility is far more complex, diverse and site specific than the nutrient balance studies and proposed fertilizer solution recognize. The analysis illustrates that soil fertility is indeed about nutrient balances – flows of nitrogen, phosphorous and potassium - but also includes the nuanced understandings built upon farmer’s knowledge of their land and other important aspects of the soil complex, such as soil erosion, maintaining organic matter content, soil structure and soil life.

Complexity and diversity

A couple of stories to illustrate some of this complexity that emerges when we explore the diversity of people and place.

You are lucky today to have had the opportunity to hear from Dr Tewelde from Ethiopia. His pioneering work with the Institute for Sustainable Development and with the Ethiopian Bureau of Agriculture and Rural Development addresses the challenge of soil fertility using agro-ecological approaches illustrating the ability of compost and soil management to increase the fertility of Ethiopian soils without the use of fertilizer. On this recent visit to Northern Ethiopia, I had the opportunity to talk with farmers who have benefited from the work at the village level. One farmer highlighted the importance of interventions beginning from the farm level. In his case, there was a problem of soil erosion. From his perspective, the radical change was the construction of physical and biological terraces that stopped the drastic erosion of his soils. Around the edge of his newly reclaimed field, he has planted sesbania trees that fix nitrogen in his soil. He has begun keeping his livestock in one place and carrying feed to them. This allows for a natural collection point for manure and other plant material that he uses in his 3 compost piles and keeps the animals from freely grazing on new growth and biomass. Through the close relationship with the woreda level extension agents, he has eliminated the need for fertilizer on his fields and greatly increased his capacity to make compost from the biomass found on his own farm. When asked, he said, “Why would I work off my farm for 30 days to make enough money to purchase fertilizer, when 3 days work and a re-thinking my farm system allows me a great increase in my harvest from my work at making compost.” Third World Network and ISD have documented the increase in yields of both grain and

straw that have resulted from the use of compost. Over a six year study, they have shown that yields from compost use surpass that of fields with fertilizer. Local solutions to local problems... I encourage you to read these reports.

A second story to illustrate the complexity of work on soil fertility: At an old mission hospital in northern Malawi, farmers and researchers have been working together for 7 years to identify and implement a wide range of agro-ecological approaches to deal with low levels of soil fertility at the household and farm site with considerable success. In seven years, they have moved from 30 to 3000 farmers and the project is now driven by farmers who volunteer their time to undertake research on both nutrition and soil fertility. The project works from an ecosystem health perspective, which includes a specific focus on child nutrition. With many of the children in the under 5 age group suffering from anemia and malnutrition, a key point of engagement has been with women in the community who carry the burden for child nutrition. Together, farmers and researchers identified a basket of options including using rotations of ground nuts, soy beans, pigeon peas velvet beans and other edible legumes intercropped with their maize. Farmer research teams at the village and regional level have come together to assess combinations of rotations and their impact on the maize crop and on soil fertility. These legume rotations serve the dual purpose of providing additional food for the home as well as fixing nitrogen in the soil and slowly accessing phosphate from soil into the maize rotations. Agriculture and nutrition discussion groups have formed that talk about seed storage, processing of the beans for household food consumption. Sociologists working with the International Development Research Center are partnering with soil scientists from Bunda College at the University of Malawi to assess the impacts of 6 years of legume intercropping on their fields. Of course if you ask farmers and their research teams, they have long ago answered the question. They talk about soil texture improving, darker green leaves and stronger maize crops, about increased yields and about having enough food for household consumption and to sell to local markets.

When asked about the recently announced subsidies for fertilizer announced by the government, they smile and say that they will continue with their seed saving of legumes, and the cooperation that has emerged from the farmer research teams rather than depend on political solutions that they have often seen change over time. Macy Gumbo, a widow with seven children to care for says that it is cheaper today, but what about tomorrow? The government can change and the subsidy may go. She is balancing risk, deciding on legumes to avert some potential risk from fertilizer dependency.

Lizzie Shumba, who heads the project work at the hospital, says that the radical change in their project was the inclusion of child nutrition in the scope of their work. This broadening of the project from a narrow focus on soil has allowed for conversations between mothers in law and daughters about child feeding practices, between men and women about workloads on the farm. Staff reminded me that a simple increase in food production at the household level does not always translate into reduced hunger and malnutrition. These are social questions that must be addressed at the household level.

Local knowledge ignored

And so, the question remains - Is the issue of lagging food production in Africa to be solved with a simple “package of inputs” approach with fertilizers and hybrid or transgenic seeds leading the way, or does this once again mask a more complex reality. Critics of the technical fixes that are so often prescribed from outside, suggest that local knowledge used by African farmers to address issues of soil fertility has been largely ignored in the push towards input intensive agriculture. The results of the knowledge and practice emerging from careful field level analysis in places like Ekwendeni, are noticeably missing in much of the current policy discussions and prescriptions.

Platforms for learning and innovation that respect local knowledge are critical as they do not assume homogeneity and simple solutions to very complex, and local realities. They build relationship. Gordon Conway, past president of the Rockefeller Foundation (a champion of the first green revolution) has argued that a “doubly Green Revolution” for Africa must reverse the approach that starts with market-based inputs and technology, and then looks at how the benefits can be transferred to those in need. He argues that the real revolution – the radical shift - must be the point of embarkation. It must start with the small farmers of Africa and put them center-stage. In this kind of revolution the package of inputs required is not distributed through agro-dealers and the market, but through agricultural development that encourages adaptive capacity and which creates real opportunities for dialogue - space where farmers, agricultural extensionists and researchers can learn and act together. That would be a radical change...

Perhaps the most important thing the donor community (governments and philanthropic organizations alike) can do at this moment in time is to learn what it means to approach the front door as guests. Beginning with questions of how we can help rather than with “golden bullet” answers may be an important first step of a revolution in agricultural aid for small scale farmers in Africa.

The New Green Revolution in Africa: Trojan Horse for GMOs?

Mariam Mayet

African Centre for Biosafety

INTRODUCTION

After more than 10 years of genetically modified (GM) crop plants being grown in the world, only South Africa out of 53 countries on the African continent have commercial plantings of genetically modified organisms (GMOs). 9 countries, Burkina Faso; Egypt; Kenya; Morocco; Senegal; South Africa; Tanzania; Zambia; Zimbabwe have reported field trials of GMOs, while Uganda recently announced that field trials involving GM sweet bananas would commence during May 2007.¹ 20 African countries (Benin; Burkina Faso; Cameroon; Egypt; Ghana; Kenya; Malawi; Mali; Mauritius; Morocco; Namibia; Niger; Nigeria; Senegal; South Africa; Tanzania; Tunisia; Uganda; Zambia; Zimbabwe) are engaged in GMO research and development. At least 24 countries (Algeria; Benin; Botswana; Burkina Faso; Cameroon; Egypt; Ethiopia; Ghana; Kenya; Madagascar; Malawi; Mali; Mauritius; Morocco; Namibia; Niger; Nigeria; Senegal; South Africa; Tanzania; Tunisia; Uganda; Zambia; Zimbabwe) have the capacity and institutions to conduct research and development into agricultural biotechnology.

In the last five years, a multitude of genetic engineering and biosafety projects have been initiated in Africa, with the aim of introducing GMOs into Africa's agricultural systems. These include sponsorships offered by the US government to train African scientists in genetic engineering in the US², biosafety projects funded by the United States Agency for International Development (USAID)³ and the World Bank⁴, transgenic research involving African indigenous food crops funded by foreign governments⁵, public-private partnerships set up to disseminate agricultural technologies in Africa⁶ and political regional initiatives to harmonize legal and institutional frameworks in order to expedite the introduction of GM based agriculture.⁷

Contemporaneously, there has been unprecedented interest by a large and diverse number of role players, involved in uplifting Africa out of its poverty, with the objective of integrating it into the world market economy. These interests have converged on a common solution: the 'New Green Revolution for Africa.' Central to the new Green Revolution for Africa push is US based philanthropic organization, the Rockefeller Foundation. The Rockefeller Foundation has a history of supporting a range of projects in Africa to introduce GMOs into the fields and agricultural systems of Africa,⁸ and backing research that supports the suitability and applicability of GM cotton in the Makhathini Flats in South Africa,⁹ where small- holder black farmers grow GM cotton commercially.

However, the Rockefeller Foundation is not alone in having a double agenda in Africa, as there are a number of players who are involved in the New Green Revolution for Africa project, that are also intimately connected with the GM industry.

Monsanto, who has a strong foothold in South Africa's seed industry, both GM and hybrid, has conceived of a ingenious smallholders' programme known as the 'Seeds of Hope Campaign', which first introduces a green revolution type package to small scale poor farmers, followed by GM seeds.¹⁰

The question has to be asked: will the new Green Revolution for Africa imitate Monsanto's Seeds of Hope Campaign—by first introducing a Green Revolution type package as a dry run and precursor to the introduction of GMOs in Africa? Will the New Green Revolution provide the impetus to finally break South Africa's isolation as the only country in Africa that allows the growing of GM seeds? If so, this will have far-reaching consequences for Africa, as Monsanto's Bt cotton project in the Makhathini Flats in South Africa has illustrated.

The New Green Revolution for Africa

The term "green revolution" was coined in 1968 by then Director of the United States Agency for International Development (USAID) to describe the so called 'success' in India and Southeast Asia of an agricultural model that increased crop production in wheat, maize and rice.¹¹ The essential features of that model comprised of a technology package involving the use of external inputs such as inorganic fertilizers, herbicides, pesticides, laboratory developed hybrid seeds, mechanisation and extensive irrigation projects. The Rockefeller Foundation played a crucial role in promoting this technology package, which also formed the basis of agriculture development aid and assistance at that time. Despite the devastating ecological, social and economic consequences that it brought in its wake,¹² the Asian Green Revolution is widely celebrated by its promoters as having brought sufficient and affordable food to the world's poor.

Africa's new Green Revolution is the brainchild of Gordon Conway, a world-renowned agricultural ecologist and former president of the Rockefeller Foundation.¹³ There is a veritable smorgasbord of players involved in exporting and promoting various versions of Conway's Green Revolution, including for example, political regional actors such as the New Partnership for Africa's Development (NEPAD).¹⁴

The Rockefeller Foundation prescribes a fundamental transformation of Africa's agricultural economy, premised on a brutal departure from the use of traditional seeds and local knowledge and exchange systems.¹⁵ Drawing heavily on Conway, the Foundation recommends the application of modern laboratory made seeds and inorganic fertilizers as being key to Africa's agricultural development and food security. These prescriptions are principally based on the 'old' Asian model of adopting high-yielding agricultural techniques. However, the Rockefeller Foundation also promotes the production of crops that are drought tolerant and resistant to pests and diseases, and which provides greater nutritional value.¹⁶

The Foundation also supports the use of GM seeds, both as a means to increasing crop yields and representing a 'greener' revolution that is less dependent on chemical inputs. The promotion of GM seeds and crops is thus an integral part of the new Green Revolution project. The emphasis of Africa's Green Revolution on avoiding the shortcomings wrought by the use of agricultural chemicals by the Asian Green Revolution makes the role of GM seeds crucial ingredient in the project.

ALLIANCE FOR A GREEN REVOLUTION IN AFRICA

On the 12 September 2006, the Rockefeller and the Bill & Melinda Gates Foundations launched a new partnership which they named *Alliance for a Green Revolution in Africa* (AGRA). AGRA has committed an initial \$150 million to enable the transfer of a technology package featuring improved hybrid seeds, inorganic fertilizers, water management and extension services to Africa. AGRA's goal is to develop 100 new varieties in 5 years focusing on at least 10 different staple crops, including maize, cassava, sorghum, and millet. Although AGRA does not on the face of it promote the use of GM technologies, 70 organisations from 12 African countries see AGRA as shifting African agriculture to a system dependent on expensive, harmful chemicals, monocultures of hybrid seeds, and ultimately GMOs.¹⁷ These groups argue that the Green Revolution under the guise of solving hunger in Africa is nothing more than a push for parasitic corporate-controlled chemical system of agriculture that will feed on Africa's rich biodiversity.

It has not gone unnoticed that AGRA falls under the direct supervision of the Global Development Program, whose senior programme officer is Dr. Robert Horsch, who worked for Monsanto for 25 years before he joined the Gates Foundation. Horsch was part of the scientific team in the company that developed Monsanto's *YieldGard*, *BollGard* and *RoundUp Ready* technologies.¹⁸ Horsch's task at the Gates Foundation is to apply biotechnology toward improving crop yields in regions including sub-Saharan Africa.¹⁹ Lutz Goedde another senior program officer of the Global Development Program, is also a recruit from the biotech industry as he used to head Alta Genetics, the world's largest privately owned cattle genetics improvement and artificial insemination Company, worth US\$100 million.²⁰

AGRA's programmes are administered through the 'Programs for a Green Revolution in Africa' (ProGRA), which has an initial annual grant flow of around \$30 million for selected countries in East, Southern and West Africa. The officers of AGRA and ProGRA will initially be key senior staff from the Rockefeller Foundation where they will be based in Nairobi, Kenya.

The first major initiative of ProGRA is the Program for Africa's Seed System (PASS), intended to operate in 20 African countries. PASS is embodied by five projects costing \$150 million over five years, (\$ 50 million coming from the Rockefeller Foundation's

contribution and the \$100 million from the Gates Foundation). PASS will focus primarily on improvement and distribution of crop varieties; training of a new generation of plant breeders; seed distribution through seed companies, public community seed systems and public extension; and provision of credit and training for small 'middle men' agro-dealers for distribution of seeds, chemicals and fertilizers (The Agro-Dealer Development Program).

MONSANTO'S SEED OF HOPE CAMPAIGN²¹

The aims of the new Green Revolution for Africa are eerily similar to Monsanto's Seeds of hope campaign. During the 1990s, Monsanto introduced 'Combi-Packs' - boxes of materials designed specifically for smallholder farmers, having access to anything from ¼-5 hectares of land in the Eastern Cape, one of South Africa's poorest provinces. The boxes contain a package of hybrid maize seed, some fertilizer, some herbicide, and pictogram instructions for illiterate users.²² The Combi Pack claims to increase the yield of maize crops and to be less labour intensive than conventional farming. These 'productivity gains' are said to give farmers extra time and, in some cases, extra income for other entrepreneurial activities.²³

Another important component of the Seed of Hope Campaign is the promotion of 'no or low till farming.' This is meant to be a minimally invasive conservation farming technique, in that farmers do not plow or till the land. Instead, they cut small furrows for the seeds.²⁴ This farming practice entails negligible soil disturbance, maintenance of a permanent vegetative soil cover, direct sowing, and sound crop rotation.²⁵ It is particularly beneficial for smallholder farmers, because there is no need to use a tractor, a major cost saving.²⁶ However, using this technique requires the increased use of herbicides, since weeds are not removed by tilling the land, and Monsanto is therefore a fervent supporter of this technique. This is so despite several studies have shown that Monsanto's Roundup herbicide is a threat to human health; not only a hormone-disruptor, but is also associated with birth defects in humans.²⁷

In most areas, these packs were sold through private agents. Following on from this, Monsanto introduced its patented GM maize varieties, Roundup Ready (herbicide tolerant) and Bt (insect resistant) maize seeds.²⁸ Monsanto was also extremely astute in ensuring that massive public funds were allocated to subsidise the purchase of expensive hybrid and GM seeds, herbicides and fertilizers.

It is important to note that the price for a Combi-Pack with conventional seed is R232, the Roundup Ready GM maize seed is R343, and the GM Bt variety, R328, whereas the estimated income of farmers in the Eastern Cape areas is often no more than R1000 a month.²⁹ Clearly, GM technology is not affordable by resource poor farmers, and the withdrawal of substantial state support will leave these farmers out in the cold.

GM COTTON IN THE MAKHATHINI FLATS: EXACERBATING A FLAWED DEVELOPMENT PARADIGM

Poor black farmers who have been growing GM Cotton in the Makhathini Flats in South Africa since the late 1990s have become pawns in the 'numbers games' as to whether or not *Bt* cotton results in increases in yields and savings on pesticide use. The GM machinery, ably assisted by the South African government has peddled the experience of these farmers as a success story, worthy of imitation on the continent. However, beneath the hype lies a tragic tale of oppression and vulnerability, which the introduction of *Bt* cotton has further exacerbated.^{30 31}

The Makhathini farmers have historically been locked into a system of cotton growing due to a range of economic, political and social forces that resulted in chronic indebtedness.³² Despite cotton growing sliding into sharp decline in the last decade in South Africa,³³ the government and a range of corporate agribusiness actors particularly Monsanto, lured the Makhathini farmers into adopting *Bt* cotton. This they did by *inter alia*, providing free production packages, including *Bt* cottonseeds, duly subsidized with public funds. Research indicates that to date, the South African government has subsidised the Monsanto driven *Bt* cotton 'success' story with a staggering sum of R30 million from state coffers.³⁴ Nevertheless, since the arrival of *Bt* cotton in the Makhathini Flats in 1998 and until 2004 the cumulative arrears of farmers to the Land Bank have amounted to a whopping R22,748,147.55!³⁵ Many reasons may be proffered to explain away the abject failure of the GM project in the Makhathini Flats,³⁶ however, the central critique must concern itself with the inappropriateness of a development paradigm that seeks to introduce technological solutions to deeply rooted systemic socio-economic problems. Attempts at replicating the Makhathini Flats experience in the rest of Africa, which itself has been caught up in an endless cycle of debt, will undoubtedly yield similar results.

CONCLUSION

Sub-Saharan Africa represents an extremely lucrative market for seed companies. The development interventions by AGRA appear on the face of it, to benevolent. However, not only will AGRA facilitate the change to a market based agricultural sector in Africa replacing traditional agriculture, but it will also go a long way towards laying the groundwork for the entry of private fertilizer and agrochemical companies and seed companies, and more particularly, GM seed companies.

Hybrid and GM technologies have been designed for large-scale intensive monoculture production, while most arable land in various African countries is generally unsuitable for this. Using new technologies such as hybrid and GM seeds in African regions may not dramatically improve farmers' yield compared to that received from farming with traditional, open pollinated varieties. In addition, in comparison to using open pollinated seeds, which are often saved by the farmers themselves, hybrid and GM seeds are expensive inputs, which need to be bought every planting season.

Furthermore, with farmers changing to hybrid and ultimately GM seeds, the

availability of saved seeds declines, leaving the farmers no opportunity to go back to their conventional way of farming. A scarcity of open pollinated seeds among smallholder farmers will have catastrophic consequences on agricultural biodiversity in Africa.

As the Makhathini GM cotton project shows, technological fixes such as improved seeds, pesticides, herbicides, inorganic artificial and GM crops merely serve as 'stop-gap' measures that deflect attention away from the structural problems facing small scale farmers. The Green and Gene revolutions are nothing more than red herrings to avoid sustainable development interventions that address historical inequalities and give farmers real choices within an ecologically sustainable framework built on people centred and traditional and cultural value systems.

ENNOTES

1 **Uganda: Researchers Put GM Sweet Banana on Trial in Uganda This Month**

Esther Nakkazi Nairobi The East African (Nairobi), 15 May 2007 <http://allafrica.com/stories/200705150771.html>

2 US Secretary for Agriculture Ann Veneman, Keynote Address at the 7th Annual African Trade and Investment Symposium, 16 Sept 2004 (<http://japan.usembassy.gov/e/p/tp-20040921-03.html>)

3 See for example, Mariam Mayet *Africa the New Frontier for the GM Industry*, July 2004 <http://www.gmwatch.org/archive2.asp?arcid=4023>; and GRAIN 'USAID: Making the World Hungry for GM Crops' (Elsies River: Fingerprint Co-op, April 2005)

4 *Groups in Africa, Latin America condemn World Bank Biosafety Projects* GRAIN, African Centre for Biosafety, ETC Group, 26 June 2006

5 For instance, BIO-EARN, which is a programme designed to build policy and research capacity in agricultural biotechnology in Kenya, Uganda, Ethiopia and Tanzania, funded by the Swedish Development Agency (SIDA) with policy development funded by IBS/International Service for National Agricultural Research (ISNAR). BIO-EARN (<http://www.bio-earn.org/biotech/biotech.htm>)

6 The African Agricultural Technology Foundation (AATF) is a public-private partnership based in Kenya, with the purpose of developing agricultural biotechnology, including GM technology, in Africa. AATF received start-up funds from USAID, the Rockefeller Foundation and the United Kingdom's Department for International Development (DFID), as well as Monsanto, Dupont, Dow and Syngenta GM Watch, 26 June 2004 (<http://www.gmwatch.org/p1temp.asp?pid=37&page=1>). In 2004 the AATF signed a memorandum of understanding with the United States Department of Agriculture (USDA) to share and disseminate agricultural technologies. Focal areas include development of insect resistant maize, pro-vitamin A enhancement in maize and rice, and cowpea production. East African Standard 17 June 2004 (<http://allafrica.com/stories/200406160970.html>)

7 "Civil Society Rejects Ecowas Action Plan For Biotechnology, Biosafety" Resolution adopted at the end of one -day conference on GMOs and ECOWAS held in Accra, Ghana on March 29, 2007.

8 The Rockefeller Foundation is *inter alia*, backing a GM sorghum project that has not been given approval in South Africa, it funded a failed GM sweet potato project in Kenya and is a staunch supporter of the African Agriculture Technology Foundation (AATF), whose function it is to

expedite GM technology transfer in Africa, see note 6.

9 Harald Witt, Cotton: "Still the mother of poverty?" 2007, Centre for Civil Society, UKZN (forthcoming).

10 Enterprise Africa, 'Policy comment no. 6: Seeds of Hope: Agricultural Technologies and Poverty Alleviation in Rural South Africa,' http://www.enterprise-africa.org/Publications/pubID.2774/pub_detail.asp (8 September 2006).

11 http://en.wikipedia.org/wiki/Green_Revolution

12 For a insightful critique of the Green Revolution see Vandana Shiva 'Science and Politics in the Green Revolution' *The Violence of the Green Revolution* London: Zed Books, 1991.

13 Gordon Conway, *Doubly Green Revolution: Food for All in 21st Century*. See also, Neth Daño *The New Green Revolution in Africa: Motives, Players and Dynamics*, African Centre for Biosafety and Third World Network 2007 (forthcoming).

14 The important elements of the new Green Revolution in Africa can be gleaned from the details of NEPAD's CAADP: Agricultural development using improved technologies and relying on heavy infrastructures, and market-oriented agricultural production are explicitly stated in the documents although the promotion of modern agricultural inputs are dealt with in a much more subtle manner.

15 Lisa Harris, "Rockefeller Foundation president says biotech is key to easing hunger", Cornell Chronicle, 11 October 2001 www.news.cornell.edu/Chronicle/01/10.11.01/Conway_on_biotech.html

16 Gordon Conway, Genetically Engineered Crops: Who Benefits.

17 Africa's Wealth of Seed Diversity and Farmer Knowledge -Under threat from the Gates/Rockefeller "Green Revolution" initiative Statement from African civil society organisations at the World Social Forum 2007 Nairobi, Kenya 25 January 2007

18 http://commdocs.house.gov/committees/science/hsy87547.000/hsy87547_0.HTM

19 Kristi Heim, "Want to Work for the Gates Foundation", Seattle Times, 17 October 2006, <http://archives.seattletimes.nwsourc.com/cgi-bin/texis.cgi/web/vortex/display?slug=gateshire.s17&date=20061017>

20 <http://press.arrivenet.com/business/article.php/579878.html>

21 We have drawn considerably from the briefing paper produced by the African Centre for Biosafety titled Monsanto's Seed of Hope Campaign in South Africa, January 2007 www.biosafetyafrica.net

22 Karol Boudreaux, *Seeds of Hope: agricultural technologies and poverty alleviation in rural South Africa. Mercatus policy series. Policy comment no. 6.* (August 2006) 1.

23 Boudreaux, *Seeds of Hope*, 2.

24 Ibid. 2.

25 Ibid. 11.

26 Ibid.

- 27 Organic Consumers Association, 'Monsanto's Roundup Herbicide Threatens human health,' <http://www.organicconsumers.org/Monsanto/roundup92502.cfm> (September 2002).
- 28 Personal communication, E.G. Davie, Free Market Foundation, 26 January 2007.; the commercial use of Roundup ready seeds only took place in 2003, see: African Centre of Biosafety, *A profile of Monsanto in South Africa* (April 2005) 13.
- 29 Boudreaux, *Seeds of Hope*, 14. ; In O.R. Tambo municipality, 67.6% of the population earn between 0-R500 a month, while 88% earns between 0 -R1500 a month; in Chris Hani District 59% earns between 0-R500 a month, while 85% between 0 -R1500 a month; in Amathole District, 51% earn between 0-R500 per month, while 77.1% earns between 0-R1500 a month. See: Eastern Cape Department of Social Development, *Socio-Economic & Demographic Profile: O.R. Tambo District Municipality*, Eastern Cape Department of Social Development, *Socio-Economic & Demographic Profile: Chris Hani District*, http://www.socdev.ecprov.gov.za/statistics/demographics/chris-hani_area_info.htm (visited at 30 January 2007); Eastern Cape Department of Social Development, *Socio-Economic & Demographic Profile: Amathole District*, http://www.socdev.ecprov.gov.za/statistics/demographics/amathole_area_info.htm (visited at 30 January 2007).
- 30 Elfrieda Pschorn-Strauss 'Bt Cotton in South Africa: the Case of the Makhathini Farmers' (2005) *Seedling*.
- 31 Harald Witt, Rajeev Patel and Matthew Schnurr "Can the Poor Help GM Crops? Technology, Representation and Cotton in the Makhathini Flats, South Africa" (2006) *ROAPE* 109, 497-513.
- 32 Harald Witt, Rajeev Patel and Matthew Schnurr "Can the Poor Help GM Crops? Technology, Representation and Cotton in the Makhathini Flats, South Africa" (2006) *ROAPE* 109, 497-513.
- 33 By the 1990-91 growing season, the area under cotton had halved (91 000 ha) and although the area under cotton increased slightly in the immediate period (1998-99) after the introduction of GE cotton (99 000 ha) it has continued its downward slide ever since. According to Cotton South Africa the expected number of ha under cotton for the 2006-07 season is 19 114 ha Cotton SA http://www.cottonsa.org.za/reports_tables.aspx?tableID=4
- 34 Harald Witt, Cotton: "Still the mother of poverty?" 2007, Centre for Civil Society, UKZN (forthcoming).
- 35 Land Bank Figures as captured in Harald Witt, Rajeev Patel and Matthew Schnurr "Can the Poor Help GM Crops? Technology, Representation and Cotton in the Makhathini Flats, South Africa" (2006) *ROAPE* 109, 497-513.
- 36 M. Gouse, J. Kirsten, B. Shankar, C. Thirtle, 'Bt Cotton in KwaZulu Natal: Technological Triumph but Institutional Failure' AgBiotechNet, 2005. www.grain.org

Political Framework for Food Security and Sustainable Agriculture – What is needed?

Makanjuola Olaseinde Arigbede.

National Coordinator, United small & Medium scale Farmers' Associations of Nigeria, USMEFAN

It goes without saying that every activity or process that takes place in a society or among various human agglomerations, does so within a specific political framework — the framework or power relations that permits such activity to proceed with the minimal disruption. Every nation today is necessarily composed of competing interests, which competition calls for resolution in line with the continuing integrity of the country. Despite the great advances made by humanity on the basis of its enlarged central nervous apparatus, its achievements in the realm of self-management — with equity, justice and fairness — have been rather dismal. Almost without any serious exception, societies of humans have governed themselves in favour of the powerful, the ruthless, the culturally insensitive, and the spiritually callow. The value-conscious and God-fearing, as well as the initially disadvantaged (called the lower classes or even *déclassé*) have tended to be dominated and, in most cases, abused by the powerful, all in the name of governance, no matter what appellation has been given to such constructs. A truly Machiavellian triumph! Quite often too, the social class or category that holds the dominant power in societies easily forgets that, only painstaking and the fairest negotiations with the other categories, can assure sustainable 'leadership' for the power holder. Any stance short of this must, without a doubt, lead to the mutual annihilation of the categories in competition and the paralysis of the society itself. All human societies have been cleft in two, right from top to bottom and all currently ruling class/es must take this into account as it/they take advantage of their domination of society.

The guaranteeing of food security to the members of any nation, is one of the activities which must take place in society and on which a great deal of care and attention must be expended if political peace is to reign in such social settings. Hence, it is quite apposite for the organisers of this conference to call attention to the issue of "... just what the political framework should be in order for food security to be assured the largest proportion of the citizens who make up the nation." It is also important for the conference to give detailed consideration to what the political framework should be in order that the nations of the world, which come together in various global governance, trading, or cultural institutions, do so in a manner that guarantees each of them untrammelled food security. Since what we shall later define as Sustainable Agriculture (SA) is not the dominant option that human beings have elected to use for producing this all-important food, being presently superseded by the Industrial Agricultural (IA) option, the same issue

of 'power' comes up for consideration. The adherents and beneficiaries of the presently dominant option who are also the economically and politically powerful players in the field, have given clear notice that they would not pack up their bags and return to their neo-liberal capitalist holes, leaving the field free for sustainability. Indeed, they will be, and are actually marshalling all possible arguments, to persuade the world that it is their option that deserves the accolade, 'Sustainable'. Within individual countries of the world, this group holds the power and commands the attention of leaders of most nations, having persuaded them, one way or another, that the salvation of their peoples lay in embracing the IA option. There is, therefore, an ongoing struggle, now peaceful and gentle, now forceful and acrimonious, but at all times engaged in very real and history-making terms. The only major 'stakeholders' in this struggle who are not present to stake their claims and state their cases, are Nature itself with all its power and store of goodies, and the Unborn who will inherit the agricultural patrimony of the world in whatever state we bequeath them to future generations.

It is clear, therefore, that it would be the very essence of naiveté for anyone, especially social activists who must participate in this resolution, to imagine that it could be devoid of politics and a fierce struggle. What makes sense, what is desirable and what is rewarding for the IA devotee, will appear in the sanguine colours of criminality to the SA adherent. The fundamental and inalienable Right to Food which the SA adherent accepts as sacrosanct would be regarded by the IA devotee as unacceptable pampering, once it is mischievously translated to mean that this right exists whether people work or simply laze around¹. Indeed, just as the masses of the people, who are disadvantaged and marginalised view as obscene the over-consumption and waste inflicted on social resources by the elites — often leading to new public health problems like obesity, cardiovascular damage, etc. — the elites consider it their God-given right to self-destruct and destroy society with their uncontrolled greed and gluttonous habits. Each social category, convinced of its own correctness, rises to defend what it considers its Rights, writ large! This is the essence of the political environment in which the struggle for food security, food sovereignty and Sustainable agriculture has to be waged. The two positions and group interests cannot be reconciled through Sunday Sermons in Churches or Friday Homilies in Mosques or, indeed, by the awe-inspiring and nature-rooted Incantations of Traditional religions. Rather, the resolution demands and can only be achieved through politics, through a power struggle waged unrelentingly by both protagonists. When the elite classes have the upper hand and can continue their rule of societies, both nature and the mass of citizens must suffer; the country would remain food importation dependent with special emphasis on those foods that satisfy the palates of the 'Lords of society' and their obese family members, national resources would be frittered away on frivolities and waste would mount in the streets of the cities.

The above assertions are meant to set the tone for this brief paper and to warn against embracing illusory prescriptions that are only designed to lull the forces of the people into quiescence and collusion in their own elimination. In the last decade or so, through

the assiduous and honest activities and influence of development support agencies, particularly of the multi-lateral group, marginalised humanity and their leaders have been subjected to an ever intensifying proselytisation in favour of what has been christened: PPP (Public – Private Partnerships) as the only way to achieve social peace and equity. In response to this ‘peace programme’, leaders of CSOs have been lured to all corners of the globe to participate in conference after conference designed to fine tune the programme and how to implement it in all countries of the world. The argument is very simple and seductive that: of the three main stakeholders which uphold societies: Citizens and their associations, governments, and the Organised Private Sector (OPS), none can bring salvation to society single-handedly. The three must, it is argued, work together to achieve the best results! Those who instinctively or as a result of clear-headed analysis of social forces and their interest struggles, reject this rosy prescription, are quickly peripheralised and labelled communist deviants. Yet, we know that even while government, OPS and the people may lie on the same bed/mat, they often are busy thinking different thoughts which could, in fact, be drastically antagonistic to one another. Too often, leaders of farmers’ organisations delude themselves that they have participated in conferences with the other two stakeholders and some firm promises have been made that they can happily deliver to their constituencies, only to find out that it is one thing to make a promise and it quite another entirely to deliver on such promises. And governments are not famous for been faithful to the citizens who empowered them and gave them special privileges.² It is not our intention to paint the relationship of civil society entities with government and the organised private sector in colours of the deepest cynicism but to warn that a process which demands vigorous struggle must not be converted into one that will be achieved through conferences held in the comfort of 5-Star Hotels. While this option could be taken as one of the tactical political moves that the people have to make as they struggle to engender a favourable political framework for sustainable food security and to drive towards enthroning Sustainable Agriculture as the principal option for food production, we must realise that it is no more than just one option, and by no means the main one. Our partners who genuinely wish for us what we wish for ourselves and are prepared to struggle for, must refrain from urging the PPP option on us as the principal one.

No Easy Walk to Food Security, Food Sovereignty and Sustainable Agriculture

What we are at pains to communicate in this paper is that, as our father, Nelson Mandela said with respect to the Anti Apartheid struggle in South Africa: “There is no easy walk to freedom” and sustainable food security is indeed freedom — which must be struggled for in a comprehensive political process.

The concept of Food Security itself is a political concept which gained common usage and became the rallying cry of the marginalised after a long and incessant struggle against those forces which would maintain the monopoly of the elite classes over the Right to Food. Food security and food sovereignty are both outcomes of peoples’ maturing self

awareness and the determination to struggle for their fundamental rights and for freedom from servitude of any kind. They belong in the realm of Cultural Struggles which are important in the self-definition of peoples and represent what is handed over to succeeding generations. For the Indian child, for instance, it is of the utmost self-defining importance to not only understand but be one with the practice of her/his mother “whose world-view of abundance is to leave food for ants on her door-steps, or to weave beautiful designs of paddy to hang up for birds when the birds do not find grain in the fields. This view of abundance recognizes that, in giving food to other beings and species we maintain conditions for our own food security.³ When an Indian child is not united with this world view, his/her Indianness suffers a serious deficit.

However, Neo-liberal understanding and world view which our elites have adopted, hook, line and sinker, defines pollination as “theft by bees” and claims that diverse plants “steal” sunshine!! This, obviously, is a world view aimed at stealing nature’s harvest. This is a world-view based on scarcity.⁴ Such deep-rooted world views, on both sides, cannot be wished away through exhortations alone or by arguing rationality to those determined to not be rational — because it does not suit their material interests. It is very difficult indeed to communicate verbally with the willfully deaf. How many meetings, conferences, workshops, summits even, haven’t we held around the world at which the over-consumption habits of Americans particularly, and of the North in general, have been raised as central causes of malnutrition, both of the deprived and the over-eater, and food insecurity around the world! But have we successfully communicated our concerns to the elites of this great nation? And this is the same America where “One Hundred billion Pounds Sterling of food goes to waste every year, while 31 million people are hungry or at risk of hunger.”!⁵

What is at stake?

Having established the general nature of the competing interests which necessitate the construction of an appropriate political framework for food security and sustainable agriculture, we must now dwell briefly on just what is at stake for the major contestants.

For the Neo-liberal economic system and its beneficiaries who are, in the main, — the elite strata of our countries; their governments; the TNCs and their support agencies; the G8 governments; the privileged classes of the North and; to some extent and vicariously, the not-so-privileged classes of the North who have tasted and continue to enjoy the spoils of this struggle — there is a great deal, materially, at stake. The constituency that neo-liberal operators have built up around the world has been erected on a comprehensive praxis of bribery and cooptation. Monsanto, Syngenta, Dupont, etc., have built, both in civil society and within government elite strata in almost all countries of the world, a veritable constituency, through making available to them some of the crumbs from the TNCs’ table. Indeed, there are now Kenyans, Nigerians, Americans, British, etc. devotees of the Monsanto-Syngenta line of thinking who would lay down their lives to ensure a continuation of this status quo. For the corporations themselves there is a great deal of

income and power at stake — and we might use the case of the Seed Agribusinesses as example here:

The World's Top 10 Seed Companies - 2006

Based on 2006 Seed Revenues

Company	2006 seed sales US \$ millions
1. Monsanto (US)	\$4,028
2. Dupont (US)	\$2,781
3. Syngenta (Switzerland)	\$1,743
4. Groupe Limagrain (France)	\$1,035
5. Land O' Lakes (US)	\$756
6. KWS AG (Germany)	\$615
7. Bayer Crop Science (Germany)	\$430
8. Delta & Pine Land (US) (acquisition by Monsanto pending)	\$418
9. Sakata (Japan)	\$401
10. DLF-Trifolium (Denmark)	\$352

Source: ETC Group — Based on 2006 revenues, the top 10 seed corporations account for 55% of the commercial seed market worldwide.

And this is only the tip of a colossal iceberg when all areas are included in our vision. The usually unspoken corollary of this money power, of course, is the veritable Political, Cultural and Spiritual power that such economic wealth permits its holders to wield around the world. Monsantos and Syngentas of this world could, literally, buy a man's soul, showing the extent of what we have called 'spiritual power' here. Scientists, who should be sworn to objectivity and the truth as revealed through empirical researches, readily prostitute their integrity and calling when confronted with the demon of oversized TNC bribes. Is it then surprising that Syngenta might bribe Indonesian or Thai or Kenyan government officials to shut their eyes precisely at the moment that banned GMO seeds are strolling into the agricultural fields of their countries, there to pollute native biodiversity for ever while laying the golden egg of more money for the TNCs? Countries of the world have gone to war for less and we should never expect these corporate beneficiaries of cornered wealth of the globe to relinquish their hold on the basis of some rational theories or genteel positions advanced at meetings appropriately cooled down by powerful hotel air conditioners. No, they can only be persuaded by determined political struggles, which are not necessarily violent in nature, but that are nonetheless compelling, in the long

run. Observe that it has been impossible for the MST (the Landless People's Movement) in Brazil, after so many years of hard struggle and untold numbers of lost lives — and even after installing a political party they considered their own on the seat of power — to persuade the big landowners, the TNCs and even ordinary national elites to let ordinary people have land on which to produce food for their food security.⁶ There is no reason to believe that it would be significantly benign in other parts of the world.

For the marginalised masses of Africa and other parts of the world, including those in the enclaves of poverty in the wealthy countries, what is at stake can simply be described as LIFE itself!! The inalienable Right of ordinary citizens to have a piece of land on which to grow the sustenance and happiness for themselves and their families, is at stake here. The innate requirement of every human being to feel fulfilled and be free from the corrosive effect of food uncertainty, hunger, and loss of respect in society, is at stake in this struggle. The cultural and intellectual development and growth of vast masses of citizens and their offspring in societies where they can freely express their talents and flower to the heavens, is at stake. The preservation and development of the cultural skills of whole peoples, in agriculture and other aspects of human endeavour, is certainly at stake. The health of entire countries, in respect of the marginalised who are not able to leap into an aircraft to travel to the North for health services that are not developed in their own countries, is sadly at stake. The hopes and aspirations of the unborn, and this is as real as those of the already living, are at stake in this war waged on food security for the majority by the thin crust of societies, backed by the most powerful forces of neo-liberal greed. The integrity of the vast and culturally vital rural areas of our countries is, surely, at stake too. **Yes, ALL is at stake for the ordinary marginalised citizens.**

From the above, it is clear that both parties have a colossal stake in this struggle for food security, food sovereignty and the enthronement of sustainable agriculture. Sustainable agriculture, through the portals of food sovereignty, is the guarantee that a people can have of sustainable food security and dignified livelihoods. As Vandana asserts: "Ecological and organic agriculture is referred to in India as *ahimsa*krishi, or "nonviolent agriculture", because it is based on compassion for all species and hence the protection of biodiversity in agriculture. And, a country has no more vital asset than its agriculture, and no treaty should be signed, whatever the benefits it supports, that has the loss of indigenous, sustainable and bio-diversified farming as its price". But the TNCs and the rest of the army of neo-liberal take-over of agriculture reject this clearly commonsensical position in favour of that which guarantees them unchallenged control of the food producing resources of the entire globe, whether or not this leads to irreversible poisoning of our global commons. It is clear that in their war against sustainable agriculture, what we are faced with is nothing less than

....the emergence of food totalitarianism, in which a handful of corporations control the entire food chain and destroy alternatives. The notion of rights (having) been turned on its head under globalization and free trade. The right to food, the right

*to safety, the right to culture, are all being treated as trade barriers that need to be dismantled.*⁷

Balance of Forces

In order to properly comprehend and establish the political framework which would support the popular struggle for food security, food sovereignty and the dominance of sustainable agriculture, this being our understanding of the task at hand, we do need, very briefly, to examine the present balance of forces in the political struggle. What scale of opposition are we confronted with, what resources are at the disposal of the opposition and how do we match this for success, what institutional and other capabilities must we develop for victory, etc., — are all questions that we must answer as we proceed.

As far as it is possible to identify, we are sure that opposition to popular food security, food sovereignty and sustainable agriculture, has the following at its disposal:

- A formidable quantum of money and other material resources — which gives a distinct advantage to it and makes the effort to overcome it rather daunting.⁸
- Monopoly of information, patents, and control regarding agricultural developments and processes.
- A strong hold on the allegiance and products of important institutions of research in agriculture. This is in addition to the present marginalisation and impoverishment of traditional research institutions that serve the public good, like our universities and government sponsored scientific institutions.
- Near total control of the food chain in many commodities and in every corner of the world.
- The very commanding Myth of unassailable superiority over all other options of food production, especially given the bulging and near bursting state of silos containing the surpluses of this option in the North.
- An enviable capture of the imagination of the youth who see anything else as criminal negligence and failure to accept the logic of the times.
- The power that intimidates even mildly supportive multilateral food related institutions into either acquiescence or only timid counter research or ideas.
- The eager acceptance of this option by most governments, the policy makers of nations, and the power to bribe the few that might still be standing on the sidelines.
- Support and promotion by the world's most powerful institutions of global governance, global trading and global financial/economic evaluation.
- Immense media power that allows easy distortion and filtration of information to suit the interests of this option while decimating the credentials of the opposing options;
- Committed service by powerful business and political players who shape governments in many countries of the world;

- Unfailing service by hordes of honestly ignorant bureaucrats around the world who, had they known better, might have exercised patriotism to resist the seduction of this option.
- Indeed, the power to make and unmake national governments around the world and to get Northern governments to do the bidding of this dominant option; and finally,
- The power and will to neutralise or eliminate any serious competition if all other modes of persuasion fail.

It is against this colossal force that those who struggle for popular food security, food sovereignty and sustainable agriculture bring the following counter force:

- Firm and unshakable conviction in the correctness of the humane struggle to ensure food security for the majority against the greed and monopolistic interests of the elites which form but a thin crust of society;
- Commitment of extra-ordinary quality to fight against all odds that would submerge the people and the society in food insecurity, hunger, despair and impoverishment.
- Rather modest financial strength that is, however, growing, and is shared in solidarity around the world to empower those who so struggle.
- Numbers that are daily growing, of committed change agents whose worth far outstrips their numbers — a single such change agent being equivalent to more than a hundred devotees of the opposition option which is based on individual and corporate greed.
- A daily expanding global coalition that defies the racial and other ‘mistakes’ of the past and is determined to forge ahead to create new relationships with more than enough strength to break the most powerful opposition. The coalition that believes that when spider’s threads come together, they can bind a raging lion.
- The daily, nay, hourly, energy investment, free of charge, by some of the very best and keenest intellectual minds of our times, all united in working out and putting to humanity’s service, the most advanced thoughts and ideas for change.
- Outstanding women and men of incorruptible integrity and profound spiritual strength — which strength promises to win the day for food security, food sovereignty and sustainable agriculture. After all, the very concepts of food sovereignty and Justiciable Right to Food, emerged from the collective minds of these special women and men who spend all their time working for people’s movements in quest of victory for justice.
- A daily growing number of successful examples of the practice of sustainable (agro-ecological, organic, low external input) agriculture around the world.⁹
- Support and inspiration from a slowly but surely growing number of nation states that have taken up the challenge of sustainability, both of agriculture and food security, and are involved in showing the way to the future — to convince the doubters.
- Gradual but undeniable success in convincing young people, who have grown tired of the spiritual callowness of neo-liberalism, who are clear that their unemployed

and marginalised status in society is directly traceable to neo-liberal policies of their governments. Young people who are clear minded enough to understand that the alternative that is taking shape in the womb of the present, holds the hope for a new and humane future for all humanity.

This is the balance of forces as we see it at this point while being aware that our presentation is far from exhaustive, we believe that it has captured the most important aspects of this balance. Do we perceive any cause for despair, especially in the camp of the popular forces? The clear and unequivocal answer is NO. While one set of forces is more material and based on crass power, mostly usurped or directly stolen, the other is profoundly spiritual, self-sacrificing and lodged in the determination of human beings to be the best that is possible.

Having set the stage thus far, we shall proceed to briefly indicate what we consider as the necessary political framework for food security, food sovereignty and sustainable agriculture — the trio that will determine the salvation of Africa, the world and the entirety of nature.

What is needed?

The political framework towards which we must struggle can be characterised as follows:

1. In the domain of governance and policy formulation at the National level:

- a. National governments, must realise that a human-supportive social compact between those privileged to receive the sovereignty of the people on trust and those who so elevated them, is a mandatory agreement that must be concretised in all nations. This social compact will ensure that nobody, born as citizen of any country, is obliged to live in hunger and food insecurity because of being trapped on the poverty side of the social divide. Every citizen must have **justiciable Right to food and enjoy sustainable food security**. This compact goes beyond the mere stating of so-called Directive Principles of State. It must be a fully binding and justiciable responsibility to the citizens. Be it in the form of effective and ever improving social security provisions or any other expression, citizens must feel confident that it is not an empty paper declaration.
- b. Most countries are, in fact, agrarian in nature and agriculture rightly forms the foundation of the economy of most countries. Wherever this is so, agriculture must receive the priority attention of governments such that resources allocated to it reach at least 20% of national budget. It must be the political responsibility of the state to cater to the support, development and growth of this fundamental sector of the economy since, in most cases, it embraces the vast majority of the people. It is important to emphasise here that the example of the USA and, probably, the UK, especially, where only a tiny fraction of the working population is in agriculture as a result of both the capitalism-inspired policies of states and the deliberate sequestration of the farming population by successive rulers, is not by any means the example to follow. In the case of Africa

and most other countries of the South, a more human-intensive rather than capital-intensive approach to food production represents the correct political framework. In a situation where the so-called modern industrial sector of the economy is patently incapable of absorbing the large numbers of potential marginalised citizens from a deliberately depopulated agricultural sector, this seems to be the only correct and humane approach.

- c. Once it is accepted that the majority of those willing and able to work are in the agricultural sector, it is politically mandatory that the state takes steps to make farming profitable for these women and men, both as farm workers and farmers, Artisanal Fisherfolk and Pastoralists, etc. The necessary production resources of land, water, etc., must be made available to the tillers. Other support inputs like effective credit, which we have canvassed as APPROCREDIT or Appropriate Credit — (see APPENDIX #1 below)¹⁰, improved seeds and seedlings, organic fertilisers where possible, appropriate technologies, etc., must also be provided as a matter of political responsibility of state. It is not, repeat, not, the responsibility of donors or so-called development support agencies to bankroll any nation's agriculture. This task is a primary political responsibility of national governments. Friends of the nation may come to the assistance of the sector in special cases of particularly expensive or out-of-reach processes needed to promote good agriculture which has been selected by countries and for which their governments already accept principal responsibility, financial and otherwise.
- d. There is no way in which governments and their bureaucrats can hope to formulate policies that are appropriate to the agriculture of their countries without fully involving and giving a place of 'honour' to the actual farmers themselves in this process. It is indeed what is politically correct to do this and this participatory nature of agricultural policy formulation is an important aspect of the political framework that we struggle for. Those who are the principal protagonists, the farmers and their organisations, must be the main formulators but this does not in any way mean that they will not benefit from ideas from formal scientists and agricultural science in general.
- e. A major political decision that both state and farmers must make, is to decide what option of food production will be dominant in their country: is it the industrial agricultural option that is capital-, chemical- and heavy machines-intensive or the smallholder, family farm option that is human-intensive, minimal external input-dependent? We believe that this decision, if humanity is to survive and refrain from destroying the global agricultural patrimony, must be the latter. Once this is agreed, the next political step that requires to be taken and firmly, is to enshrine this choice in the National Constitution, without prejudice to those who might still wish to employ the industrial option. To give the choice of what we would call smallholder-based sustainable agriculture Constitutional force is of the utmost political importance and constitutes a most vital aspect of the general political framework for food security, food sovereignty and sustainable agriculture.

- f. In every way possible, both the state and the populace in general, would have to be encouraged to accord farming the dignity that it deserves and which can encourage younger citizens to take it up as a worthy vocation — thus guaranteeing food security a strong future and making food sovereignty a reality. The details of precisely what this smallholder, family-farm based agriculture will be, is an issue that will need to be sorted out in political and economic negotiations amongst the principal stakeholders, based on the special characteristics of the natural agricultural endowment of each country.
- g. Since it is strong and efficient institutions of farmers that can guarantee an effective partner for government in this drive for food security and sustainable agriculture, every step must be taken to achieve the maximal empowerment of this entity. Farmers' Organisations must be promoted and adequately resourced, for while they must not be dependent on government financially, which would harm their autonomy of action, they do have a Collective Right to some of the national income. The manner in which this right would be met without creating dependency or vulnerability will be resolved politically such that national/federation accounts are directly charged to provide statutory funding to the extent agreed in political negotiations with other stakeholders, to the farmers organisations based on certain requirements of probity and accountability that these organisations agree to abide by.

2. In the domain of inter-governmental relations with other countries in matters relating to food production and agriculture.

- a. Farmers would also wish to settle the matter of the Focus of agriculture: is it primarily for provision of food to nourish the citizenry and underwrite a sustainable food security — only selling the surplus to the internal, sub-regional and regional markets first and later wider afield — or is it to be primarily for export market purposes? This is an important political issue to settle as the nature of the agriculture, its eventual sustainability and its ability truly to support food security and food sovereignty would depend very much on this character.
- b. Everybody concerned with agriculture would have to decide on its strategic nature or otherwise. The political decision would have to be taken as to how the matter of food for citizens would be regarded in the country with respect to relations with other countries and entities. The position advanced by Vandana Shiva is one which both country and farmers and their organisations need to take seriously in this respect and one with which this writer fully agrees.¹¹
- c. In the sphere of marketing, important political decisions must be taken to ensure that farmers are maximally strengthened while the nation itself finds the correct networking with other nations of the sub-region and region. It is a major political decision to elect to focus on sub-regional and regional economic integration as a basis for interaction with the rest of the world. Once farmers are accorded strong bargaining power in these internal markets, they would easily support the position.

- d. Political work must be done to stimulate and strengthen the formation of a regional block of nations subscribing to the same principles and standing to defend them against other perspectives on the global scene.
- e. In view of the important steps taken in this defined political framework, relations with other countries has to be a lot more circumspect than most countries of Africa have hitherto practised. The alliances or partnerships formed with other countries must respond to the defined needs and interests of the country's agriculture — emphasis being given to partnerships that foster the adopted political framework. At the global level, within the WTO and other institutions, the political choice must be for those countries and alliances that strengthen the central choices already made in the realm of food security, food sovereignty and sustainable agriculture.
- f. Bandwagoning and copycatting are foreign to the political framework built up to support the choices made by a country that elects smallholder family farming as most dependable route to sustainable agriculture. Such countries and their peoples, particularly the farmers, must then build the necessary alliance for mutual strength and protection in a world presently dominated by TNCs and their agencies.
- g. Against all global positions which seek to take away the sovereignty of the nation into the hands of so-called global institutions to create a level playing field for trade and other matters, the state must stand firm, supported by the farmers who have been appropriately involved in the decision making. In no way must superior power over food and agriculture be ceded to TNCs or any multilateral agencies.
- h. The state must recover its right to repudiate international agreements or other ordinances, that threaten national biodiversity and the SEED of the country.¹²
- i. The sovereign right of nations and farmers to protect their markets from external invasion called liberalisation of markets, must be recovered in an important political act. This step must be taken if food security, food sovereignty and sustainable agriculture are to have any chance of success. The livelihood of farmers must also be defended against dumping, even if this means taking a political stand against what has already been acceded to on the international level.
- j. Against the neo-liberal rejection of price support for farmers in order to guarantee them sustainable livelihood and to protect them against the vagaries of the so-called free market, governments must emplace measures to prevent the bottom falling out of prices for farmers' produce under the dictates of middle agents of all kinds. The fact that such measures may have failed in certain circumstances in the past is not enough argument to completely demonise them. The undoubtable successes of the vertically integrated support for smallholder cotton farmers of Mali provided by the CDMT (Compagnie Malienne pour le Développement des fibres Textiles) must be revisited, improved and copied for other commodities that determine the livelihood of smallholder farmers.¹³

3. The above represent what farmers and governments can and should do together

as they work to construct the supportive political framework for food security and food sovereignty to be guaranteed and for sustainable agriculture to become the dominant option for food production. Beyond these steps, however, it is clear to us that the main protagonists, the farmers and their organisation, must go a step further with the political tasks. All too often, governments find it impossible to be sustainably faithful to agreements and plans that they make with the citizens. This, of course, is understandable once we remember that the state, as such, cannot be class or ideologically neutral. The state, at any point in time, is an instrument of domination by one class or a group of classes over others in society. For the common person, this is perceived in direct terms of: “the government is either the government of the elites or it is the government of the people”. It is not likely that government can serve two antagonistically related social categories, even with the most skilful negotiation skills — which every dominant class must learn to deploy or it cannot rule with peace. Farmers must remember therefore that a government that is based on neo-liberal principles and ideology, cannot be reliable for long and must soon decide to weigh in on the side of the elites. Hence, farmers and farmers’ organisations must prepare for that point in the process of constructing the necessary political framework when government fidelity can no longer be taken for granted. As principal protagonist in this matter, the farmers and their organisation must:

- a. Build their own institution very properly so that it can serve them as an efficient, transparent, democratic and self assertive instrument of change. They must develop the kind of institutional strength which permits them to collaborate with government and other stakeholders without succumbing to external agenda or interests. Their organisation must be powerful enough to demand and receive the rights of farmers from governments without having to make the concession of loss of institutional autonomy or freedom of action.
- b. As they build their organisation’s strength, the farmers must establish the widest possible network of support and supporters within the country, at the levels of the sub-region and region, as well as on a global level. Without allowing their organisation and leadership to be converted into tools for workshops, seminars and conferences that serve the agenda of other entities, they must exchange widely and learn from as expansive a field of partnership as possible.
- c. In determining their partnerships, these organisations must avoid like the plague, dependency as a way of life, especially on the partners who provide financial assistance for their capacity enhancement and programmes. While fully respecting partnership agreements and being maximally accountable and transparent, both to their primary constituents, the smallholder farmers, and their partners, they must insist on determining their programmes and trajectory by themselves. When they become purveyors of external or ‘foreign’ agenda, they not only lose their usefulness to the political and

economic self emancipation of smallholder farmers, they in fact become a negative influence to the development of these farmers.

- d. In a clearly pro-active way, farmers and their organisations must produce their own Political Programme — to tap the energies of their carefully chosen partners, deploy their own energies, create learning ground for their leadership and other cadres, and confront the political tasks of farmers. In respect of this, it is not unlikely that several such programmes would need to be constructed in collaboration with different partners, both at home and wider afield.
- e. An important aspect of the general political programme of farmers and their institutions must be their Advocacy Action Plan — to give voice to their concerns and interests in respect of economic, production, farming requirements, cultural and political matters; and,
- f. When, as will be the case sooner or later, government cannot accompany farmers beyond a certain point, the organisation of farmers must already be primed to go forward and, through various means of struggle, 'urge' the tiring government forward. What government will not do on its own steam, farmers and their organisation, in a dynamic and relentless Advocacy drive, spearheading a veritable social movement, must get it to do, because that is what is needed by the country for food security, food sovereignty and sustainable agriculture to have a chance in the country and at the sub-regional and regional levels as well.

The thoughts offered above are some of the issues that we see as important in the establishment of the correct political framework for food security, food sovereignty and in order that sustainable agriculture gets a fair chance of becoming the dominant option for food production.

Endnotes

1 The intense struggle that the protagonists of 'The Right to Food', especially from the International Planning Committee (IPC) on Food Sovereignty who championed the enactment of the Guidelines on the Right to Food, needed to wage to obtain the agreement on these Guidelines from some governments of the North, attests to the possible nature of this contestation in society.

2 The farmers Network, ROPPA and the United Small and Medium scale Farmers Associations of Nigeria, USMEFAN, collaborated vigorously with the ECOWAS not long ago towards the formulation of the Agricultural Policy of ECOWAS. At the end of the exercise, many promises were re-made, to be made again later, to the effect that the budgetary allocation to agriculture would be raised to 10%, a promise that was subsequently reiterated at the level of the African Union, etc., but, to date, no single country of the AU or ECOWAS has approached 3% allocation! Many other promises remain outstanding with no indication of just when they might be redeemed.

3 Vandana Shiva, "Stolen Harvest"

4 Ibid. – Vandana Shiva.

5 In Forum News Daily.

6 Although the MST has managed to win land for some 350,000 families after a gruesome struggle in which many have laid down their lives, there is still a long way to go in the struggle to make land availability to the tiller an uncontested Right.

7 Ibid... Vandana Shiva.

8 I was recently privileged to attend the World Food Prize jamboree, having been sponsored by IFAD (USA) so that I might bring the voice of the smallholder farmers to the meeting, and it was truly revealing for me. The sheer force of both human devotees, institutional partners or agencies including Land Grant Universities designed to serve the ordinary citizens, CGIAR research institutions, heavy weight agribusiness TNCs, Government representatives, various award winners and celebrated scientists from all corners of the world, marketing organisations, large scale farmers and their organisations, etc., etc., was in full display. This show of muscle was aptly backed up by obvious big money, complete with Limousines and appropriately costumed chauffeurs, glittering men and women of substance all heavily decked out in the latest outfits — all streaming to a wonderful banquet in a new building erected specially to honour one of their own!! As if this was not enough, at the actual so-called conference that preceded the merrymaking, the organisers made sure that there would be no room for alternative voices and ideas to be aired, even while making a show of transparent organisation. What I saw was a formidable force, fully cognizant of its own strength and determined to beat its chest and convince any doubters that it pays to be with the powerful rather than cringe at the peripheries of life with the victims of their actions.

9 Jules Pretty, “Feeding the world”.

10 APPENDIX (see next page)

11 A country has no more vital asset than its agriculture, and no treaty should be signed, whatever the benefits it supports, that has the loss of indigenous, sustainable and bio-diversified farming as its price.

12 **STOLEN HARVEST** – by: Vandana Shiva “The seed, for the farmer, is not merely the source of future plants and food; it is the storage place of culture and history. Free exchange of seed among farmers has been the basis of maintaining biodiversity as well as food security; it involves exchanges of ideas and knowledge, of culture and heritage. It is an accumulation of tradition and of knowledge of how to work the seed. Farmers learn about the plants they want to grow in the future by watching them grow in other farmers’ fields.

13 See: James Tefft, “Building on Successes in African Agriculture: *Mali’s White Revolution: Smallholder Cotton from 1960 to 2003*”.

APPENDIX #1

The following are some of the relevant points regarding APPROCREDIT/APPROFINANCE:

- Almost all, without important exception, of the approaches taken to date to provide the smallholder farmer with truly meaningful credit support have misconstrued smallholder family farming to mean tolerable subsistence farming. These approaches have been, at best, charitable, certainly not Business promotive. Perhaps, without saying so loudly, these approaches have assumed that with time, the smallholder family farming system would become a painful experience of the past and we can stride forcefully into the era of large scale, industrial agriculture, principally for the export market.
- The result of this mindset, even among those most generous to the smallholder farmers, has been a focus on variants of Micro-credit, to support these producers in their labours. Over many years, even when this approach has been complemented with dictats to the people “to form cooperatives”, the result has been stagnation, if not actually retrogression, of farmer livelihood; increasing pauperisation of both humans and the socio-cultural realities of rural areas; unrelenting decline of agricultural productivity despite increasing self-application of farmers, increasing sense of hopelessness which sometimes boils over into peasant uprisings such as in 1969 in Nigeria; and, self-righteous irritation and frustration on the part of successive governments regarding this primitive and anachronistic social category that is unresponsive to ‘help’!!
- Yet, a close examination of these prescriptions for peasant salvation would show that they have aimed only to make misery a bit more tolerable for its victims, the smallholder farmers. The various schemes take farmers where they are, offer a one-off facility, not to help the farmers grow or become stronger competitive players in the sector, but to produce certain commodities in which official interest happens to be focused at any one time. In other cases, the support is no more than a reluctant response to conditionalities imposed on governments by their funding agencies. The crucial autonomy of action and decision by farmers in these programmes has often been substituted with the power of officialdom, the lower on the power scale the more malignant, usually. Apart from all the problems caused by the inherent weaknesses of these schemes, there is always the ineptitude, arrogance, insincerity, and sheer corruption of governments and their officials in these programmes.
- In most schemes, even when the funding is ostensibly supporting the exploitation of crops that take up to two or more years to mature and be able to produce an income, the farmer is required to repay the loan within 12 months!
- The interest placed on loans that come under micro-credit has been allowed to become hostage to the greed and devastating actions of fund providers to banks, with the result that the prevailing rates are simply impossible for meaningful productive effort. Even in the cases where governments have decreed and offered concessionary interest rates, such as 8%, farmers know that when all that they have spent in getting into the programmes plus the losses they would sustain along the way have been factored in, the rate is in fact much higher than the publicly touted figure.
- The ultimate result, of course, is that the farmer is unable to make the scheme work, either for himself/herself, or, indeed, for the protagonists of the programme. And, for the experts, all these shortcomings merely justify the view that this social category is a burden on African food sovereignty and economy in general, leading to the conclusion that these farmers should be ‘eradicated’ in order to eradicate poverty and low agricultural productivity!
- But all smallholder farmers know that the real problem is in offering “micro”-support to a socio-economic process that must grow and develop, at least, to a level where it becomes truly able to

support human happiness and self-respect while feeding the country and providing industrial raw material for in-country consumption. Farmers have therefore insisted that:

- Micro-credit is certainly not for productive farming but for petty-trading.
- Micro-credit is known by farmers as that support which assures that you will remain 'micro' for all times.
- Micro-credit does not take account of the need of the farmer to add value to his/her produce or to acquire necessary infrastructure and invest in the enhancement of both fertility and productive capacity of his/her farmland.
- Micro-credit only marginally, if at all, raises the livelihood of the farmer and it certainly does not enhance the dignity of farmers labour.
- Micro-credit will never become a tool for ensuring that young people, even those trained specifically for the profession, accept farming as a life vocation, just as their parents presently caught in the trap would curse anyone who tries to make their children farmers.
- Micro-credit cannot answer the main question that young agricultural trainees raise: "how can we go into farming as a vocation when it is clear that we can neither farm the way our mothers and fathers have done, nor acquire the wherewithal to engage in large scale farming?"
- Micro-credit pays no attention to the legitimate aspiration of a 2 - 3 acre farmer to enlarge his/her holding to 10 - 25 acres in order more effectively to support the family and other economic requirements that go with social living.
- Micro-credit hardly responds to the desire of the farmer to mix-crop, to fallow land when necessary, to intensify agro-ecological methods of production, etc.
- Micro-credit is unable to empower the farmer for a stronger presence in negotiations with the market and the parasitic middle agents that ravage the sector.
- Micro-credit does not take account of the need to create surplus which the farmer can apply to judicious savings and re-investible funds for the future.
- Micro-credit takes no account whatsoever, of 'where the farmer is coming from' in the sense of the existing socio-economic deficits with which she/he is coping, the fact that for 5 months of the year, at least in the South-West of Nigeria, the farmer has no income whatsoever, or that social infrastructural support to production is often totally absent in many rural communities.
- Micro-credit does not recognise, it seems, that the farmer is not a petty trader or a helpless unproductive citizen but very much a business person who seeks to maximise productivity, obtain as much power over his/her produce as possible both by acquiring the capacity to store, package, add value and differentiate the produce. Micro-credit is unable to lift the farmer out of poverty.

For these and many other reasons, farmers are now asking to go beyond micro-credit. We are asking to be supported with APPROPRIATE CREDIT (APPROCREDIT/APPROFINANCE). In order to save space and not take up too much of your attention, I would simply say at this point that what we seek, and which we have called Appro-credit, is that form of financial and other productivity enhancing assistance which is able to do, and surpass, what micro-credit cannot do, as partly stated above. At the end of the day, the bottom-line is that this type of credit/financing must rapidly raise the livelihood of farmers, enhance their social dignity and status, boost their self-esteem, make it attractive to young people to want to take up farming as a vocation, and, firmly guarantee national food sovereignty on the basis of Sustainable Agriculture.

Towards a Political Framework for Food Security and Sustainable Agriculture in Africa

Nnimmo Bassey

Environment Rights Action (ERA), Nigeria

Preamble

At a time when Africa is experiencing so many socio-economic, political and environmental challenges, the question of the continent being able to feed itself is very timely. We note that selected speakers have experience in relevant fields and are well equipped to place workable ideas on the table.

When people think of Africa what often comes to mind are lush forests and endless biodiversity. People have pictures of rich soils in which virtually any seed would sprout. This is only part of the story. The establishment of cash crop plantations from the colonial era squeezed peasants into fringe lands and forced them to cultivate these intensively and with no option of the traditional pattern of allowing lands to lie fallow for many years. The result has been rapid soil degradation and reduced productivity. Some of the new cash crops such as groundnuts and cotton were equally demanding on the soil and led to soil impoverishment as well as leading to the advancement of desert conditions in countries such as Mali and Senegal.¹

To effectively discuss the necessary political framework for **food security** and **sustainable agriculture**, we will do well to consider the two key phrases in the construct. First to be considered is food security. For a continent to be food secure, the people of the region must have enough food and if anyone goes to bed hungry it would be by choice and not otherwise. Secondly, the available food must be of such quantities and variety that the peoples' nutritional needs are adequately met. Globally, more than a billion people go to bed hungry and about double that number suffer malnutrition because they are fed or underfed with foods that are not healthy.² Hunger kills about 25,000 people daily, more than AIDS, malaria and tuberculosis combined.³ The bulk of the victims are children below the age of five and are to be found in developing countries with another fraction in countries in transition as well as in industrialised nations.

While still on the matter of food security, it is noteworthy that over the last twenty years food production has doubled in a region such as West Africa⁴ and although we often hear of emergency food situations in some countries in Southern Africa, a closer look reveals that such alarms are often based on partial information and solutions proffered are equally skewed. We will return to this.

The matter of sustainable agriculture is multi-dimensional, but at its most basic this speaks of agricultural practices that ensure productivity in a manner that lends itself to continual reproduction devoid of such factors as dependence on externalities. Such

externalities would include artificial fertilizers, imported pesticides and herbicides as well as practices that are alien to the socio-cultural settings of the continent.

Food security and sustainable agriculture are interlinked. For Africa to be assured of regaining her capacity to feed herself, the continent faces the onerous task of maintaining her seed as well as cultural diversities. This theme will resonate through this presentation.

Challenges of food security: the commodity trap

For us to situate the context of the African continent it is important to reflect a bit on her history. The continent has been riddled with violent conflicts that prevent the entrenchment of sustainable practices and also subverts efforts at attaining food security. These conflicts were amplified by slavery and were anchored by domineering colonialism. Both of these disrupted the social fabric of the continent and deeply altered the modes of production and relations as well.

According to Walter Rodney, capitalism could revolutionise agriculture in Europe but did not do so in Africa. Colonialism was incapable of improving the agricultural tools as a matter of fact, for the same reason slave labour was not appropriate for the factory floor. One reason was that the oppressed would possibly use such tools to sabotage the plans of the oppressor. But the major reading of the situation was that the international division of labour required skilled labour in the metropolis and low-level manpower in the dependencies. Thus, Rodney surmises that “The most convincing evidence as to the superficiality of the talk about colonialism having ‘modernised’ Africa is the fact that the vast majority of Africans went into colonialism with a hoe and came out with a hoe.”⁵

Colonialism and the current neo-colonial relations ensure that lands that would have been utilized for production of foods for the continent are turned into plantations whose products are mainly for export. Lands that were used for the production of cassava, yams and other local staples became plantations for the production of tea, rubber, oil palm, cotton, coffee, sugar, cocoa and groundnuts.

The fact that Africa is rich in mineral resources has engendered severe violent conflicts. These conflicts are not only those that manifest as wars, there are several other underreported cases that occur as irresponsible extractive industry operators rip through the continent grabbing what they can and leaving the land scarred and the people impoverished. Very clear examples can be seen in the conflicts that brought Liberia and Sierra Leone to their knees; the conflicts that ravaged the Congolese region and the ongoing situation in the oil fields of Nigeria’s Niger Delta. These conflicts have led to displacement of communities and others who are not displaced nevertheless suffer loss of fertile farmlands. Recurrent droughts and desertification continue to make the situation more precarious for the continent.

Plantations on the continent are still primarily producing for export market and do not add value as far as the local market is concerned. Today new plantations are still being set up for the same purpose. Case in point is the situation in Nigeria where the

former president invited farmers who were expelled from Zimbabwe to turn to Nigeria. When citizens raised concerns that the farmers may take up too much land to set up their plantations, the response from the president was that they would not take more than 5% of Nigeria's entire agricultural land. That much land in the hand of a few farmers would certainly bring cause for concern anywhere in the world.

Meanwhile, commodity prices keep sliding and countries dependent on these to fund national programmes are finding themselves in dire straits. Africa's agricultural export value fell from US\$15 billion in 1987 to US\$13 billion in 2000. Some economists agree that any development strategy based on agricultural commodity exports will yield negative results in the current policy framework.⁶

Food sovereignty

Food security as a concept is concerned primarily with people having food on their table and not going to bed hungry. The idea is good, but it inherently has a basic deficiency that has opened it for use to perpetuate injustice and to force feed peoples through the route of denial of suitable foods or outright subversion of their sovereign rights. Here is where food sovereignty comes in to block the gap. Food security should be complemented by food sovereignty to ensure that the steps are taken at the right time.

Food sovereignty is built upon the inalienable rights of peoples to maintain their cultural as well as seed diversities. Cultural diversity permits peoples to maintain and enlarge their stock of local knowledge; produce, save and use their seeds and have control over farming practices developed over centuries of experimentation and experience. Food sovereignty ensures that farmers stay in business and that peoples are not forced to alter their diets simply because they faced a shortage or even a catastrophe that made them to require some assistance at a time.

In February 2007, over 500 people from more than 80 organizations of peasants/family farmers, artisanal fisherfolk, indigenous peoples, landless peoples, rural workers, migrants, pastoralists, forest communities, women, youths, consumers and environmental and urban movements met in Sélingué, Mali to further strengthen a global movement for food sovereignty. The Declaration of Nyeleni adopted at the end of the forum is very instructive and merits a long quote here:

"Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users. Food sovereignty prioritises local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal - fishing, pastoralist-led grazing, and food production, distribution and consumption

based on environmental, social and economic sustainability. Food sovereignty promotes transparent trade that guarantees just incomes to all peoples as well as the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations.”⁷

The concept of food sovereignty captures the rights of all peoples and points a just way to develop a framework that would ensure sustainable agriculture. Where agriculture is controlled solely by market forces, the inherent contradictions that perpetuate penury and hunger will always show up. As the people declared at Nyeleni, food sovereignty *defends the interests and inclusion of the next generation*. This is that path of sustainability: the ability to utilize resources in such a way that future generations are not denied access to the use and enjoyment of those resources.

Politics of hunger

It is true that on gaining independence from colonial masters, emerging African leaders more often than not did not institute sorely needed reforms. They continued in the same old ways, struggled to earn foreign exchange through export of agricultural products and left the meeting of the food needs of the people without policy direction. The population levels at the time of independence were fairly well catered for from the farm produce from the small holder farms which were often complemented by supplies from gardens and farms owned by virtually every family. With rising population, increased urbanisation, conflicts, environmental degradation and climatic crises, new challenges soon emerged.

Paucity of appropriate domestic policy directions coupled with droughts, and civil wars made Africa a continent where food production and distribution more often than elsewhere do not meet the needs of the people. Even though ECOWAS reports the doubling of food production, the number of chronically undernourished people in sub-Saharan Africa more than doubled between 1970 and 1990. In the past decade, many African countries, including Eritrea, Ethiopia, Democratic Republic of Congo, and Zimbabwe, have had acute food shortages requiring emergency assistance.

This spectre of hunger has been utilised as a political tool to browbeat African nations to open their doors for the dumping of unwholesome foods. In 2002 Zambia rejected genetically modified (GM) grains as food aid. The furore that followed the stance of Zambia was deafening and echoed in board rooms around the world. Many questioned the right of Zambia to reject GM food aid when her citizens were starving. Does a hungry man have a choice of what to eat? That was the question. We may need to remind ourselves here that Zambia rejected the grains in both whole and milled forms. They did that for fear that the grains would unwittingly get planted if they were distributed to the people.

In the cacophony of voices raised around that controversy, the Norwegian minister of International Development made a salient observation that “there might also be

a probability of higher risk when one is in a food crisis situation, consuming only one GMO-product over time.”⁸

The situation similar to that of Zambia reoccurred in both Angola and Sudan in 2004. Both countries initially rejected GM grains but were pressured to receive the aid through some political manoeuvrings. In both Zambia and Angola, while there were food shortages in one region, there were food surpluses in other regions. The Zambian situation deserves further attention. The food shortage was mainly in the Southern region while the Northern parts had a surplus of 300,000 MT of cassava, a major local staple for up to 30% of the people.⁹

The Zambian government requested that the World Food Programme should use local foods such as cassava to meet the emergency situation, but the WFP refused to finance this and chose to buy and ship in barley from the USA. The Zambians use barley to brew beer and do not consume it as a staple food.

Point to note here is that supplying foods that are alien to people would only promote dependency on seed companies and donor nations and also opens nations to dumping of excess products from elsewhere. This can never engender food security.

Food aid has been a channel for introduction of GMO contamination in countries around the world. The case of StarLink, a GM maize variety only authorised for animal feed, but was found in food aid meant for human consumption in Latin America is well known. StarLink contamination was first uncovered in and denounced in 2001 and was again found in 2005. In 2006 it was revealed through civil society monitoring that the experimental rice LL601 had been sent to the food stalls of Sierra Leone through food aid and Ghana through commercial imports.¹⁰ This was the first time civil society groups in Africa carried out monitoring and testing of this sort and it was a surprise that GMOs could be detected in the rather few samples that were collected. This indicates that the contamination may indeed be very widespread in the sub-region.

Following the discovery of tainted rice in West African markets, FoE Africa in alliance with a total of 55 organisations requested some explanations from the USAID and the WFP by an open letter. The USAID who actually supplied the rice in Sierra Leone did not offer any response beyond acknowledging receipt of our letter. The WFP however responded stating that they neither oppose nor support GMOs and that they have no capacity to carry out monitoring or testing. Another mail was sent to them seeking information on types and quantities of food aid they have sent to Africa over the past 5 years. This letter never got any response.

Food aid has been seen by many to be more of business than charity. The insistence of donors to buy food from their own countries and to ship them in their own vessels over vast distances have often been encouraged by the need to boost local economies of the donor states. Efforts in the USA, for instance to alter this policy so that food aid could be sourced in the regions of need have not found easy acceptance. According to reports, some in Congress, as well as lobbyists for interest groups that benefit from food aid, warn that untying aid from requirements that the food be grown in the United States and mostly

shipped on U.S.-flagged vessels would shatter the political coalition that has sustained the program for decades and made the United States the world's largest food-aid donor.¹¹

Framework

As we have said earlier, food security is dependent on seed and cultural diversity. The bottom line in this postulate is that policies must be drawn up that start from the premise that the products the farmers generate are rationally utilised, ensuring their sovereignty and adding to the well-being of the nation.¹²

For Africa to be food secure she must commence a long march on the road of sustainable agricultural practices. The framework erected for this must consciously promote an agriculture that primarily focuses on production to meet local needs and to protect agricultural diversity.

This policy must of necessity move away from the use of GM crops as that model further disconnects farmers from the seeds, ties them to monopolies, lead to monocultural practices and demands increased reliance on such inputs as pesticides, herbicides and artificial fertilisers. In addition, GMOs are a direct threat to the environment and negate the notion of food sovereignty and the pursuit of food security. The policy must seek to revitalise local communities, stem rural-urban drift and promote socio-economic justice. Africa must thus liberate herself from genetic contamination.

Where help is being extended by governments, individuals or organisations to Africa, such must be based on real needs assessments and contextual analyses. Efforts such as the \$150 million worth Rockefeller/Gates Alliance for a Green Revolution in Africa (AGRA) if based on modern biotech solutions will contribute to the deepening rather than solving problems of hunger, poverty, disease and malnutrition in Africa. It has been shown that GMOs do not have higher yields than organic or conventional varieties; they are not more nutritious and they do not reduce dependency on chemical inputs. Reports abound of farmers committing suicide due to dashed hopes, failed crops and debt. The only clear beneficiary of this technology is the biotech industry behind it.¹³

African countries need to embark on genuine and integral agrarian reform that guarantees local people full rights to land, and access and control over their fishing areas, pastoral lands, migratory routes and related eco-systems.

The age-old tradition of inter-dependence between producers and consumers must be recovered and entrenched through policy reform to ensure decent jobs with fair remuneration and labour rights for all, including especially the rights of women and young people as major producers in the agricultural sector.¹⁴

Where food aid is needed, the right of countries to decide what type of food they wish to eat needs to be respected at all times and alternatives to GM food aid should always be provided. Beyond food aid, assistance should be extended to nations in crisis situations for the development of sustainable agriculture to ensure their future wellbeing.

Sustainable African agriculture will benefit from research to enhance seed conservation and development. This is nothing novel as communities practiced this over centuries.

Lost knowledge need to be recovered and future research must take account of this stock of knowledge and must also be participatory in such a way that research directions are pointed by local needs, identified by the people and should not be defined by the profit motives of agribusiness or the fancy ideas of some laboratory experts bent on producing designer crops, animals or foods. Africa can indeed be the breadbasket of the world, after local needs have been met. She cannot, however, afford to be an experimental ground for toxic technologies and have her people used as guinea pigs in the so-called fight of malaria, diarrhoea or the likes¹⁵.

End Notes

1 Rodney, Walter. 2005 edition. *How Europe Underdeveloped Africa*. Abuja. Panaf Publishing, Inc.

2 International Commission on the Future of Food and Agriculture. *Manifesto on the Future of Seed*, Navdanya/RFSTE, New Delhi

3 UN-Energy. April 2007. *Sustainable Bioenergy: A Framework for Decision Makers*. A UN paper.

4 Economic Community of West Africa States (ECOWAS). March 2007. *Action Plan for the development of biotechnology and bio-safety in the ECOWAS sub-region 2006-2010*. The document states "Although the agricultural sector is still dominated by family farms, it has been going through profound transformations over the last 20 years. The production of almost all the commodities, except for cattle, has more than doubled between 1980 and 2000. However, this situation does not concern the countries experiencing conflicts."

5 Rodney, Walter. *How Europe Underdeveloped Africa*.

6 Bond, Patrick. 2006. *Looting Africa: the economics of exploitation*. UKZN press, Pietermaritzburg

7 Forum for Food Sovereignty. 27 February 2007. *Declaration of Nyeleni*. Selingue, Mali

8 Johnson, F. H, Minister for International Development of Norway. Extract from speech "Globalisation, food and freedom" on the 5th of February 2003. Quoted in Friends of the Earth International's *Playing with Hunger: The Reality Behind the Shipment of GMOs as Food Aid*. Amsterdam, 2003

9 Friends of the Earth International. *Playing with Hunger*. 2003

10 For reports on this and other related issues visit Friends of the Earth Africa GM campaign pages at http://www.eraction.org/index.php?option=com_content&task=view&id=24&Itemid=23

11 Dugger, Celia W. April 22, 2007. U.S. rethinks foreign food aid. <http://www.iht.com/articles/2007/04/22/news/food.php> In the article, the writer quoteing the US department of Agriculture states that "in recent years, the United States has bought more than half the food for its aid programs from just four agribusinesses and their subsidiaries: Archer Daniels Midland, Cargill, Bunge and Cal Western Packaging..."

12 Rodney, Walter. *How Europe Underdeveloped Africa*.

13 For in-depth analysis see Friends of the Earth International. 2007. *Who Benefits from GM Crops?* <http://www.foei.org/en/campaigns/campaigns-home>

14 For more insights into these see Nyeleni Declaration. 27 February 2007

15 Ventria Bioscience, a USA based biotech firm, genetically engineered rice with modified human genes with the aim of producing artificial versions of human milk proteins having antimicrobial and other drug-like properties that can be used in the fight against diarrhea in children. This drug-rice was tested on children in Peru and was followed by a public enquiry as whether the tests were authorised in the first place. See also Washington Post. 2007. USDA backs production of rice with human genes. March 2. http://www.washingtonpost.com/wp-dyn/content/article/2007/03/01/AR2007030101495_pf.html . See FoE Africa's response to this Medicine Rice at <http://www.eraction.org/publications/medicinerice.pdf>

Concerted efforts and remedial measures

John K. Mutunga

Kenya national federation of Agricultural Producers

Introduction and Background

1. In the past two hundred years, there has been much concern with the Malthusian rate between population growth and food supply. So far, food has won: Increase in agricultural productivity have exceeded population growth. The last century saw three revolutions in agricultural technology -One based on mechanization, one on chemistry leading to (effective pesticides and fertilizer use) and one on biology (The “Green revolution”). For much of this period, agricultural productivity and output have grown rapidly and the relative prices of foods has generally declined (Eugene Diaz Bonilla and Sherman Robinson IFPRI, 2000/1)

2. The world has the resources and the knowledge to eliminate hunger and poverty. Statistics show that 30,000 people die of hunger each day, about 850 million people are severely hungry and about 1.3 billion people live in extreme poverty. Sub-Saharan Africa has the highest hunger and malnutrition rates in the developing world. Extreme poverty is rampant. About a third of the population-nearly 200 million people risk food security. Most, if not all, of the World Food Summit (WFS) and Millennium Development Goal (MDG) targets can still be reached. Only if efforts are redoubled and refocused and only by recognizing and acting on two key points:

- Without rapid progress in reducing hunger, achieving all of the other MDGs will be difficult, if not impossible; and
- The fight to eliminate hunger and reach the other MDGs will be won or lost in the rural areas where the vast majority of the world's hungry people live.(SOFI 2005)

3. The African continent remains by and large marginalized in the world economy, with half of the population living under 1US \$ per person per day. If the major millennium development goal of reducing poverty by half by the year 2015 is to be achieved in Africa , a major policy shift is required both at the international and national levels to help boost growth and development in Africa. Africa's challenges are numerous and complex, but there is also much potential and opportunity for growth and development throughout the continent as it addresses the Millennium Development Goals (MDGs). The Millennium Campaign informs, inspires and encourages people's involvement and action for the realization of the Millennium Development Goals. An initiative of the United Nations, the Campaign supports citizens' efforts to hold their government to account for the Millennium promise. For Africa to minimize its challenges it has to address at least 5 of the 9 MDGs first; Eradicate extreme poverty (MDG 1),Promote gender equality and empower women

(MDG 3), Combat HIV/AIDS, malaria and other diseases (MDG 6), Ensure environmental sustainability (MDG 7) and develop a global partnership for development (MDG 8) This would help reduce hunger and malnutrition which are the major causes of the deprivation and suffering targeted by all of the other MDGs(SOFI, 2005)

4. Clearly, a major effort is needed to eliminate poverty and achieve food and nutrition security in Africa, an effort that requires innovative strategies by Africans themselves and support by international development partners. This requires putting people, their knowledge and information at the centre of agricultural and rural development efforts. Development efforts should aim at protecting food sovereignty, if they are to be sustainable, and preservation of family farming through mutually supportive policies. This is in due recognition of the fact that agriculture renders livelihood supports to majority of the populations in Africa (60-80%), offers the biggest source of employment (50-75%) and contributes heavily to the National Gross Domestic Product (GDP) (30-60%) directly and /or indirectly.

5. Nearly two thirds of the people in Africa are in the rural areas and depend on Agriculture for their survival. Low and often declining farm level productivity is a major cause of potential low income and hunger (AATF, Inaugural report, 2002-2004) Africa is the only region in the world where Agricultural production per person has actually declined over the past 20 years. As a result, 25% of all the chronically malnourished people in the world are found in this region (Eugene Terry) Yes, Africa can feed itself; if its people and the development partner worked together to address the people's felt needs, while utilizing the environmental resources sustainably.

6. Africa faces a multiplicity of unique and inherent challenges, that deprive it the resources and strategic focus to gain faster development; included are some of the commonest impediments;

Main Challenges That Hinder Africa from Feeding Itself

7. **Famine and hunger** are interrelated and millions of Africans face possible starvation. In Southern Africa, at least 10 million individuals face possible starvation from prolonged drought and famine. In West Africa, more than 5 million people face hunger and starvation. In Kenya, more than 2 million citizens are urgently in need of food, due to the vicious cycle of droughts and floods caused by changed climatical conditions as a result of environmental degradation. The cycle of hunger in sub-Saharan Africa begins and ends with poverty, the inability to grow or purchase food causes malnutrition and poor health, which in turn leads to the inability to earn income and to deeper poverty. It is estimated that one in three people in Africa are currently undernourished. To break this cycle, African leaders have recognized that increased economic growth, driven by agriculture, is essential. Launched in 2002, the Presidential Initiative to End Hunger in

Africa (IEHA) is a multi-year effort designed to help increase agricultural income and fulfill the United Nations' Millennium Development Goal of cutting the number of hungry people in Africa in half by 2015. This initiative focuses on promoting agricultural growth and building an African-led partnership to cut hunger and poverty by investing in smallholder agriculture.

8. The ongoing **inter border wars** and within border conflicts which increase the numbers of refugees and internally displaced persons. When people are displaced within their country's borders as a result of an armed conflict or internal disturbance, they form part of the affected civilian population. This results in production disruption, families are dispersed, children lose contact with their parents in the chaos of fright set in with the elderly too weak to undertake long arduous journey left behind to fend for themselves, thus resulting into poverty, hunger and insecurity. The problem of population displacements, whether the people concerned are refugees or persons displaced within their own country, presents a big challenge not only to the countries concerned but to the international community.

9. Access to Land and Land use Land is a scarce resource, subject to competing uses such as, agricultural production, residential development, urban development, public parks and other amenities. Land policies fall short of strengthening access to and utility of for agricultural production and jeopardize the security of tenure. However, the most important implication of economic analysis for policy-making is that in a world of scarce resources, trade-offs characterize any policy decision. Relocation of scarce resources also implies a redistribution of income and wealth in society. The problem facing policy makers in Africa is the choice among alternative consumption bundles, fair distributions of land through supportive appropriate public policies.

10. H.I.V./AIDS, TB and Malaria will continue to claim millions of lives. These three conditions will continue to wreck havoc on the health of individuals and the economy of affected societies. The health system of many African nations, especially in Southern Africa will continue to be under severe pressure from the impact of the three conditions. Remedial efforts, domestic, regional and international, are likely to remain hampered by financial, technical, logistics, political and governance bottlenecks. These three conditions have greatly contributed to poverty and misery to many families across Africa.

11. Trade and market access, in a variety of arrangements and other market mechanisms promote over-production and the dumping of "cheap food" thus disrupting the local productions. Unnecessary food importation, which only benefits large corporate producers and causes major losses to the continent. The World Trade Organization, (WTO), has failed as the primary international institution to help promote free trade, by drawing up the rules of international trade. However, it has been marred in controversy that seems to suggest that rich countries' interests have hijacked it. Thus worsening the lot of the poor

and inviting protest and intense criticism. Penetration to the international market for the African products is made difficult by the high tariffs for the processed products, the low prices for the raw products and the high phytosanitary requirements on the agricultural products. The EPA/ACP negotiations need to take into account the fragility of the ACP country economies. One of the Africa heads of state declaration during the First Africa-South America summit (Nov. 2006: Abuja Nigeria); called upon the WTO to become a truly universal organization, and the various partners to refrain from imposing conditions likely to delay and impede the accession of the developing countries in general, thereby enabling them to reap the benefits of the multilateral trading system.

12. Environmental issues in Africa are caused by anthropogenic effects on the African natural environment and have major impacts on humans and nearly all forms of endemic life. These issues are ultimately linked to over-population in Africa, as well as on a global scale. Nearly all of Africa's environmental problems are geographically variable and human-induced, though not necessarily by Africans. Under the burden of chronic poverty and hunger, livestock herders, subsistence farmers, Forest dwellers and fisherfolk use their natural environments in unsustainable ways leading to further deterioration of their livelihoods conditions.

Concerted efforts and remedial measures:

Developing hope for the future

13. The productivity of the soils in Africa has been rated the lowest due to the low fertilizer use. During the Africa fertilizer summit in Abuja Nigeria, last year, African heads of states and governments committed themselves to Africa Green Revolution, through focus on soil fertility and fertilizer use. Several strategies targeting access, costs, packaging and sub regional distribution of fertilizer were drawn, and NEPAD charged with the responsibility of overseeing the process of implementing the same.

14. A united Africa is essential for us to seize control of our destiny. Africa is endowed with diverse wealth of resources but due to poverty and disunity these resources are not fully exploited. Though external help is required, a lot in terms of inter countries relations and resource sharing is of extreme importance. During the food summit in Abuja Nigeria in Dec 2006 the African heads of states recognized the efforts and progress being made by many African countries in agricultural growth and reducing food and nutrition insecurity and affirmed the commitment made in Maputo in 2003 to increase resources for Agriculture and Rural Development to at least 10% of national budgets within 5 years; Kenya in an effort of honoring the commitment has raised its budgetary allocation for agriculture and rural development to 6.8% with the development component already at 9.9% and recurrent at 5.4% (Kenya Budget estimates, Development 2007/2008)

15. In the same light, More and better an international campaign on food, agriculture and rural development aid to eradicate hunger and poverty. Has developed some principles for good assistance for agriculture and rural development and has discussed these principles with FAO, IFAD, WFP, governments and development partners with an aim of influencing the quality of development aid. It has been lobbying and putting pressure on governments to give higher priority to agriculture and rural development through activities closely linked to those of the International Alliance against Hunger, with which MaB collaborates.

16. Investment in developing domestic expertise capable of evaluating and regulating new technologies for adoption by the people with focus on high value, labor intensive specialty crops and horticulture, where there is comparative advantage while land-abundant countries may be better producing bulk goods such as wheat, maize and Soya beans.

17. Establishing producer confidence through market access and market certainties for products from the less wealthy countries (agricultural and developing); especially in the developed economies.

18. Adjustments at the world market level through a complete segmentation of the markets for developing countries (Africa) agricultural products commodities thus availing the choice for the consumer who might prefer to support the poor countries through preference for their products.

19. Exploiting the available opportunities by the agricultural researchers in developing countries through use of innovations protected in the developed countries.

20. Create enduring private sector participation through sustainable incentives mechanisms in the agricultural development process.

21. Facilitate the efforts of the relevant public and private institutions, as well as non-governmental organizations working to develop and deliver useful proprietary tools, materials and know how to farmers.

22. Clearly identify the real constraints of the regional smallholder farmers and identify opportunity for appropriate, royalty free transfer of new and existing proprietary technologies.

23. Changing the development, focus to more people centered/based institutional arrangements in order to reduce transaction costs and utilize development resources at the producer level.

24. Causing policy shift through people driven initiatives to favor production and market

models that are supportive of the majority producers and the rural poor.

25. Influence state and national development strategies to adopt more decentralized approaches, and appropriate participatory problem solving at local level through active and productive participation in policy dialogue at various levels.

26. Developing interventional paradigms that focus on lifting the poor out of poverty; through articulation of their actual needs.

27. Agricultural development resources should be devoid of excessive/multiple assessments, avoid project focus and adopt accounting procedures that are inclined to excessive inter phase delays and time wastage.

28. Empowerment of people's organizations to keep states and governments at check and monitor public resource use vis a viz national agricultural development strategies.

29. Address the problems of landlessness and squatter systems through policy guidelines on land and land use, with a view of enhancing equitability in land ownership.

30. Address total agricultural products value chains through respite investment in value addition and focus on market development. This ensures bigger incomes to farmers and establishment of alternative income sources at producer level, which would in turn ease pressure on land through lowered reliance on the resources.

31. Success will require each African government to wholly commit itself to the Millennium Development Goals, by developing national strategies consistent with the timeline and targets for 2015.

References;

1. AATE, Inaugural report May 2002-December 2004 Nairobi-Kenya: African Agricultural Technology Foundation
2. AATE, (2005) A New Bridge to Sustainable Agricultural Development in Africa.
3. Eugene Terry (2005)
4. Eugene Diaz Bonilla and Sherman
5. IFPR 2000/1) IFPRI (2000-2001) Biotechnology, Trade and Hunger. Are intellectual property rights stifling Agricultural Biotechnology in Developing Countries
6. Summit on Food Security in Africa (Abuja Declaration) (Dec 2006), Abuja Nigeria
7. The Kenya Budgetary Printed Estimates 2006/2007. Government Printers. Nairobi, Kenya

Policy framework for sustainable agriculture in Malawi: challenges & opportunities

Gracian Zibelu Banda

Centre for Environmental Policy and Advocacy, Malawi

1. Background and Introduction: Policy for Sustainable Agriculture

As we understand it and as used here, policy includes the actions or inactions of policy makers including their utterances at various levels. It is therefore broader than the formally adopted documents bearing government emblems or official signatures. As an expression of intended action policy is usually embedded in official documents including legislation; but it can be equally argued that the omission of guidelines in a particular area of governance may signify an existing policy to act in accordance with the status quo since if it was otherwise then the relevant department would have acted to inform the public accordingly. This could be the case also where a government fails to implement its own expressed policy leading to certain 'unauthorized acts' being legitimized by long use and widespread claims.

This makes public policy an 'unruly horse'. It may depend on the whim of politicians; if left unchecked to ensure that it accommodates diverse interests and is transparent and accountable, it could lead to derailment of well meaning and well intended programmes and projects. Governance issues have considerable impact on the ability of a nation to feed its people. They determine productivity, supply, storage and distribution of food. Policy determines national priorities and what the population will eat; how much land will be put to production; access to and availability of agriculture inputs; where proceeds will be sold; the prices which will be fetched, among others.

The challenge is to devise mechanisms for ensuring that policy advocacy, that art of influencing those who make and implement policy, is responsive to its constituents while remaining locally relevant and globally informed. Advocacy is long term in its outlook and in this respect challenges the often short term requirements of policy sponsors who have to convince donors or back donors that they will get their money's worth. It requires considerable financial outlays whose benefits may not be immediately tangible. Because policy making or its implementation requires the active involvement of many actors, the danger of compromise to technical requirements for short term political or bureaucratic interests is very real. On the other hand, advocacy must deal with unequal power relations that determine the content of policy as well as its implementation¹. Advocacy that does not confront power relations cannot bring about enduring change².

Malawi and many of its neighbours in southern Africa have in recent past faced food shortages requiring massive food imports to avert mass starvation. While the major cause

for the food shortage has been drought and floods several other factors have come into play confirming what many analysts had always known: food security is both about food availability as it is about supply³. Hence while Malawi had prior to the 2000/2001 and the 2001/2002 food crisis adequate national supply of food, this food was not available to the general population when it was needed most. Politicians had sold most of it to neighbouring countries making it impossible for local people to access the food. In Zimbabwe, once the breadbasket of Africa, the economic decline following the 'land grabs' has had devastating impacts on food production and supply⁴. Food security has been adversely affected there ever since.

In both Malawi and Zimbabwe national policy had as much to do with food insecurity as adverse climatic conditions⁵. The United Nations agencies in Malawi in their 2002 Consolidated Appeal stated that 'recent food crises in Malawi result from a number of conditions such as chronic poverty, reliance on a single crop, unfavourable weather conditions, and a high prevalence of HIV/Aids'. The HIV/Aids dimension is quite important considering that the majority of infections are among women who happen to be the most agriculturally productive in the rural areas.

Sustainable agriculture concerns the overall effort to make human activities compatible with the demands of the earth's ecosystem. It seeks to integrate economic, environmental and social sustainability of the agriculture systems that underline the need to balance productivity within the carrying capacity of the ecosystem. This should balance the goals of productivity and profitability, stewardship of the natural resources base and ecosystems and enhancement of the vitality of rural communities. Many of these factors are shaped by policy relating to water, land, forestry, wildlife and other livelihoods systems that provide and define the capabilities of various groups. The interplay of policy prescriptions on livelihoods and its impact on the ecosystem in a predominantly rural and agriculture economy such as that of Malawi define the extent to which sustainable agriculture can be achieved

In this paper I briefly examine the key issues that determine the ability of a nation to feed itself. I consider the policy and legal framework for ensuring sustainable agriculture; in this respect I argue that the law has an important role to play as a tool to achieve food security. While its role as a facilitating tool is to ensure that the country has the means for achieving agriculture productivity such as by regulating fertilizer, chemicals and other agriculture inputs including financing, its most prominent role, especially for poor people is protect food availability. I therefore address the impact of a rights based approach in ensuring that the law stands for those whose voices are least heard.

Hence section 2 analyses the right to food and the interpretation that has been developed by some agencies that have considered the question and the manner in which this right is perceived under Malawi law. Section 3 deals with agriculture policy and its impact on food security in Malawi while section 4 considers the international perspectives of the right to food and how it is affected by various related policies such as those governing biodiversity, trade and intellectual property. Section 5 provides some experiences of civil

society engagement in policy advocacy in Malawi; this culminates on some observations on what can be done in the last part.

2. The right to food and sustainable agriculture

2.1 The Content and Meaning of the Right to Food

The right to food is a socio-economic right and is intended to create the requisite material conditions for human welfare in the same way as the right or access education, health, land or housing. As most socio-economic rights, the right to food is not universally considered as justiciable and its content and enforcement therefore remains contested⁶. However there is considerable agreement at international level, especially through the work of the Human Rights Committee in its General Comment number 12 where it defined the right to food as intended to ensure:

'the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances and acceptable within a given culture and the accessibility of such food in ways that are sustainable and that do not interfere with other human rights'.

Food availability addresses national food security while food accessibility addresses household food security⁷. According to the Committee for the right to food to be realized, availability and accessibility of food must be sustainable; it must also be available for and accessible to future generations. This formulation is key and awakens all of us to the reality of the role of policy in food security. Availability of food at a particular point in time may be achieved by means that are not adversely affect existing natural resources or which may lead to violations of other human rights and thereby compromise the right to food.

These have a number of policy implications. In the first place it means that when protecting, respecting or fulfilling the right to food the state must balance the interests of various groups in society in the present generation on the one hand and the interests and aspirations of future generations on the other hand⁸. It has been argued for example that poor people in the present generation cannot be convinced to moderate in their consumption of resources for the sake of future generations when in fact their rich neighbours are left to consume without let or hinder.

Secondly, the right to food must be achieved in an environmentally sustainable manner. Wanton clearing of land for food production may cause land degradation and thereby compromise the ability of future generations to live off the same land. In some cases land clearance has caused massive siltation adversely affecting water resources and thereby curtail the right to water and eventually adversely affect the right to food itself. In Malawi we have seen the impact of massive deforestation on electricity energy generation which has caused constant load shedding due to reduced water levels in the Shire River. Much of the deforestation is associated with illegal charcoal production which is also fuelled by erratic and limited access to electricity or other alternative forms of energy⁹.

Thirdly, the right to food requires that the food must not only be nutritionally adequate and comply with human physiological needs, it must also be safe, free from harmful substances, and must also be culturally acceptable¹⁰. These requirements would clearly bring concerns on genetically modified food into sharp focus. In the 2001/2002 food crisis Malawi accepted GMO maize from the United States of America at a time when it had no policy on these products. The maize was accepted on the condition that it would be milled before it came into the country, a condition that was intended to address the likely environmental contamination¹¹. We have no information as to what if any health or cultural concerns were expressed as many of the recipients would have had no means of knowing they were eating a different category of maize. This in itself can be considered a violation of the constitutional right to information which should be enhanced especially in emergencies such as the food crisis.

On the other hand, the right to food is not a stand alone right. It requires and also reinforces the fulfilment of other equally important rights. The right or access to water or land is clearly important in the realization of the right to food. Other right create access to income which enables the right to food to be enjoyed; the right to education or health care provide an enabling environment for the right to food to be realized not only through acquisition of income but also increasing the capacity to produce. It is an educated and healthy person who is in a position to engage in productive activities on a sustainable basis. The right to equality and right not to be discriminated against including access to justice are essential for the right to food to be protected.

Like other socio-economic rights the right to food must be effected progressively and to the maximum of available resources. The Human Rights Committee has however held that although the right to food is subject to these restriction the duty to avoid hunger, as distinct from individual access to food, is a priority¹². Thus if a state fails to satisfy the essential minimum to be free from hunger then it must demonstrate that it has done everything in its power. Clearly where a state which fails to guarantee its citizens freedom from hunger is able to undertake expensive military spending or expensive jets for its leaders then it may be guilty of violating the right to food.

2.2 Property Rights, the Right to Food and Hunger

Hunger is the condition of a person who does not have enough food. It is now widely recognized that hunger and malnutrition cannot be adequately explained merely by climatic, demographic and natural resource decline factors leading to food availability decline. These may partly explain why people go hungry but it is not the whole story¹³. Armatya Sen¹⁴ has argued that failure of entitlement systems as a major cause of hunger today. To Sen, entitlements refer to legal rights, the array of rights and arrangements that affect an individual's ability to obtain food. The resources a person has for his own use determines whether they can obtain for their basic needs either through income generating work or through actual production of the goods¹⁵. The presence of hunger and its prevention or eradication largely depends on how property rights are structured. In

addition the private market currently in vogue in the world trading system brings further challenges especially to the vulnerable groups in society. So long as people's only or main claim for food is through the market and incomes and prices are volatile, many will die from hunger irrespective of the amount of food produced¹⁶. In a functioning democracy however the distribution of goods

2.3 The right to food in Malawi

The Constitution is the supreme law and policy instrument in Malawi and even international law is subject to it (section 211). This is an expression of sovereignty as enshrined in various international instruments including the United Nations Charter. In the context of biodiversity the principles of national policy in section 13 provide for the responsibility of Government to conserve and enhance the biological diversity of Malawi (paragraph d) while paragraph (d) calls upon the state to achieve adequate nutrition for all in order to promote good health and self-sufficiency in food. The effect of the principles of national policy in the Constitution is to provide direction for Governments action and is therefore not binding; but courts may take them into account in determining the validity of executive decisions and in interpretation of the Constitution.

It follows therefore that the principles of national policy under the Constitution does not provide for a readily enforceable right to food. However two provisions in the bill of rights may be interpreted as providing for a right of access to food or health facilities. The first is section 16 that provides for the right to life. It does not require too much analysis to conclude that the right to life is not confined to the physical aspects of a person's well being. It also includes the material aspects that enable a person realize that right. In that respect deprivation of food and health facilities would violate such a right and so would violation of a clean and healthy environment.

In the Pakistan case of *MS. Sheila Zia -v- WAPDA*, Human Rights case Number 15-K of 1992¹⁷ the question arose regarding the meaning and content of the right to life enshrined under Article 9 of the Constitution of Pakistan. The Supreme Court of Pakistan had no hesitation in declaring that the word right covers all facets of human existence. It does not mean nor can it be restricted only to vegetative or animal life. The Supreme Court stated that '*life includes all such amenities and facilities which a person born in a free country is entitled to enjoy with dignity, legally and constitutionally*'. In this particular case the right to life was considered in the context of exposure of people to electromagnetic fields which was considered a health hazard. Its pronouncement however equally applies to a right to amenities that support life such as food, shelter and others. It is also significant that the Supreme Court considered the right to life alongside other related rights such as the inviolability of the dignity of man as an essential component of the right to life. The Constitution of Pakistan just like that of Malawi in section 19 protects the fundamental right to protect and preserve the dignity of all persons. Using this provision the Supreme Court of Pakistan held that where the life of a person is degraded, the quality

of life is adversely affected. There can be no worse degradation than to lack food and nutrition which are the basis of life itself. Hence freedom from want and from hunger is the prerequisite of the right to life.

In addition section 30 of the Malawi Constitution provides for the right to development which, though at first glance appears communitarian in nature, is essentially intended to address individual needs. Subsection (2) is particularly relevant in relation to access to food and health facilities. It states that:

“The State shall take all necessary measures for the realization of the right to development. Such measures shall include, amongst other things, equality of opportunity for all in their access to basic resources, education, health services, food, shelter, employment and infrastructure.”

The services mentioned in the above provision are to be provided for all Malawians and for the benefit of individuals that require them. It provides for equalizing opportunities of access to food, shelter, employment and infrastructure and health services to ensure that the material requirements for realizing the right to development should be provided and facilitated. Hence although there is no specific right to food or access to food as such these and other material requirements are provided as part of the right to development. One can therefore enforce the right to development and through that specifically claim equal opportunity in their access to basic resources including food. Further, the section seems to suggest that it is when there are inequalities that a claim to the right to food can be made; mere lack of food or access to food would be no ground for making a claim against Government.

Commentators have considered the measures a state should take in order to actualise the right to development. These include land reform, ensuring physical and economic access to credit, natural resources, new technologies, rural infrastructure, irrigation and provision of explicit farmers’ rights through legislation¹⁸. Clearly for small scale farmers their main concern would be access to agriculture inputs, access to markets, access to land and labour. Government would have to particularly take into account concerns and interests of vulnerable groups who would need empowerment in order for them to have equality of opportunity with everybody else.

In addition, the state needs to deliberately put in place mechanisms to ensure that cash crops do not replace food crops at the expense of food security; that the private sector is regulated to prevent them taking advantage of farmers or violating farmers rights and that there is sufficient R & D with respect to under utilized crops of high nutritional value (*ibid*). On the other hand, the enforceability of these socio-economic rights has been subject to several doubts. However the South African Constitutional Court¹⁹ has come out quite clear and held these enforceable; though consideration need to be taken of availability of state resources in determining the type of executive or legislative action to be undertaken in fulfilling these rights.

Nevertheless the obligation remains to progressively implement these rights through programmes that are designed to match needs and available resources. Doing nothing on the ground that there are no resources would definitely violate these rights. These rights would be quite instructive for Malawi; though it may be essential to strengthen the rights of access to food and health further under the Constitution to make them clearer as is the case with South African Constitution.

3. Agriculture Policy and Food Security in Malawi

The discourse on agriculture in Malawi is dominated by colonial history which imposed certain cultural norms intended to influence and promote the interests of the metropolitan state on the one hand and the post-colonial policy intended to promote export agriculture for rapid economic growth. These two scenarios are intimately related. Up to today Malawi's agriculture system is essentially dualistic. On the one hand, a myriad of small scale farmers reckoned at almost 2 million farm families use rudimentary agriculture technologies, the hand hoe, little or no fertilizers or chemicals, limited labour and essentially are locked into farming as the only source of livelihood.. The other group, the commercial farmer, have relatively larger land holdings, are involved in cash crop farming. This latter group goes into farming with considerable measure of options and has therefore access to technologies, inputs and markets.

Scholars agree that both the colonial and post colonial agriculture policy were intended to service the international demand for globally relevant and marketable crops such as tobacco, tea, coffee, groundnuts. Indigenous and purely local varieties for home consumption such as sorghum, millet, cassava, though very well suited and adapted to local conditions and requiring minimum labour and inputs, have generally been less supported by mainstream policy. The development of local markets, tastes and enterprise development around agriculture have therefore tended to follow this deliberate policy stand²⁰.

Yet it is now well known that these mainstream crops have limited local adaptation; hence require substantial investments in capital for labour, inputs and land for clearance. As the demand for cash crops has soared, much more agriculture land has had and continues to be cleared even as population growth has also increased. The results have been particularly telling on life styles, local incomes and ability of local communities to achieve food security.

While cash crop prices went down, input prices rose to such levels that most small-scale farmers were unable to cope. They continued and continue to undertake cash crop farming because they are hooked. They hope prices will improve; they cannot achieve adequate maize yields for food security without cash income from cash crops. Their areas of land available for cultivation has been severely limited by the exponential growth of the commercial farming that ate up most of their land. As if this was not enough, the structural adjustment programmes of the 1980s and 1990s severely limited state policy interventions in agriculture: subsidies were withdrawn; agriculture extension services were substantially

reduced. Dwindling rural incomes led to increases in urban migration, hence reducing agriculture labour supply. The sum total of all these have severely crippled the capacity of small-scale farmers to achieve food security and reduce poverty.

4. International Perspectives of Human Rights and Food Security

4.1 The Right to Food in International Instruments

The Universal Declaration of Human Rights reaffirms in its preamble fundamental human rights, the dignity and worth of the human person, equal rights of men and women and to promote social progress and better standards of life. In addition to the civil and political rights, the UDHR gives every person the right to a standard of living adequate for the health and well being of himself and of his family, including food, clothing, housing and medical care and necessary services and the rights to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control (Article 25.1). Not only does this clause incorporate the essence of food as a necessary component for living; it also incorporates the concept of food security, especially for the vulnerable in society.

The International Covenant on Economic, Social and Cultural Rights (ICESCR) expands the right to food. In particular, the ICESCR, taking inspiration from the UDHR, declares that the ideal for freedom from fear and want (which should include food security) can only be achieved if conditions are created whereby everyone enjoys his, *inter alia*, economic, social and cultural rights (the preamble). In this respect Article 11 of ICESCR repeats the provisions of Article 25.1 of the UDHR. But the ICESCR goes further to oblige state parties to recognize the fundamental right of everyone to be free from hunger and undertake programmes and measures to improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve a most efficient development and utilization of natural resources.

International efforts in recent years have focused on making food production, variety and quality sustainable for the expanding world population. The key to realizing this goal is dependent on agro-biodiversity that has witnessed significant reduction over the last 100 years. According to the United Nations Food and Agriculture (FAO) over 90 per cent of the world's crop varieties have disappeared in one century. Many contend that a significant portion of this loss can be attributed to food standardization brought about by multinational companies that have promoted certain varieties at the expense of others. They cite the use of intellectual property rights (IPRs) to grant private monopoly rights which in some respects determine, influence and or control what farmers grow, save or share. This may be determinable to crop varieties in that it deprives small scale farmers of innovative practices arising from sharing, saving and breeding for improvement.

Key international instruments governing biodiversity in general and crop diversity in particular include the Convention on Biological Diversity (CBD), the International Treaty on Plants Genetic Resources for Food and Agriculture, (ITPGRFA) and the International Plant Protection Convention (UPOV).

Since food is a human right under international human rights instruments there is the potential that related international instruments such as the world Trade Organization Agreement on Trade Related aspects of Intellectual Property Rights (WTO/TRIPs) which promote trade and economic development, mainly for business and profit, may conflict with it. The WTO/TRIPs is however supported by the developed countries with financial, trade and aid assistance to influence developing countries to tow the line; but much more importantly TRIPs has binding judicial settlement mechanism capable of ordering trade sanctions against members who fail, refuse or neglect to comply with its provisions.

4.2 International Lending and Sustainable Agriculture

The asymmetry in power relations between international legal and institutional frameworks compromises the ability of developing countries in Africa to articulate policy that promotes agriculture sustainability. For example, the World Bank and International Monetary Fund require certain policy prescriptions to enable developing countries access the much needed development funding. These include the withdrawal of subsidies, the reduction in state funding such as agriculture extension and the liberalization of the economy even in sectors deemed core for poverty reduction.

In Malawi, the consequences have been quite visible and devastating. A number of agriculture research institutions were closed, the number of extension workers was reduced considerably, fertilizer prices went up, a number of markets run by the Agriculture Development and Marketing Corporation were closed. Many of the few industries which were propped up by the state and were processing agriculture produce were closed leading to unemployment and many associated social problems. Funding to education institutions was reduced considerably making it difficult for pupils from poor families to access education services.

While many of the policy prescriptions were necessary to get the ailing economies of developing countries back on track, the intensity of the austerity measures was disproportionate to the prevailing conditions which required correction. Many commentators have argued that the net result has been opening up of the economies as cheap sources of raw materials and markets for finished products from the developing countries, as if this was intended. The products from these countries have further influenced the consumption patterns and tastes of local communities such that they are inclined to produce these products or undertake activities that provide them income to buy these imported products. And this is despite the fact that the prices of cash crops such as tobacco or cotton are very unstable on the international market compared to those of processed imports such as fertilizer or chemicals. Small scale farmers are therefore unable

to maintain productivity to a level that will enable them provide for their families. This makes agriculture unsustainable.

4.3 Agro-Biodiversity and Food Security

The UDHR and ICESCRs provide for measures states should take in guaranteeing and protecting social, cultural and economic rights of their people. More importantly for our purposes they provide the linkage between human rights, food security and sustainable biodiversity conservation and utilization. The United Nations conference on Environment and Development developed these ideals further when in 1992 it adopted the Rio Declaration including the CBD with specific commitments by parties to actively involve local communities in order to facilitate effective biodiversity conservation.

The CBD noted the importance of biodiversity for evolution and maintenance of life sustaining systems of the biosphere. It provides *inter alia*, for *in-situ* and *ex-situ* measures for sustainable management of biodiversity, as well as access to genetic resources and access to and transfer of technology required for exploitation of genetic resources²¹. The provisions on access to genetic resources are particularly critical to food security issues in that they provide mechanisms through which state parties can obtain access to biological resources such as plant varieties and animals breeds that can enhance food security.

The preamble to the CBD clearly points out that regulating conservation, sustainable utilization and access to biological resources is a national responsibility. It further points out however that conservation of biological diversity is a common concern of mankind. Hence other countries have interest in and may be involved in, subject to national law, biodiversity issues. Hence while regulating access is a national responsibility CBD parties have a duty not to unduly restrict access to biodiversity. Article 19 provides for sharing of benefits arising from technological exploitation of genetic resources and parties are obliged to institute appropriate mechanisms to enhance sharing of such benefits. State parties are required to take necessary measures for the private sector to facilitate access to, and joint development and transfer of technology.

The International Treaty on Plant and Genetic Resources for Food and Agriculture was adopted in 2001 and came into force in 2004. The ITPGRFA transferred the previously non binding IUPGRFA into a binding treaty. As its name suggests it deals mainly with plant genetic resources for food and agriculture and is therefore very critical for food security issues. The overall aims of the ITPGRFA are to promote sustainable agriculture and food security. Following the CBD, the ITPGRFA radically changed the legal status of plant genetic resources in international law. Hence while the previous instrument – IUPGRFA - promoted sharing of plant genetic resources, the new Treaty affirms the sovereign of states over their plant genetic resources and allows for introduction of intellectual property rights.

The main contribution of the ITPGRFA to the international legal framework, especially for developing countries, is its focus on farmers' rights and their contribution to conservation of agro-biodiversity and, to save, exchange, and use agro-biodiversity. The

Treaty gives broad guidelines on the scope of farmers' rights to be protected but leaves the responsibility for realizing these to member states. This includes protection of traditional knowledge, benefit sharing issues and participation in decision making regarding management of plant genetic resources.

Another important contribution of the ITPGRFA to agro-biodiversity is its regime of access and benefit sharing and thereby linking directly to intellectual property issues. In this respect the Treaty establishes a Multilateral System of Access and Benefit Sharing and provides for a facilitated access to the Multilateral System which will hold plant genetic resources in *ex-situ* collections by the Consultative Group on International Agriculture Research as well as those provided by states parties and natural and legal persons from member states in accordance with the Treaty. The IPR regime poses a major challenge to sustainable agriculture for developing countries, who have to deal with a myriad of often conflicting international instruments such as the CBD and TRIPS as well as regulating multinational corporations who have more resources than these poor countries. While drafting local policies and legislation may be relatively easier, implementing these and providing the balance between local interests and multinational interests is too demanding for the limited capacity of these countries.

5. Policy Engagement for Sustainable Agriculture in Malawi

There have been a few recent examples of public engagement in policy processes in Malawi. We describe below three instances where civil society institutions and in some instances, the general public, provided voice and prevented certain unpopular decisions from being formalized or implemented.

5.1 The ADMARC Campaign

The Agriculture Development and Marketing Corporation (ADMARC) was established by an Act of Parliament in 1971. ADMARC was throughout the 1970s and early 1980s a premier government institution closely related to agriculture input supply and marketing. The institution generally did well by providing subsidized inputs and market access to a predominantly rural population. This success was however achieved at a cost first to the small scale farming community whose prices were depressed and taxed to enable the institution fund its many social activities²²; and secondly to the national economy which had to subsidize its many programmes. The institution on the other hand greatly benefited commercial farmers and industrial investments which received subsidized inputs and loans. When, however, the structural adjustment programmes were initiated in the latter 1980s, the institution was a target of many reforms which culminated into the proposal to privatize ADMARC.

ADMARC privatization required first that the ADMARC Act be repealed. The ADMARC Repeal Act was therefore tabled in Parliament in 2003. Civil society led and funded by Oxfam Malawi mounted an advocacy campaign after research showed that the

major losers of this policy shift would be small-scale farmers who were major beneficiaries of ADMARC's social functions. The civil society created a steering committee to coordinate the campaign against ADMARC privatization. The committee engaged several sections of the public through radio and television and targeted Government officials, Members of Parliament and donor community. A number of press releases were published in the two daily newspapers outlining the adverse consequences of the withdrawal of ADMARC's social functions.

There were some successes. Government announced that it would not privatize ADMARC, but would commercialize it. The radio campaigns enabled the general public, especially those in rural areas, to engage in policy debates; it also raised the national profile of ADMARC's social functions.

There were challenges. Government managed to pass the ADMARC Repeal Bill. The opposition walked out of Parliament, frustrated by the abuse of majority power on an issues in which a majority of the general public thought should not be effected. Nevertheless the Parliamentary Committee on Agriculture and Natural Resources which civil society institutions had lobbied decided to institute an inquiry into the ADMARC privatization. Even Government promised that it would deal with the ADMARC's social functions to ensure that the reforms did not adversely affect poor people.

A number of lessons can be learned from this campaign. First, the campaign was financed by a fairly solid northern-based NGO, hence the steering committee was given the necessary facility to meet, conduct or commission research, lobby on a long term basis and hence ensure that it was up to date. However, funding on its own is not adequate; hence while the campaign was launched by a group of civil society institutions, no mechanism existed to provide feedback and continuously engage wider civil society stakeholders. Secondly, it is clear that the campaign targeted a piece of legislation and not a process. Hence the campaign fizzled out when the ADMARC Repeal Act was passed in Parliament. To date ADMARC's position remains precarious and the threats the campaign sought to deal with are still very real²³. It follows therefore that investment in policy processes is long term. This poses major challenges for donor funded policy advocacy since these have time frames and require tangible outcomes to enable the donor justify to its electorate or back donors for what purpose the expenditure was incurred and if it should be renewed.

5.2 The Land Campaign

Land is the single most important natural asset for agriculture productivity. It however remains unequally distributed across the country. Statistics show that about 1.8 to 2 million smallholder farmers cultivate an average 1 ha of land. On the other hand 30,000 estates cultivate 10 to 500 hectares. With population growth and customary land tenure, land has become more fragmented. Land holding sizes have diminished from an average of 1.53 ha in 1968 to 0.8 ha in 2000. Land holding sizes have diminished from an average of 1.53 ha in 1968 to 0.8 ha in 2000.

Poverty in Malawi has been linked to landlessness or land constraints. The mean

household land holding shows the ultra-poor holding an average 0.84 ha; the poor about 0.91 ha; while the non poor have 1.10 ha. Landlessness has considerable bearing on agriculture productivity in general and food security in particular. The mean household maize production per capita shows the ultra-poor produce 48.5 kg; the poor produce 63.3 kg; while the non poor produce 115.8 kg. studies also show that productivity and technology adoption tends to be low among land constrained smallholder farmers. The need for land reform was a major political issue especially for the southern region which has very high population densities.

Government commenced policy review with a Presidential Commission on Land Policy in 1996. This was followed with adoption of the National Land Policy in 2003. It was after the adoption of the policy that civil society woke up and formed a Civil Society Taskforce on Land and Natural Resources to advocate for pro-poor land rights. The Taskforce made several recommendations and made submissions to the Special Law Commission on Land that was drafting a new land law and to the Parliamentary Committee on Agriculture, Land and Natural Resources. The recommendations were prepared after intensive consultations with local communities, traditional leaders and local government officials in a few districts across Malawi, where land pressure is a major concern.

There were seemingly no major disagreements between the Civil Society Taskforce and the Special Law Commission. But when an Amendment Bill was published, the Taskforce felt Government had not incorporated many of its recommendations including the need for a comprehensive land law rather than mere amendments. The Taskforce campaigned for the withdrawal of the bill. It was at this point that the Taskforce came to know that Government was under pressure to pass the law so as to qualify for donor funds. The Amendment Bill was however unpopular among the opposition whom the Taskforce had lobbied continuously and was eventually withdrawn.

The Taskforce was again lucky to be funded by Oxfam and had the resources to conduct research and facilitate meetings with various officials to press the issues it considered were grassroots concerns. Unlike in the ADMARC campaign, the land campaign established a full time secretariat which was later formed into a permanent institution now being registered as LandNet Trust. Unfortunately Oxfam has stopped LandNet funding because it has adopted a new strategic programme document which does not cover land issues. LandNet must therefore seek funding elsewhere even before the secretariat has developed the capacity.

5.3 Review and Revision of Biodiversity related policy and legislation

Malawi adopted a National Biodiversity Strategy and Action Plan in 2004 as part of its commitment under the Convention on Biological Diversity which it ratified in 1994. Under the NBSAP Malawi has committed to revise its legislation on access to and benefit sharing of biological resources and protect indigenous knowledge as well as farmers' rights. With some support from the Southern Africa Biodiversity Support Programme (SABSP) Malawi embarked on policy review and collaborated with the Centre for Environmental

Policy and Advocacy (CEPA) to develop legislation on access and benefit sharing of biological resources and plant variety protection. CEPA was able to provide both financial and technical support with funding from the Development Fund of Norway and the Swedish Biotechnology Institute. Hence the policy process was entirely funded by donors. This enabled Malawi develop legislation on ABS as well as farmers rights and through CEPA's support many more civil society including grassroots people's representatives such as traditional leaders, traditional healers and farmers were able to contribute.

The legislation is however still in draft up to now. The main reason is that the draft coincided with the inauguration of a minority government which was unable to follow through on its agenda. Moreover the legislation required the consensus from a number of government institutions such as Departments of Agriculture Research, Environmental Affairs Department and National Research Council. Hence stakeholder consensus at a workshop was not enough. There was need to follow on queries from sector departments who needed to ensure that their mandates are neither reduced nor expanded.

There are lessons learned here. The first is prioritization of policy issues such as biodiversity, agro-biodiversity do not excite much attention as compared to urgent issues such as fertilizers, access to subsidized high yielding seeds or treadle pumps for irrigation. The emphasis is on productivity now. Again the drivers of policy count the next votes rather than promoting sustainable development. Hence even in the thick of political disagreements the urgency of fertilizer subsidies is emphasized on both sides of the political divide.

It follows therefore that for the policy advocacy, these short-term imperatives must be managed and factored in the process. In particular, it confirms that it is difficult to successfully introduce sustainable agriculture policy objectives during such times. This requires long-term engagement.

It is also clear from these experiences that policy advocacy for sustainable agriculture must be a social mobilization campaign. It must engage, on a long-term basis, grassroots communities in a manner that provides for social learning both on the part of the policy advocate and the local communities. It must also provide political space for grassroots communities to engage with policy makers such as Government officials or MPs or local government authorities. In this way, the policy learning would empower the grassroots to demand services as entitlements rather than as state favours. The push from below will definitely spur responsive policy making and implementation.

6. Lessons Learned: What can be done

Civil society policy analysis and advocacy is important in order to increase the range of interests and concerns addressed in policy making and implementation. It also ensures to reinforce the basic framework of governance: that those who govern do so as delegates to serve the interests of the electorate. The delegation is not based on any notion of monopoly of wisdom on the part of the government rather that it would be cumbersome for all of us to participate in government decision making as in Aristotle's Greece. Civil society

therefore serve to remind government of certain neglected or ill presented interests and issues since governments are driven by manifestos and personal interests that are not necessarily shared by all.

Hence the policy advocacy cannot end at policy making or implementation nor should it be restricted to advising governments on gaps and inconsistencies in policy instruments. The bulk of advocacy work is about struggle for rights. Throughout history rights are rarely granted on a silver plate, they are won, sometimes taken and principally by the active involvement of those in need of them²⁴. Clearly poverty and illiteracy often blunts and suppresses active participation. Hence active participation in policy work is often seen as a luxury by most rural people. Civil society institutions themselves are driven to promote relief for the marginalized and immiserated groups. This short term approach however may entrench oppression and poverty since those who allocate public resources will credit civil society efforts to rural development funding which government itself is obliged to undertake. It can easily create dependency which is unsustainable in the long term.

Endnotes

1 There are many reasons why most policy instruments including limited capacity and lack of political. This lack of political will is essentially because the ruling class do not see any vote winner in the subject matter. For an exhaustive discussion on the reasons for policy failure in Malawi see David Both et. Al. (2006) Drivers of Change and Development in Malawi (Overseas Development Institute, Working Paper 261.

2 See generally J Chapman (2005) Rights Based Development: The Challenge of Power and Development, Paper written for a conference, Winners and Losers from Rights Based Development, Institute of Development Policy and Management, University of Manchester (21-22 February).

3 Southern Africa has adequate data to predict droughts and therefore enable countries in the region prepare: de Waal (2002) New variant Famine in Southern Africa. Presentation for SADC for SADC VAC Meeting, Victoria Falls. Liaison Office, Addis Ababa, quoted in Forum for Food Security in Southern Africa (2004) 'Malawi Food Security , Issues Paper' (ODI: London) [www.odi.org.uk/food security](http://www.odi.org.uk/food%20security).

4 According to the Forum for Food Security in Southern Africa (2004) 'Zimbabwe Food Security Issues Paper' (ODI: London) [www.odi.org.uk/food security](http://www.odi.org.uk/food%20security), economic decline made it impossible for the country to prepare for droughts even with early warning of adverse climatic conditions, something Zimbabwe had easily managed in 1982, 1987 and 1992.

5 Commentators have observed that adverse climatic conditions and mismanagement of the strategic grain reserves were responsible for the crippling food shortages in Malawi when almost 30% of the population was in need of emergency food aid. In addition, structural weaknesses in production and marketing systems exacerbated the problem: see Forum for Food Security in Southern Africa (2004) 'Malawi Food Security Issues Paper' (ODI: London) [www.odi.org.uk/food security](http://www.odi.org.uk/food%20security).

6 There is no attempt here to examine the justiceability of legal entitlements. Suffice for the purpose of this discussion to mention that this is dependent on the form in which the rights are expressed in a particular instrument and the interpretation courts are prepared to adopt. Some constitutions such as that of South African incorporate socio-economic rights in the bill of rights while others such as Malawi incorporate them in the principles of national state. Thus in *Minister of Public Works and Others –vs- Kyalami Ridge Environmental Association* (case No CCT 55/00; *Government of Republic of South Africa –vs- Grootboom* (case CCT 11/00); and *Minister of Health –vs- Treatment Action Campaign* (case CCT 8/02), the Constitutional Court held that access to housing and access to health are enforceable under the South African Constitution. On the other hand, the Philippines Supreme Court in *Oposa –vs- Factoran* (G.R. No. 101083) held that the right to a balanced and healthful ecology even though expressed as state policies was enforceable because ‘...these basic rights need not even be written in the Constitution for they are assumed to exist from the inception of mankind...’

7 Household food security needs to be unpacked since individual access to food even at that level may be affected by age or agenda.

8 The Constitution of Malawi addresses the concept of intergenerational equity in section 13 as part of state policy to manage the environment responsibly and protect the rights of future generations.

9 See G Z Banda (2004) *Serving Constituencies, Servicing Nature: The role of an MP in Environment and Natural Resources Management in Malawi* (CEPA, Blantyre).

10 See the General Comment, Number 12 of the Human Rights Committee, paragraph 9 to 11.

11 So far no study has established any evidence of gene contamination or adverse consequences to human health as a result of the GMO maize. Inadequate technology and monitoring capacity makes it difficult to undertake these activities.

12 This priority must surely emanate from the fact that hunger essentially threatens the right to life which is a fundamental human right.

13 See T L Myhrvold Hansen (2002) *Hunger, Private Property Rights and the Right to Food* (University of Oslo: Centre for Development and the Environment, Working Paper No. 2002/02).

14 See A Sen (1981) *Poverty and Famine: An Essay on Entitlements and Deprivation* (Oxford: Clarendon Press).

15 As an example Sen, *ibid*, chapter 6, uses the 1943 Great Bengal famine when 3 million people died even though the total food production available was higher in that year than the previous two years when there was no famine. The famine was basically caused by shifting purchasing powers of various groups especially rural labourers who were hardest hit.

16 See Myhrvold Hansen, *ibid*, page 10. During the 2001/2002 food crisis the major cause of the maize shortages was lack of maize within the ADMARC depots across the country after unscrupulous politicians had sold the maize to neighbouring countries making it difficult for poor people to access the maize. For details on the role of ADMARC see section 5 below.

17 This case is reported in the UNEP/UNDP/Dutch Government (1998), *Compendium of Judicial Decisions in matters related to the Environment: National Decisions*, Volume at page 323.

18 See Phillip Cullet (2004) *Human Rights and Intellectual Property Rights: Need for a New Perspective* (www.ielrc.org).

19 See note 7 *supra*. The South African Constitution of course is much more clear and direct than the Malawi Constitution; nevertheless the fact that the rights of access to food and health facilities appear in the bill of rights the reasoning in the above cases can be applied to Malawi for Government to provide the core minimum to the plight of those suffering from deprivation and health problems.

20 See G Mhone (1992) *Malawi at the Crossroads: The Post-colonial Political Economy* (Harare: SAPES Books).

21 Article 8, 9, 15 and 16.

22 See Mhone, *supra*, page 5.

23 Recent media reports (27 May, 2007) show that ADMARC is retrenching about 1000 employees. This could be evidence that the commercialization drive may actually affect its social functions.

24 'Where there is a need, a right is born' (written on a wall, Bariloche, Argentina), quoted in J Chapman, et. Al. (2005) *Rights Based Development: The Challenge of Power and Development*, Paper written for a conference, *Winners and Losers from Rights Based Development*, Institute of Development Policy and Management, University of Manchester (21-22 February).

Organic agriculture and food security in Africa

Nadia El-Hage Scialabba

Senior Officer (Environment and Sustainable Development)

Food and Agriculture Organization of the United Nations

Introduction

Over the next 40 years, agriculture will have to carry out an enormous, threefold task:

- feeding an extra three billion mouths as global population rises from six to nine billion;
- feeding the 854 million human beings who now suffer hunger and malnutrition;
- supplying bioenergy feedstock to meet a growing share of the world's power needs.

In order to double world cereal production between 1961 and 1985, the Green Revolution of the 20th Century spent open-handedly from once plentiful resources – fossil energy, land and water. But with diminishing resources and the environmental down-side of highly intensive farming systems now apparent, we can no longer afford such abandon. As we consider the possible components of a Green Revolution of the 21st Century, it is clear we will need to produce more while also husbanding our natural resources much more sustainably. The implication is that the key inputs this time will be knowledge and innovation rather than ever greater doses of chemical fertilizers and pesticides.

Also clear is that there will be no “one size fits all” solution to the problem of how to feed billions more while safeguarding the environment. As in the energy sector, where future supplies will most likely derive from co-generation, agriculture will very probably have to rely on a mix of systems, depending on which works best in local conditions.

Most people would be surprised to learn that modern, innovative organic agriculture could well play a significant role here. In May 2007, FAO organized an international conference on “Organic Agriculture and Food Security” where 350 public and private sector participants from 80 countries agreed that organic agriculture could help reduce hunger and malnutrition.

Food security

FAO projections for the period of 1999 to 2030 estimate an increase of global agricultural production by 56 percent, with arable land expansion accounting for 21 percent of production growth in developing countries. For this same period, the share of irrigated production in developing countries is projected to increase from 40 to 47 percent (FAO, 2006b). Arable land expansion and large-scale irrigation are a cause of concern with regards the loss of ecosystem services. Although the number of undernourished people will decline, high rates of poverty and food insecurity are expected to continue with the

present models of food production and consumption, along with further natural resource degradation.

Seventy-five percent of the world's 1.2 billion poor live in rural areas of developing countries. They suffer from problems associated with subsistence production in isolated and marginal locations with low levels of technology. These subsistence and livelihood systems are risk-prone to drought and floods, crop and animal diseases, and market shocks. However they also possess important resilience factors associated with the use of family labour, livelihood diversity (non-farm activities account for 30 to 50 percent of rural income) and indigenous knowledge that allow them to exploit risky environmental niches and to cope with crises. Pro-poor policies based on efficiency and employment generation associated with family farms can be expected to improve these household conditions.

Worldwide undernourishment is not explained only by a lack of food availability as several causes of hardship lie outside the agricultural sector. However, there is need to seek new solutions to address the problems posed by growing populations (and disparities) and environmental degradation through new paradigms for agriculture and food supply chains.

Sub-Saharan Africa remains the most food insecure region in the world, with 206 million hungry people. The share of hungry people declined from 35 to 32 percent during the last decade. The average food calories per capita was 2 210 in 2001-03. Progress varied within this sub-region; countries that showed increased economic performance were those whose governments had committed to social spending. Gabon has reduced the number of undernourished by more than 25 percent (thus, is halfway towards achieving the World Food Summit target) and other countries that show progress include: Angola, Benin, Chad, Congo, Ethiopia, Lesotho, Malawi, Mauritania, Mozambique and Namibia.

The link between poverty and hunger is apparent when considering the tight correlation between the economic and agricultural performance in Ethiopia, Ghana and Mozambique. Productivity-driven increases in food production have demonstrated a strong positive impact on rural economies through enhanced income of smallholders, who are the main producers of staples.

But the prevalence of undernourishment increased in 10 countries, mainly driven by five war-torn countries (Burundi, the Democratic Republic of Congo, Eritrea, Liberia and Sierra Leone). In fact, agricultural performance is debilitated by conflicts, diseases (e.g. HIV/AIDS, malaria) and natural disasters which further exacerbate incidence of disease.

Africa uses only 1 percent of world's fertilizers (less than 10 kg per hectare). However, the answer does not lie in providing more mineral fertilizers, as soil fertility management is complex: not all soils are responsive to urea and such inputs are difficult to distribute in a timely manner. More importantly, poor households have little access to credit and input prices often exceed commodity prices on the market.

Although the root causes of hunger lie outside the agricultural sector, 80 percent of Africa's population depends on farming for living. Small holder agriculture, for both subsistence and commercial purposes, is the dominant system. In order to increase food

security, there is need for an environmentally and socially responsive agricultural system, based on smallholders' needs. It is critical to close the inequality gap and give poor people (especially women) a chance to better care for themselves.

Organic agriculture

Organic agriculture is generally assumed to cater to a luxury niche whose customers can afford to shop in health food, rather than hard discount, stores. While that may once have been true, the reality today is that organic supply is now the world's fastest-growing food sector, increasing at 15 percent a year over the last decade and worth some 40 billion dollars in 2006 (or 2 percent of food retails). Consumer studies too reveal that organic buyers are not so much better-off as generally more aware of food issues (e.g. educated middle age women with children).

Currently, organic agriculture is commercially practiced in 120 countries, representing 31 million ha of certified croplands and pastures (~ 0.7 percent of global agricultural lands and an average of 4 percent in the European Union) and 62 million ha of certified wild lands for organic collection of bamboo shoots, wild berries, mushrooms and nuts (Willer and Youssefi, 2007). Although difficult to quantify, non-certified organic systems (e.g. indigenous models that follow organic principles by intent or by default) of several million small farmers may represent at least an equivalent share in subsistence agriculture of developing countries.

In Africa, certified organic lands cover 890 504 hectares (or 0.12 percent of agricultural lands), involving mainly permanent crops such as olives, tropical fruits, nuts, coffee, cocoa but also cotton, herbs/spices, etc. The sector employs 124 805 farmers in 24 countries, and Uganda has the world's biggest number of organic farmers. The main countries with certified organic farms are: Sudan (200 000 ha and 650 farms), Kenya (182 586 ha and 15 815 farms), Uganda (182 000 ha and 45 000 farms), Tunisia (143 099 ha and 515 farms), Tanzania (38 875 ha and 43 791 farms) and Zambia (2 884 ha and 9 248 farms). Most certified organic production is geared toward export markets, mainly the European Union.

Also, Africa counts 27 million certified wild areas - in Kenya, Zambia, South Africa, Namibia and Uganda - which export organic products such as sheabutter, roship, gum Arabic, argan oil and honeybush. This represents a tiny part of a large collection potential.

In Africa, organic agriculture is rarely certified, due to lack access to lucrative markets. The continent, however, offers a potential basis for the development of non-certified organic agriculture, based on improved agroecological management of traditional African agriculture, which is a *de facto* low external input system, practiced by smallholders who cannot afford expensive technologies and who lack functioning markets.

Definitions

A frequent misconception is that organic agriculture means turning back the clock to a primitive mode of farming. While organic agriculture does build on traditional knowledge and practices, what it offers is a modern, ecologically intensive farming system that can perform successfully without any synthetic fertilizers or pesticides. This is achieved through a combination of techniques including intercropping with nitrogen-fixing legumes (or with other crops that produce synergies), crops rotation, biological pest control, use of locally adapted seeds/breeds and the re-integration of animals on farms. In the process, the stability and resilience of the surrounding ecosystem is improved rather than depleted as may be the case when high levels of artificial inputs are used. An ecological balance that maximizes nutrient and energy cycling is established between soil, plants, animals – and humans.

Organic agriculture can be described as “neo-traditional food system”, as it uses scientific investigation to improve traditional farming practices anchored in multicropping systems, natural food preservation, and storage and risk aversion strategies that have traditionally secured local food needs.

Organic agriculture is governed by detailed standards and lists of allowed and prohibited substances. The organic community¹ has adopted four overriding principles for organic agriculture.

- *Principle of Health: organic agriculture should sustain and enhance the health of soil, plant, animal and human as one and indivisible.*
- *Principle of Ecology: organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.*
- *Principle of Fairness: organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.*
- *Principle of Care: organic agriculture should be managed in a precautionary and responsible manner to protect the health and well being of current and future generations and the environment.*

Organic agriculture is defined in each of the 60 countries having an organic regulation (at some stage of development), as well as by the Codex Alimentarius Commission, as a holistic production management system that avoids use of synthetic fertilizers, pesticides and genetically modified organisms, minimizes pollution of air, soil and water, and optimizes the health and productivity of interdependent communities of plants, animals and people.

The term “agriculture” is here used to include crop/livestock systems, organic aquaculture and organic harvesting of non-timber forest products. Agricultural products include food, fibres and medicinal and cosmetic raw materials. The organic agriculture

1 International Federation of Organic Agriculture Movements (IFOAM).

system encompasses the entire food supply chain, from production and handling, through quality control and certification, to marketing and trade.

In the market place, the organic claim requires certification, and related products are distinguished by an organic label, which often entails a price premium. Certified organic products offer an opportunity to commercialise small holder commodities by capitalizing on quality. Besides market opportunities, organic agriculture offers advantages to raise agricultural productivity for local consumption without relying on capital investment to buy inputs.

Organic agriculture includes both certified and non-certified food systems. Farming systems that actively follow organic agriculture principles are considered organic, even if the agro-ecosystem or the farm is not formally certified organic. It is however important to keep in mind that the non-use of external agriculture inputs does not in itself qualify a system as “organic”, especially if this results in natural resource degradation (such as soil nutrient mining). Therefore, it is erroneous to assume that African traditional systems are all organic; only those which sustain ecosystem productive capacity can be considered organic.

Potential impact of organic agriculture on african farming

Demystifying the organic productivity debate

In terms of output, organic yields can be broadly comparable to conventional ones and can increase productivity as a result of transitioning from the low-input systems normally found in developing countries, and Africa in particular. This is achieved by capitalizing on existing resources such as labour and harnessing natural resources processes (e.g. soil fertility or pest-predator balance).

Transition to organic management could have enormous implications for food security, where farmers could virtually double their output without having to invest in expensive – and environmentally unfriendly – synthetic inputs. Obviously, extension will be of fundamental importance to build agroecological knowledge. The fact that organic agriculture emphasizes multi-, rather than mono- cropping is also important in terms of food security, which can be jeopardized when farmers produce a single commodity and have no safety net to fall back on. In organic agriculture systems, purchased input costs tend to be 40 percent lower while less irrigation water is needed. Furthermore, organic agriculture could give smallholder farmers the chance to access lucrative commercial markets for organic produce, on condition of course that affordable certification procedures and trading partnerships are established.

While certified organic agriculture offers market competitiveness, non-certified organic systems offer advantages for subsistence agriculture, especially in areas where inputs are not available and labour is abundant. In both cases, agroecological knowledge is a precondition, posing the challenge of establishing adequate extension systems.

According to a study carried out on behalf of the International Food Policy Research Institute (IFPRI), switching to organic agriculture in sub-Saharan Africa would likely increase food availability and decrease food import dependency, with negligible changes in prices and no changes in current malnutrition rates (Halberg, 2006). Of particular relevance to sub-Saharan Africa and tropical countries in general is that organic crops are grown from traditional, local seed varieties rather than from commercial, laboratory-bred ones. The former are much more resilient to environmental stresses (e.g. drought, floods) and local pests and diseases and would thus help mitigate the impact of global warming or inter-annual climate variability on the food supply of developing economies.

Recent models of a hypothetical global food supply grown organically indicates that organic agriculture could produce enough food on a global *per capita* basis for the current world population: 2 640 and 4 380 kcal/person/day, depending on the model used (Badgley, *et al.*, 2007; Halberg, *et al.*, 2007). The lower value is based on the adult 2 650 kcal daily caloric requirement, while the higher value is based on expectations of a 57 percent increase in food availability, especially in developing countries, giving it the potential of supporting even a larger human population. These results considered the average organic yield ratio of different food categories with no further increase in the current agricultural land base. Also, the model was based on substituting synthetic fertilizers currently in use with nitrogen fixation of leguminous cover crops in temperate and tropical agro-ecosystems. These models suggest that organic agriculture has the potential to secure a global food supply, just as conventional agriculture today, but with reduced environmental impacts.

Productivity in organic systems is management specific. Studies suggest that switching to organic management commonly results in yield reduction in perennial crops (up to 50 percent) and during the conversion period for high external input systems in areas with favourable crop growth conditions (up to 40 percent). However, in regions with medium growth conditions and moderate use of synthetic inputs, organic productivity is comparable to conventional systems (92 percent) and in subsistence agricultural systems, organic agriculture results in increased yields up to 180 percent. Overall, the world average organic yields are calculated to be 132 percent more than current food production levels (Badgley, *et al.*, 2006).

In Africa, conversion to organic agriculture was estimated to increase productivity by 56 percent by 2030. Organic yield ratios for different food categories compared to current non-intensive methods show the following results (Badgley *et al.*, 2007):

Crop/product	Yield ratio	Country
Maize	1.3	Benin
Maize	3.49	Kenya
Millet	1.73	Ethiopia
Rice	3.09	Gambia
Sorghum	1.50	Ethiopia
Sorghum	5.67	Mali
Cassava	1.75	Ghana
Sweet potatoes	5.83	Ethiopia
Peanut	1.64	Senegal
Vegetables	1.48	Malawi
Vegetables	2.0	Kenya
Banana/plantain	4.0	Uganda
Milk	1.3	Uganda
Milk	4.57	Tanzania

These preliminary results are only indicative. Beyond the productivity issue which is often the focus of debate, food security also concerns aspects such as access to food (e.g. input and output prices, market access) and access to means of production (e.g. access to land, water), the stability of agricultural systems in the face of rapidly changing climate conditions (e.g. precipitation patterns, new pests and diseases, intensified weather extremes such as floods and droughts) and the nutritional adequacy of the food supply to households.

Contribution of organic agriculture to household nutrient intake

By diversifying and optimizing farm productivity, reducing the need for purchased inputs and, eventually, developing households' market-orientation for earning additional income, organic systems contribute to hunger and poverty alleviation. Every 10 percent increase in crop yield reduces the number of income-poor by an average 7.2 percent in sub-Saharan Africa (Byerlee and Alex, 2005). Improved income allows farmers to buy food in what would otherwise be "hungry months".

Harnessing the lucrative gains that come from marketing organic commodities can allow seasonal or permanent diversification away from staples into high-value alternatives such as vegetables, depending on the degree of physical and human capital investment and agro-ecosystem flexibility. Although in most cases, staple food systems will remain dominant sources of food supply and off-farm activities are more dependable sources of income, organic diversification offers higher returns from land and labour investments. However, the diversification start-up is often associated with high-price volatility which needs to be countered with improved marketing intelligence. Secure land and water use rights are more important preconditions for investments in organic diversification and commercialization than for other forms of agriculture.

Organic school and home gardens that cultivate traditional plants and animal breeds

offer a promising option for improving the nutritional status of poor people both in rural and peri-urban areas. Such systems greatly contribute to food availability, safety of children and nutritional status of families. In many cases, poorly known varieties become income generation opportunities through marketing of processed specialty foods or medicinal, aromatic or dye plants, which are in high demand on domestic and export markets.

Contribution of organic agriculture to transitional food emergency situations

Poor households cannot afford production risks and maximum yields are not as important as securing food for the family. Organic fields show lower fluctuations in yields and diversification is the best assurance in cases of a single crop failure, environmental adversity or socio-economic shocks. With the intensification of weather extremes, increasing the resilience in agro-ecosystems to weather has become an imperative, especially in agriculture-based economies.

Contribution of organic agriculture to healthy diets

Although modern food patterns have greatly contributed to combating undernutrition, the specialization of agricultural systems into a few staple foods has exacerbated micronutrient deficiencies. Limited dietary diversity and related micronutrient deficiencies (e.g. vitamin A, iodine, iron) affect more than half of the children in developing countries. This is a major public health concern, usually addressed through supplementation and food fortification but with low efficiency, especially in targeting vulnerable segments of population.

Promoting a diverse local food supply, accessible to poor households, has proven to be a simple and successful way to improve malnutrition. The cropping diversity found on organic fields, coupled with rotation crops of minor economic value but high micronutrient and protein content, enriches household diets and health. Choosing to forego synthetic inputs requires using more under-utilized seeds and breeds for their better resistance to pest, diseases and climatic stress. The re-introduction, selection and improvement of locally-adapted varieties make an invaluable contribution to “hidden hunger”, or dietary micronutrient deficiencies. Consumer surveys find that organic consumers have a better nutritional status, especially due to choices of “minor” legumes that contribute to healthier diets.

Organic agriculture as a source for productive labour

Agriculture occupies 80 percent of the population of Africa, while in developed countries it is 1 to 2 percent of the population. However, agricultural employment remains a source of social and ecological wellbeing of global importance. In all countries, the replacement of agricultural labour with chemicals and machinery raises concerns about social stability (e.g. breakdown of communities, mass migration, large-scale urbanization), as well as the devastating impact on the natural environment. Replicating the system of industrial food

production dominant in developed countries in developing countries where agriculture provides livelihoods for 2.5 billion people will increase the number of displaced, dispossessed and hungry, if no alternatives are created.

Agriculture is the main employer in rural areas and wage labour provides an important source of income for the poor. Thus, by being labour intensive, organic agriculture creates not only employment but improves returns on labour, including also fair wages and non-exploitive working conditions. New sources of livelihoods, especially once market opportunities are exploited, in turn revitalize rural economies and facilitate their integration into national economies. In several settings, it has been noted that increased control over resources (labour power, production system) develops self-awareness and collective self-help which lead to overcoming marginalization.

Increasingly, organic agriculture is being adopted as a rural development strategy (e.g. European Action Plan for Organic Food and Farming, 2005) and vibrant organic communities can be observed in rural areas of many countries. In the UK, it is estimated that the move towards big farms has resulted in a 61 percent decline in total income from farming and a 39 percent decline in the average income per person employed in agriculture over the past 30 years (Soil Association, 2006). Organic farms provide more than 30 percent more jobs per ha than non-organic farms and, thus, create employment opportunities. This ratio is further increased if on-farm processing and direct marketing are considered, because such enterprises are more likely fostered in organic systems. Rather than displacing the agricultural workforce, organic agriculture safeguards livelihoods by keeping people on the land and living from it.

Organic agriculture as provider of global environmental services

Well managed organic agriculture uses a number of preventive approaches that can greatly reduce the risk of severe yield fluctuations due to climatic and other uncontrolled incidents, contributing to the resilience of the food supply. Due to its agro-ecological approach, organic agriculture is an effective means to restore environmental services. This factor is much more important than individual practices (e.g. use of drought-resistant crops) in preventing system imbalances such as new pest and disease outbreaks. It is organic management's self-correcting process that gives a climate-related value to the agro-ecosystem.

Organic agriculture avoids many damaging environmental effects by omitting the use of polluting substances such as nitrogen fertilizers and synthetic pesticides, as well as reducing anthropogenic impacts on desertification, biodiversity erosion and climate change. It is becoming urgent to enhance, through organic agriculture, the development of skilled agricultural labour in order to make the transition away from the current fossil fuel dependent agricultural systems whilst maintaining food production.

Also, organic agriculture could reduce the energy footprint of food through low carbon farming systems and markets. It in fact offers a great potential in local sourcing of diversified foods, through low carbon systems and shorter supply chains, to the extent

possible. Direct marketing, a typical feature of organic supply systems, creates connection and trust between farmers and consumers on the quality claim. Short supply chains and localized food systems are also drivers for positive environmental impacts. For instance, reduced distances between production and consumption decrease transportation needs and, thus, energy use. Greater national food self-sufficiency would contribute to addressing new challenges such as global fossil fuel shortages (and rising agricultural input prices), climate change and transport breakdowns through greater resilience in the food chain.

Organic agriculture for local food provisioning

Food import surges have become more frequent since the mid-1990s² and the increasing trend of food-import dependency is a source of concern as many developing countries are turning from net agricultural exporters to net food importers. The past 50 years have seen a persistent decline, averaging 2 percent per year, of real commodity prices, posing problems to the income of farmers and national economies that depend heavily on a few commodities for export earnings (e.g. coffee in Ethiopia, cotton in Burkina Faso). In agriculture-based economies, insufficient farming income translates into lack of sufficient purchasing power to pay for food and imported goods. Trade reform can be damaging to food security in the short to medium term if it is introduced without a policy package designed to offset the negative effects of liberalization (Thomas, 2006). The debate in the WTO negotiations is in fact considering the designation of “Special Products”, based on the criteria of food security, livelihood security and rural development needs (Hong Kong Ministerial Declaration, 2005). It would be interesting to see if the case could be made for some organic commodities, especially for small countries that wish to compete with quality.

For developing countries, trade-based food provisioning limits the competitiveness of smallholders and the ability of the market-marginalized to provide for their needs. Considering that three quarter of the poor live on the land and most are farmers or farm workers, it is in small holder agriculture where change is needed to increase the food supply. Factors that contribute to stagnating domestic production are low output prices, high input costs, adverse weather, pest and disease outbreaks, and consumer preference (FAO, 2007b).

The fact that poor farmers often live in areas where there are few employment alternatives and agricultural inputs are not supplied makes organic agriculture a unique alternative for local food provisioning, provided that agro-ecological knowledge is available. Sustainable intensification of available natural resources in subsistence-oriented regions has proven to increase smallholders’ food self-reliance and, eventually, decrease national food import requirements. Organic agriculture offers advantages in terms of enhancing food production where it is most needed by decreasing dependence on external inputs and increasing agro-ecosystem performance. A modelling for large-scale organic

² An analysis of major food commodities of 102 developing countries during 1982-2003 can be found in FAO, 2007b.

conversion in sub-Saharan Africa (Halberg, 2006) suggests that agricultural yields would grow by 50 percent, thus increasing local access to food and reducing food imports.

Organic agriculture is also an opportunity to commercialize small holder agriculture. A market-oriented food system, if available, offers additional income generating opportunities that allow small producers to compete through the quality of their product while encouraging local food supply. Higher organic prices reflect production cost and internalize environmental and social values. Higher food prices also increase food import bills and may compromise low-income food buyers in the short run; however, higher food prices represent higher incomes to producers, with positive implications on longer term economic growth and agricultural development.

Organic agriculture as a right-based to food security

In the Rome Declaration on World Food Security (1996), Heads of State and Government “*reaffirmed the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger*”. The Right to Adequate Food, adopted in 2004, complements the food security concept and programmes with seven human rights principles: human dignity, accountability, empowerment, non-discrimination, participation, transparency and rule of law.

The Right to Adequate Food is defined as “*the right to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensure a physical and mental, individual and collective, fulfilling and dignified life free of fear*”.

The human-rights-based approach to food security offers new ways of identifying, analysing and solving the problems that underlie hunger and poverty, as well as an alternative method of promoting development. A rights-based approach provides the powerless with leverage to address the causes of food insecurity and poverty. It strengthens local communities to take care of their own members. Besides its market pull, organic agriculture upgrades traditional knowledge through interactive learning, strengthening farmers’ analytical abilities and creativity. Organized rural communities stand-up for their rights and extend entrepreneurial skills. In doing so, organic management revalorizes indigenous knowledge and community structures which have eroded for a variety of reasons (e.g. land alienation, population pressure, migration) and empowers social systems to control their own food supply. Furthermore, organic agriculture is in line with the right to adequate food that consumers demand.

Conclusions and recommendations

Organic food systems ought to be evaluated in a wide development context which includes the fact that agriculture has often had a detrimental impact on the environment (e.g. land

degradation, water pollution, GHG emissions, biodiversity extinction and environmental services erosion) and on rural societies (e.g. disenfranchised farmers and discredited agriculture and knowledge). Although organic agriculture is not a panacea and has its own limits in addressing challenges posed by modern lifestyle, its external environmental costs are much lower than those of conventional agriculture and, in some areas, it can reverse problems of natural degradation. Moreover, non-certified organic systems increase food availability and access exactly in those locations where poverty and hunger are most severe. Increased food performance in developing countries, through conversion of subsistence systems to organic management, is more than a serious proposition. The challenge is neither agronomic nor economic but socio-political.

The challenges facing agriculture – old challenges such as increasing world population and new challenges such as high climate variability – are equally characterized by globalization of flows, be they ecological, economic or societal. More than ever, interconnectedness of ecosystems and people affects the performance of the food system of households and nations.

Although there is still room for improving its performance, organic agriculture continues to provide alternative models (or better alternatives) for sustainable development:

- as a response to the pollution and loss of arable lands created by conventional agricultural production, organic farmers developed non-chemical ways to farm their land successfully;
- as a response to the lack of adequate technologies and technical advice, organic farmers became innovators and experts in adaptive management;
- as a response to institutional marginalization, organic communities came together to provide some risk-bearing economies of scale, thus creating self-reliant and vibrant rural economies;
- as a response to costly third-party certification, grower groups developed participatory guarantee systems to differentiate their products on local markets;
- as a response to long distance food procurement, organic entrepreneurs developed short supply chains;
- as a response to industrialization of food chains, the organic community began discussions on the enforcement of fair working conditions and trade transparency;
- as a response to energy concerns, the organic community began looking for efficient ways to put the concept of food miles into practice.

Despite the organic community's challenge to improve its performance and maintain its principles while catering to food imperatives, organic agriculture offers lessons on:

- de-commodification of food by celebrating the environmental and social-cultural values of agri-culture;
- restoring food self-reliance and transparency in the food chain by increasing the right to choose of producers and consumers;

- producing food at low cost for the poor and market-marginalized by harnessing ecological processes;
- valuing traditional knowledge and indigenous goods such as agrobiodiversity;
- creating cooperative learning processes and rural-based networks;
- developing social responsibility throughout the food supply chain;
- establishing food quality assurance and traceability procedures.

Whether market-oriented or a survival strategy in poorly-endowed settings, organic agriculture may be considered a “small economy” or a “laboratory of harmless innovations” that deserves preferential treatment – and encouragement.

With a view to encourage farmers, farm workers, gardeners, pastoralists, aquaculturists, forest dwellers, consumers and business communities of all kinds to strive democratically within the organic food model, key actions are required to establish a conducive policy environment and build capacities.

Organic agriculture is essentially a civil society enterprise which has developed outside, often against, the domain of the public sector. However, its inherent grassroots-based decision-making processes and market pull are not sufficient to sustain an equitable distribution of benefits. Public intervention is necessary to preserve a fair playing field as the sector expands, in order to protect small producers within national economies and to strengthen the position of developing countries’ operators on international markets.

The main areas of action for the effective development of organic agriculture in Africa require capacity building for improving performance in the field (for household food security) and improving competitiveness on markets (for income generation) through:

- focusing on improving the use/knowledge of natural processes for food crops production;
- organic soil fertility management;
- organic pastures and livestock management;
- selection and improvement of traditional seeds and breeds;
- value-addition through processing and labelling;
- Internal Control Systems and organic certification;
- market intelligence and trade partnerships.

For subsistence agriculture and local food security (especially in market marginalized areas), a successful approach is the establishment of farmers-field-schools aimed at action learning, empowerment, knowledge sharing and development of community enterprises. For commercializing smallholder agriculture, a market chain approach for food security can be pursued such as successfully done by Uganda’s 45 000 small organic farmers, in partnership with exporters.

For both subsistence and commercial agriculture, political will and conducive policies are necessary for protecting local producers from import competition as well as enhancing capacities for ecological and self-reliant food systems. **With more research and**

development funding and the necessary level of political commitment, organic agriculture can help feed the world's growing population - both the rich and the poor – including Africa.

References

Badgley C., Moghtader, J., Quintero, E., Zakem, E., Chappell, J., Avilés-Vázquez, K., Samulon, A & Perfecto, I. 2007. **Organic Agriculture and the Global Food Supply.** Renewable Agriculture and Food Systems. June 2007.

Byerlee, D. & Alex, G. 2005. Organic Farming: a Contribution to Sustainable Poverty Alleviation in Developing Countries? *In* German NGO Forum on Environment and Development, Bonn. Misereor, Naturland, EED, NABU and WWF.

FAO, 2001. Organically Produced Foods. Joint FAO/WHO Food Standards Programme, Codex Alimentarius Commission, GL 32 – 1999, Rev. 1 – 2001.

FAO. 2005. Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security. Adopted by the 127th Session of the FAO Council November 2004. Rome.

FAO. 2006a. Mid-Term Review of Achieving the World Food Summit Target. CFS: 2006/3. Rome.

FAO. 2006b. World Agriculture: Towards 2030/2050 – Interim Report. Global Perspective Studies Unit. Rome.

FAO. 2006c. The State of Food Insecurity in the World 2006. Eradicating World Hunger – Taking Stock Ten Years After the World Food Summit. Rome.

FAO, 2006d. The Right to Foods in Practice – Implementation at the National Level. Rome.

FAO. 2007. Assessment of the World Food Security Situation, CFS:2007/2. Rome.

FAO. 2007b. Import Surges: Analysis, Preliminary Findings and Lessons Learned, CCP 07/11. Rome.

Halberg, N., Alroe, H.F., Knudsen, M.T. & Kristensen, E.S. 2007. Global Development of

Organic Agriculture: Challenges and Prospects. CABI Publishing.

Halberg, N. 2006. The Impact of Organic Farming on Food Security in a Regional and Global Perspective. International Food Policy Research Institute (IFPRI).

Soil Association. 2006. Organic works. Providing More Jobs through Organic Farming and Local Food Supply. Edinburgh, Scotland.

Thomas, H. 2006. Trade Reforms and Food Security: Country Case Studies and Synthesis. FAO.

Willer, H. and M. Youssefi, 2007. The World of Organic Agriculture – Statistics and Emerging Trends 2007. International Federation of Organic Agriculture Movements IFOAM, Bonn, Germany and Research Institute of Organic Agriculture FiBL, Ackerstrasse, Switzerland.

World Food Summit, 1996. Rome Declaration on World Food Security and World Food Summit Plan of Action. FAO, Rome.

How can Organic Farming and Agro-ecology Contribute?

Amadou Makhtar Diop

The Rodale Institute, USA

Introduction

People of Africa are dependent on agriculture. About 75% of the population live in rural areas and about 70% are subsistence farmers. As indicated by its president at the conference in Dakar, Senegal in 2005, IFAD experience has shown that countries in Africa, and indeed, local communities, need to be at the helm when developing poverty reduction strategies and agricultural policies are designed. According to Dr. Jacques Diouf, FAO Director-General, the current levels of undernourishment and the alarming trends provide ample justification for giving high priority to agricultural development in Africa. The main condition for agricultural development in Africa is management of natural resources - water in particular.

The FAO (2002a) study indicates that for the world as a whole, there is enough unused productive potential, in terms of land, water and yield improvements, to meet the expected growth in effective demand. This study quoted that in future, 80% of increased crop production in developing countries will have to come from intensification: higher yields, increased multiple cropping and shorter fallow periods. Many people believe that organic agriculture has an important role to play in helping smallholder farmers achieve food security and improved nutritional status, while protecting the environment (IFOAM, 2007; FAO, 2007; FAO, 2002a). Participants at the FAO international conference agreed that organic agriculture can contribute to food security but its potential to do so depend on the political will of governments.

The International Federation of Organic Agriculture Movement (IFOAM) that converged on Adelaide, Australia, in September 2005 released a congress declaration calling on governments to allocate funds for investment in organic agriculture proportionate to the organic sector's production in their countries. The gathering of more than 1,000 delegates from 72 countries also called for governments to actively endorse and provide practical support to organic agriculture, and to build social and environmental costs into the prices of agricultural products, while remunerating organic farmers for ecosystem services they provide.

Gerald A. Herrmann, IFOAM Executive Director explains, "The ecological, social and economic benefits of organic agriculture for the people of Africa are many. We have invested in the IFOAM AOSC to realize this potential. We hope that governments and intergovernmental agencies, particularly the United Nations, will also recognize organic agriculture's potential for Africa and make the necessary investment. Organic agriculture is an agricultural system that can make positive and permanent changes on a human scale,

utilizing resources effectively.”

Farmers in Senegal and in many other African countries attribute decreased productivity to expensive credits, delays in receiving inputs, harvest losses during heavy rains (that also decrease fertilizers’ efficiency), compacted soils, non-remunerative prices, declining soil fertility and management problems. Declining soil fertility is the greatest problem affecting the ability of farmers to produce enough food for their families. Farmers of the developing world tend to prefer more resilient systems that build on traditional management systems to technologically costly production systems.

Organic agriculture can respond to these needs by contributing to the intensification of traditional management systems and their diversification. Soil regeneration is key to sustainable development, where the loss of soil organic matter contributes to a rapid decline of soil fertility, degradation of soil structure and increased risk of erosion.

In the Africa, it is very common to encounter cropping systems incorporating trees because of their role in maintaining soil fertility and increasing organic matter and crop tolerance to drought. In Sub-Sahara Africa, **marginal lands’ productivity is enhanced by a “miracle” leguminous tree named *Acacia albida***. Non-certified organic millet is produced in the peanut basin of Senegal where the regeneration of *A. albida* is encouraged by farmers.

Organic/Regenerative Agriculture and Food Security

Sustainable agriculture can be complementary for rural people’s livelihoods. It can deliver increases in food production at relatively low cost, plus contribute to other important functions. Pretty and Hine (2001) indicated that where these approaches are widely adopted, they would make a significant impact on rural people’s livelihoods, as well as on local and regional food security. Farmers who take organic/regenerative approaches to food production will substitute knowledge for pesticides and inorganic fertilizers.

Organic Agriculture

Organic agriculture is considered an interesting option for sustainable agriculture in developing countries because it offers a unique combination of low external input technology, environmental conservation and input/output efficiency (Zundel and Kilcher, 2007). In Africa, in the last decade, farmers have made significant achievements in developing alternatives to conventional agriculture methods. Organic farming is practiced in more than 100 countries of the world and the area under organic agriculture is continually growing. Organic farming is practiced by default in majority of African countries and it is continually being recognized as a viable enterprise. **In the past years**, there has been evidence of substantial growth in certified organic land in Ethiopia, Ghana, Kenya, Tanzania, Tunisia, Sudan, Uganda, and Zambia. **Land under organic management** is estimated in Africa: Sudan 200, 000 ha; Kenya 182,438 ha; Zambia 187,694 ha; Tunisia 155,323 ha; Uganda 122,000 ha; Ghana 19,132 ha; Cameroon 7,000 ha; and Senegal 2,500 ha. The number of organic farms is estimated at 33,900 in Uganda, and 30,000 each in

Kenya and Tanzania (FiBL Survey 2005/2006). In West Africa (Senegal, Mali, Burkina Faso and Ghana) organic approaches have been used as part of broader strategies for sustainable development, food security and combating desertification.

A recent paper on meeting the food security challenges through organic agriculture, presented by FAO at an international conference in May 2007, identifies the strengths and weaknesses of organic agriculture with regards to its contribution to food security.

Working with natural processes using naturally available resources and agro-ecological principles are described as the strongest features of organic agriculture (FAO, 2007).

Sustainable intensification of crops through organic agriculture can provide higher yields with a minimum dependence on external inputs but this requires linkage to markets and building market groups and farmers' skills (Scialabba, 2007)

In Africa, isolated organic farming techniques are often practiced. There is a general lack of integrated approach to soil regeneration and crop protection in order to optimize the benefits of locally available natural resources. The Rodale Institute has a solid background in regenerative agriculture based on years of experience in participatory research methods, carried out by qualified staff in a multidisciplinary team. Based on this knowledge, several educational modules have been created to train farmers in organic agriculture technologies (compost making and utilization, agro forestry, use of cover crops, organic matter management, natural crop protection, organic farming certification, etc.).

Many doubts are rooted in the experiences in the North (Pimentel *et al.*, 2005; Jimenez, 2006), where a conversion period from conventional to organic almost invariably leads to a temporary decline in yields. Despite these concerns, studies have shown that in the long run, organic methods can increase crop yields (Zundel and Kilcher, 2007; Jimenez, 2006; IFOAM and FiBL 2006; The Rodale Institute, 2005). A survey of 45 sustainable agricultural projects/initiatives (Holt-Gimenez, 2006), spread across 17 African countries covering some 730,000 households revealed that agroecological approaches sustainably improved food production and household food security.

Studying the impact of organic farming on food security in a regional and global perspective, Halberg *et al* (2006) indicated that crop yields might increase when agro ecological principles are introduced. Given the assumption of higher relative yields in most organic crops compared with existing low input agriculture, there is a potential for improving local food security in SSA if non-certified organic farming is supported by capacity building and research. Significant yield increases of food crops and fruit trees have been reported by Pretty (2002) in a review of case studies on organic farming in Ethiopia, Kenya, Lesotho, Senegal and Zimbabwe. This has been possible because of effective soil fertility management, conservation methods and crop rotation.

In northern Africa, USAID (2000) reported that given current production methods, it is believed that Morocco's 400,000 small farms will be easy to convert to organic farming. Production has been doubling each year and is currently at 8,000 tons.

Traditional African gardens, containing a mixture of perennial and annual crops and grown organically by default, can provide a significant contribution to food availability

and nutrition security through the year. Crop mixtures found in a home garden are often the result of the deliberate selection of a wide variety of plants and tree crops that occupy different layers and play supportive roles. The garden provides the household with a mixture of food and cash crops. Mixed plant and tree cropping systems can greatly extend harvesting periods and thus ensure the continuous availability of some foods (FAO, 2002b). Non-certified organic agriculture in developing countries is practiced by millions of indigenous people and small family farms involved in subsistence and local market-oriented production (FAO 2002c). These farmers make a significant contribution to regional food security and in Africa they account for most of the cereals, roots and tubers.

Environmental and organic farming projects are being implemented in school in order to educate future generations, with the hope that they will influence their parents. In early 1960s, most elementary schools in Senegal had a vegetable garden that helped connect teachers and students to the land and to the food they eat. More recently, many initiatives to bring back these school gardens have been reported. In Senegal, The Foundation “Education & Health” is doing a good job.

In South Africa, Woolworth Trust Eduplant has grown into a fully-fledged development program that promotes food gardening and greening at a large number of schools. It has reached 14,500 educators from over 12,000 schools around South Africa in the past nine years (OCA, 2004).

The benefits of organic farming for Africa are numerous, from increasing yields and conserving water in semi-arid areas and combating desertification, to debt reduction of farmers, strengthening of social systems and maximization of environmental services.

Regenerative Farming: Restoring Agriculture and Environmental Vitality in Sub-Saharan Africa

Agroecology provides guidelines for developing diversified agroecosystems that take advantage of the integration of plant and animal biodiversity (Altieri *et al.*, 2006). Successful integration of plants and animals can result in positive interactions and optimize biological processes in the ecosystems, such as the regulation of harmful organisms, recycling of nutrients, biomass production, and the build up of soil organic matter. Sustainable rural development is not just about increasing yields and economic growth (Holt-Gimenez *et al.*, 2006). It requires a sound agroecological management of natural resources in order to be sustainable.

Regenerative farming recognizes the beauty and the spiritual and economic values of nature, integrating agro-ecological principles. Regenerative agriculture linking agriculture and health is echoed in the motto of The Rodale Institute: “Healthy Soil-Healthy Food-Healthy People®.” The Rodale Institute farmer-managed trails in 11 Senegalese villages, going back as far as 1987, demonstrate that soil health can be achieved by integrating composting, manure and rock phosphate. Small farmers near Thies increased yields by up to 205% with composting alone. Livestock plays an important role in the regenerative

agriculture systems being promoted by The Rodale Institute in Africa. Integrated crop-livestock systems reduce risk, contribute to the sustainability of smallholder farmers, improve diet through addition of protein, increase income opportunities and contribute to the restoration of soil organic matter (Diop, 1999). Swaminathan (1987) suggested that low input sustainable production systems must be developed in order to improve the nutritional security of rural Africans. In Senegal, systems combining the use of leguminous crops and livestock raising constitute efficient ways of contributing to soil regeneration, food security and income generation.

Compost making and utilization is one the element of crop-livestock integration. In one of The Rodale Institute's earliest trials in Senegal, 50% of farmers continue to make compost for their millet fields. Nearly two miles of rock contours and leguminous trees have reclaimed approximately 100 hectares of encrusted land as well as indigenous plant species that were believed to be lost. Within a three-year period, these soils increased particle retention, water holding capacity and biomass production (Diop, 2002). In Ethiopia, the Institute for Sustainable Development (ISD, 2006) reported that up to 100% increase in crop yields were recorded when compost was used on maize, wheat, barley, and beans, and yields were significantly higher than in the fields where chemical fertilizers were applied.

Africa has demonstrated that it has the potential to feed its people and to export. Cassava production has quadrupled during the past 10 years, making Africa the largest producer of this crop. And with favorable climatic conditions, African countries have recorded bumper harvests of millet and sorghum.

According to Holt-Gimenez (2006), the evidence is conclusive: new approaches and technologies spreaded by farmers around Africa are already making a sufficient contribution to food security at the household, national and regional levels. A variety of agroecological and participatory approaches in many countries show positive outcomes even under adverse conditions (Uphoff, 2002; Holt-Gimenez, 2006).

Challenges ahead include integrating environmental management in poverty reduction; bridging the global-national and local divides; and turning scientific findings into operational work. Most people recognize the beauty and the spiritual and economic values of nature, but they may not fully understand that their health and lives, and the health and lives of their children, depend on its preservation and on finding solutions that will address risks rather than treating the consequences.

Challenges for food security include:

- Increased food and agricultural production;
- Marketing, rural infrastructure and storage;
- Raising rural per-capita incomes and generating employment in rural areas;
- Food access and nutrition;
- National and regional food-security policy analysis.

Prospects

Training: Future demand for food will grow, and meeting this demand will require the continued expansion of farmland, together with improvements in yield-based farming technologies. In 2002, participatory diagnostic workshops and a national conference pertaining to worldwide training programs for young farmers allowed The Rodale Institute to identify target areas for future trainings through discussions with local producers and other development agencies. Based on this study, financed by the Rockefeller Foundation, seven different training modules have been developed in the following areas:

- *The Concept of Regenerative Agriculture:* Discusses the concepts and underlying principals of regenerative agriculture, the causes of soil degradation in the Sahel region, and how local farmers can improve soil fertility over the long term.
- *Integrating Livestock and Agriculture:* Focuses on the relationship between the techniques used for livestock fattening and those used for restoring and improving soil fertility.
- *Composting Techniques:* Describes the fundamental techniques of composting (with the goal of popularizing soil regeneration practices) as well as different ways of composting based on season and availability of materials.
- *Organic Matter Management:* Explains the importance of organic matter and how management of soil organic matter can be beneficial for restoring soil quality and increasing productivity.
- *Natural Crop Protection:* Explores the foundations of natural protection methods and its place in regenerative agricultural practices.
- *The Model of Regenerative Agriculture:* Explains the concept and the characteristics of a regenerative agricultural model, as well as its applications.
- *Organic Certification:* Helps participants understand the role of organic agriculture in terms of consumer demands, quality assurance and control, the continuous spread of organic agriculture and the potential increase in revenues.

These different modules result directly from research and experiences of local farmers in rural Senegal.

Regional Sustainable Development Projects

Modern agricultural development demands a new approach to positively impact the food system while protecting the natural environment. A **Sustainable Development Project** based on organic/regenerative agriculture in different agro-ecological zones, involving various actors will help establish a basis for sustainable food systems. Such a project is aimed to achieve the following objectives:

- Reinforce producer capacities in the area of organic agriculture and promote good agricultural practices and added-value products and their markets;

- Generate and disseminate practical information on organic production, marketing and success stories;
- Connect farmers, consumers and retailers through field days, farmer's conferences, national and community radios, and websites.

Research

To date, research is very limited in tracking the extent to which alternative approaches are being used on the ground or their effectiveness in meeting economic, social, and environmental objectives. Recently, Nigeria has been selected to be the home of the African center of international organic agriculture, where research on the development of organic agriculture would be carried out. This center, named "The Olusegun Obasanjo Center for Organic Research and Development," would conduct research and promote the development of organic agriculture in the Nigeria and throughout the continent. Such a center needs to develop participatory adapted technologies for soil regeneration, in particular. The international conference on organic agriculture and food security concluded that an international network for organic agriculture research and proper extension service is crucial for its further development, and more public resources should be devoted to agro-ecological approaches.

Conclusions

In Africa, young farmers must take a leadership position in the world of agricultural producers. A new generation of farmers, conscientious of the need to protect their natural environment and of the need to continually modernize their agricultural systems, will be able to help African agriculture find its place in improving food availability and distribution. I believe that Africa should adopt natural, sustainable methods of agriculture which are better suited to its people and environment.

References

- Altieri, M. L. Ponti, and C.I. Nicholls. 2006. Managing pests through plant diversification. *LEISA Magazine* 22.4, December 2006.
- Diop, A.M. 1999. Sustainable agriculture: New paradigms and old practices? Increased production with management of organic inputs in Senegal. *Environment, Development and Sustainability* 1: 285-296, 1999. Kluwer Academic Publishers 2000, The Netherlands.
- Diop, A.M. 2002. Management of organic inputs to increase food production in Senegal. In edited by Norman Uphoff. *Agroecological innovations – increasing food production with participatory development*. Earthscan Publications Ltd.London, 125-137 pp.
- FAO, 2002a. World agriculture: towards 2015-2030. Summary report. FAO corporate Document Depository. 2002

- FAO, 2002b. Improving nutrition through home gardening. A training package for preparing field workers in Africa. Information sheet. ISBN: 9252043888. 2002.
- FAO 2002c. Organic agriculture, environment and food security. Edited by Nadia El-Hage Scialabba and Caroline Hattam, Environmental and Natural Resources series #4. FAO, Rome, Italy.
- FAO. 2007. Organic Agriculture and Food Security. International conference, 3-4, 2007, Rome, Italy. http://www.fao.org/organicag/docs_en.htm .
- Halberg, N. Sulser, T.B. Høgh-Jensen H. Rosegrant, M.W. and Knudsen, M.T. 2006. The impact of organic farming on food security in a regional and global perspective.. in Halberg, N Alroe, H.F., Knudsen, M.T and Kristensen, E. S., Eds. Global Development of organic agriculture: challenges and prospects, chapter 10, pp.277-233, BABI Publishing.
- Holt-Gimenez, E. M.A Altieri, and P. Rosset. 2006. Ten reasons why the Rockefeller and Bill and Melinda Gates Foundations' Alliance for Another Green Revolution Will not solve the problems of poverty and hunger in Sub-Saharan Africa. Food First policy brief, No. 12. October 2006.
- IFOAM 2007. World Agricultural Trends. IFOAM, 2007.
- IFOAM & FiBL , 2006: The World of Organic Agriculture. Statistics and Emerging Trends 2006. International Federation of Organic Agriculture Movements (IFOAM), Bonn & Research Institute of Organic Agriculture FiBL, Frick, pp. 27-35.
- Jimenez, Juan J.2006. **Organic Agriculture and The Millennium Development Goals**. IFAOM, 2006.
- Organic Consumers Association (OCA). 2004. <http://www.organicconsumers.org/organic/africa093004.cfm>
- Pimentel, D; Hepperly, P; Hanson, J; Douds, D. and Seidel, R. 2005. Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems. *BioScience* 55: 573-582.
- Pretty, J. 2002. *Agri-Culture: Reconnecting People, Land, and Nature*. London, Earthscan.
- Pretty, N.J. and R. Hine. 2001. Reducing Food Poverty with Sustainable Agriculture: A summary of new evidence," Centre for Environment and Society, University of Essex, February 2001, <http://www2.essex.ac.uk/ces/ResearchProgrammes/CESOccasionalPapers/SAFErepSUBHEADS.htm>
- Scialabba, N. E. 2007. Organic agriculture and food security. Paper presented at the International conference on organic agriculture and food security, 2-3 May 2007, FAO, Rome, Italy.
- The Rodale Institute, 2005. Annual Report 2005.
- Uphoff, N. 2002. *Agroecological Innovations: increasing food production with participatory development*. Edited by N. Uphoff. Earthscan Publications Ltd, London Sterling, VA. 2002.
- USDA, 2000. Organic perspectives. FAS online. <http://www.fas.usda.gov/htp2/organics/2000/june00.htm#1>
- Zundel C. and L. Kilcher, 2007. Organic agriculture and food availability. Paper presented at the International Conference on Organic Agriculture and Food Security, May 3-5, 2007. FAO, Rome, Italy.

Farmers organisations: how they can be strengthened?

Mercy Karanja

International Federation of Agricultural Producers (IFAP), Kenya

Characteristics of the African agriculture

The main feature of African Agriculture is that it is predominantly small-scale and is the main occupation of the vast majority of the population, up to 70% of the population.

The main food crops grown are maize, rice sorghum, cassava, millet, sorghum, wheat, fruits and vegetables. The main cash crops include cotton, cashew nut, groundnuts, coffee, tea, cloves, sisal and pyrethrum. These crops for many years have been the main foreign exchange earners, being exported unprocessed with limited or without value addition processes. In recent years, horticulture has become one of the significant contributors in the foreign income in some countries. In countries along water masses fishing is an important activity both for local consumption and export. Most of Africa has enough reserves or the potential to feed their population with few which are net importers of food like the Comores which imports over 95% of rice and Seychelles over 40% of their food requirements.

Agricultural growth will prove essential for improving the welfare of the vast majority of Africa's poor. About 80% of the continent's poor live in rural areas, and even those who do not will depend heavily on increasing agricultural productivity to lift them out of poverty. In most countries, Agriculture contributes up to 45% of the GDP and employs more than 70% of the total workforce. As producers, 70% of all Africans and nearly 90% of their poor work primarily in agriculture (World Bank, 2000). As consumers, all of Africa's poor both urban and rural count heavily on the efficiency of the continent's farmers, since farm productivity and production costs prove fundamental determinants of the prices of basic foodstuffs which account for 60% to 70% of total consumption expenditure by low-income groups. Consequently, significant reductions in poverty will hinge in large part on the collective ability of African farmers, governments, and agricultural specialists to stimulate and sustain broad-based agricultural growth.

Role of farmers

In reality, producer productivity and efficiency are not the sole ingredients of competitiveness. To a great extent competitiveness is determined by the quality of the overall domestic environment, which government is instrumental in creating. Domestic competitiveness can be assessed in part by examining how government shapes the domestic playing field through *public finance, fiscal policy, institutional framework* and *sectoral legislation*. The other key factor to consider is the extent to which basic technological, scientific and human resources meet the needs of producers, including the social characteristics of a

nation, all which contribute to the ability of a country to compete under the growing liberalization process. For, this reason it is important to appreciate the main characteristics of the prevailing economic, social and political conditions under which African farmers operate and trade.

Economic conditions

Low levels of agricultural production and stagnating trends in productivity have led to disappointing African export performance, increasing food supply gaps and imports and food aid. Africa's share of world trade has dropped significantly, from 3.1 in the 1950s to 1.2 percent in the 1990s, giving way to other developing regions such as Asia. In the 1960s, the region accounted for 10.8 percent of world agricultural exports and 4.3 percent of agricultural imports. In the 1990s Africa's shares were 3.4 percent and 4.5 percent, respectively.

While the importance of agriculture is clear to most African economies, the sector remains heavily dependent on the weather, inefficient technologies and a poor and illiterate workforce that is overwhelmed, in some countries, by civil strife and disease outbreaks. Africa is the only region of the developing world where the average food production per capita has been declining over the last 40 years.

Revitalization of the agricultural sector remains fundamental for altering the region's hunger trend, especially since 80 percent of Africans depend on farming for income; most of these are women. Presently, the growth in the production of grains – the most important component of the region's diet – barely exceeds that of population growth. Historical gains in agricultural production in most countries in the region were due largely to area expansion. Today, more intensive agricultural production under newly-available technologies can improve yields.

The region accounts for only 1 percent of the world's fertilizer use, while yields for all major crops in the region remain below the world average. Without sufficient soil nutrients, crop yields cannot increase and respond to improved management practices or other inputs. On the other hand, countries that are highly dependent on one export crop for their foreign exchange earnings remain vulnerable to situations of food insecurity in the case of price slumps or production shocks.

This means the basic challenge of the agriculture is to help raise the incomes of poor farming households and labor through productivity gains, linkage to markets, finance, and research, while remaining environmentally and socially sustainable. Agriculture goes beyond promoting production, to incorporate the linkages to natural resources, urban development, inputs (fertilizer, seeds), finance, information, water—as well as linkages to processing facilities, markets, and ultimately to consumers. This entails, in addition to Agriculture, non-farm business development, transport, education, health, governance. In spite of this role, public support to agriculture has reduced dramatically with the structural adjustment programs and shift of donors from the sector. The World Bank confirms that investments to Agriculture were on the decline for most of the last decade, with a decline

in foreign assistance to agriculture and rural development, from a high of \$3.5 billion in 1995, World Bank lending in this sector had fallen to \$800 million by 2002. Other donors had reduced assistance to agriculture and rural development as well.

It is encouraging to note this is changing with the World Development Report focusing again on Agriculture after 20 years. It is expected to receive high priority in the coming years.

Social conditions

A low level of overall social development in Africa is an obstacle to the expansion of agriculture. Primary school enrolment in Africa is the lowest in the world and has stagnated at levels below those attained 20 years ago.

Public health issues are also a major and costly concern, both socially and economically. Lack of access to safe drinking water is still a major threat to health in rural areas in Africa. The severity of the HIV/AIDS pandemic has massive impacts on labour productivity, increases health costs, erodes existing and future human capacity in all arenas and ultimately curtails economic growth. Meeting the demands of impoverished rural populations that do not equitably benefit from information, education and health services will therefore require explicit consideration in policy-making and national priorities and donor initiatives.

Africa has yet to develop the means to effectively link education with research and extension activities. In many African countries these activities are organized separately and are not well coordinated. Though farming is private business it depends largely on Public support and institutions especially research. This capacity is mainly weak and dispersed and human scientific skills are patchy. Stocks and flows of new knowledge are low, and the organization of research and related education leaves much to be desired.

This includes the policy environment and the social capital aspects of the sector. Ministries of finance must routinely cope with enormous debt loads, narrow tax bases and donor-imposed pressures for social spending which leave little room for maneuver or debate over the relative role of productive investments in agriculture. In this environment, public spending on agricultural research has fallen from 0.8% of agricultural GDP in 1981 to 0.3% in 1991 (Pardey et al., 1997; Eicher, 1999). And over the past 20 years, overall public spending on agriculture has fallen from 7.5% to 6% of agricultural GDP (Fan and Rao, 2003). Eroding civil service salaries and anemic recurrent budgets have demobilized extension and research staff, demotivated them and fueled an exodus of top scientists and staff from key ministry positions. These worrisome trends place Africa's natural, human and institutional capital under pressure.

Policy framework

Government policy bias against agriculture contributed greatly to that sector's decreasing productivity. Shifts in policy paradigms have failed to overcome challenges to the sector

as a whole and have failed to provide guidance for appropriate interventions. During the late 1970s and early 1980s most countries in Africa adopted food security strategies that focused on achieving food self-sufficiency, using policies designed to maximize domestic output of staples and its marketed surplus. The adopted measures entailed intense and direct involvement of the state in production, marketing and trade. Pan-territorial price policies were adopted and state marketing boards were established, which dominated the output markets in many African countries. In addition, governments reserved full control over the procurement and distribution of fertilizer and seeds. These policies though costly allowed many countries to be self-sufficient in food.

To overcome the cost burden, there was introduction of market-reform policies and the withdrawal of state involvement in marketing activities which were aimed at encouraging greater participation of the private sector. (This brought about policy reforms under structural adjustment and macroeconomic stabilization programmes) However, private sector participation has not been forthcoming. Farmers, especially, with small market surpluses have not benefited from the change as much as large-scale farmers have. In addition, prohibitive prices for fertilizer and other agricultural inputs, low purchasing power and lack of effective credit facilities have marginalized small farmers, including women, preventing them from adopting modern and improved technologies. An institutional vacuum in the sector has been created, as expectations that entrepreneurs would emerge naturally to take over the activities have proven to be ill-advised. This has been partly due to the fact that reforms overlooked serious institutional deficiencies. These deficiencies have, in turn, been translated into high transaction costs that prevent the private sector to emerge and grow. In this context, the development policies must devote more attention to reducing transaction costs particularly in poor rural areas and to promoting *local organizations* that would help lower these costs. Weak public institutions of governance and unpredictable changes in regulations and policies have made the private sector slow to respond to incentives and have thus created a climate of economic distress.

In addition, issues pertaining to natural resource management (land, water, forest and fishery ecosystems and biodiversity), the production of knowledge and its dissemination to end-users have not received high priority on the political agenda of many national governments. Small public budget allocations to agriculture and research reflect this low priority. There has been a long time bias when resources for agricultural research emphasized export crops at the cost of indigenous food crops. Efforts to reverse this orientation have been slow and staples (such as millet, sorghum, cassava, yams, cowpeas, bananas, plantains and traditional vegetables) have received little attention from advanced research institutions. As a result, Africa has lagged behind most other developing regions in generating improved varieties and technologies that are locally adaptable.

At the household level persistent problems related to post-harvest losses due to lack of technologies, inadequate storage facilities, lack of packing materials and appropriate processing equipment have compromised the value-added advantage and productivity. (Estimates show that up to 20-25 percent of food grain is lost after harvesting)

Rural Infrastructure:

A fundamental obstacle to improving agricultural competitiveness and the welfare of rural people is the poor quality of rural infrastructure in most parts of Africa (e.g. roads, railways, ports, telecommunications and electricity). Africa has the lowest density of paved roads of all the world's regions. As a result, producers are separated from consumers and transportation costs rise. Almost one-third of the total African population (14 countries) is landlocked, without river access to a seaport. Landlocked countries have unique difficulties in accessing regional and global markets. Road network density and quality are essential to their general and more widely distributed economic and social development.

Africa's transport systems are poorly integrated and inefficient. They impose a high cost premium on trade, travel and communication among people and businesses. This has a crippling effect on African countries' trade competitiveness and their ability to participate in the world economy. High transport and insurance costs add to the cost of imports and cut into the net income from exports. The United Nations Conference on Trade and Development (UNCTAD) in 2001 found that for a number of landlocked African countries transport and insurance represent more than 30 percent of the total value of exports (and above 50 percent in Malawi, Chad and Rwanda). This compares unsatisfactorily with an average of 14.5 percent for all landlocked countries and 8.6 percent for the developing countries group. Electricity is not available in many areas of Africa. Only five percent of Africa's rural population has access to electricity, and the rest depend on traditional fuels such as wood and cow dung for cooking, heating and lighting.

The availability of telecommunications networks determines the accessibility of information technology. The relatively rapid growth of the Internet in Africa has been limited mainly to major cities, where telecommunications infrastructure exists and where most of the small, wealthy population resides. The ratio of fixed lines per person between urban and rural areas in Africa is estimated to be as high as 25:1. Access and adoption of information technology are uncertain for the large majority of rural communities. Even if information access could be assured to a large portion of the rural population, marketable quantities may simply be of insufficient value to cover the transportation costs for reaching the broader 'e-commerce' markets.

What then is the role of farmers' organisations

There are many causes of the poor state of African agriculture as eluded to above, but perhaps the most critical is the misconceptions of the roles and abilities of African smallholders. To many observers, including their own governments, they are subsistence farmers who are not interested in producing surpluses for markets. They have been regarded as passive beneficiaries at the end of the top-down research-extension-adoption messages with absolutely no input or contribution to make. With the vast majority of African producers and custodians of most of Africa's land regarded in this light, it is not surprising that there has been little progress in agricultural intensification and improvement in the environment in which they do business.

To enable progress in the sector, High-level political commitment is essential as it translates directly into favorable policy environments and budget allocations to agricultural support institutions and related infrastructure. This cannot happen without a critical mass to demand service from the government, individual farmers cannot put pressure on governments in this regard and effective farmer organizations remain central not only to improving the communication and articulation of farm sector needs to government, but also monitoring the development activities in the rural areas. Both farmers' organizations and governments must take responsibility for initiating overtures and organizational forms to make this possible. There is now an emergence of farmers organizations in Africa but in many countries they are still too weak to play this role while in others they are in an embryonic stage and this is why it is urgent to get them strengthened to play this key role. Farmers' organizations are the main interlocutors for rural development and together with development agencies and governments they can transform these areas by systemically addressing their priorities in a holistic manner.

How to strengthen farmers' organisations

Farmers are the main actors in rural development and their member-based organizations are peculiar in that they have their own internal systems of accountability, democracy and transparency enforced by members. The legitimacy of any farmers' organization is fundamental in that it should have been formed by members themselves, to solve some of the problems they face. Farmers are in an organization to face the outside world together, this needs respect, which means there is need to start from what the organization was formed to achieve and work with members towards meeting their own set objectives. There is fundamental need in the development process to strengthen these organizations into strong institutions which are not dependent on donor support for survival. This can only happen when the original mandate is maintained as the focus. Many of the organizations require institutional strength, in terms of accounting procedures, human resources development and most of all leadership skills for the farmer leaders.

In the context of the International Federation of Agricultural producers (IFAP), there is a farmer to farmer capacity building; *farmers fighting poverty programme* developed around IFAP recommendations, for eliminating rural poverty and achieving food security. Full text available on

<http://ifap.org/en/publications/documents/RecommandationsonPovertyNov04Eng.pdf>

The capacity building work is done through Agricord¹ using clear priorities by farmers themselves. The most important aspect of this is farmers meet in regular committee meetings and define the priority areas in which they would want to be supported. This does not exclude the national specificities and they are taken into account in any development work.

¹ Agricord – alliance of Agri-agencies (Non-Governmental Organisations for Development Co-operation with structural links to the farmers' and rural members' organisations in their home countries)

There is emphasis on involvement of more grassroot members of the organisation in the projects, and to involve them as directly as possible. Village associations, local or regional branches, cooperatives should be involved in project operations and in the management of project funds. This is done with the consent of the national federation or union and responding to plans approved at the national level.

Second, in involving local farmers associations and cooperatives, the programme particularly focuses on women farmers and entrepreneurs. The programme sets a goal that 30% of the persons involved in project activities will be female, aiming at an improved gender balance in organizations and their activities. The reason for this is that more than 40% of the economically active population in agriculture is female.

Third, the programme stresses the importance of entrepreneurship among farmers and creates opportunities for all kind of local economic initiatives. There is strengthening of the upper levels of organisations in rendering the appropriate services to these associations, enabling stimulation of local businesses and to link it with private and public services.

Farmers Fighting Poverty allows for capacity building on a broad range of topic of interest for a farmers' organisation: Participatory policy formulation, Financial management, Internal organizational strengthening, Institutional development, Grass-roots participation, Development of training modules and facilities, from improving cultivation methods, acquisition of inputs, Agricultural development (crops), crop protection products or chemical manure, the establishment of a processing plant or a farm credit facility to trade initiatives and advocacy in many fields... Full text available on http://agricord.org/?search_program_categories_id%5B%5D=1

This represents a good example of the flexibility needed in supporting farmers organizations as their needs are very different and depend also on the level of development of the organizations. It is also important to allow the organizations to define a clear strategic plan which is by the members. All support should be based on this strategic plan.

Finally, it is important that in any development work in the sector, there is a component of support devoted to the strengthening of farmers' organizations as these are an important link to the overall development of the country as they are the ones to demand the services they require. They are also the ones to call for transparency and accountability in utilizing the public resources in the country whether through donor support or government resources.

They can play a vital role in balancing power in countries where citizens do not have much room to question the authorities. This is the balancing of power that is fundamental to get results out of the resources which come into the countries to benefit the rural poor.

This has been recognized by IFAD who are now supporting farmers along with their traditional partners the government

In conclusion, it is important for the Norwegian Government to join in this effort with like minded governments to support the work of farmers organizations and IFAD can show how to go this way.

The Role of Farmers' and Rural Producers' Organizations in Rural Development and Poverty Reduction

The Experience of the International Fund for Agricultural Development (IFAD) and the Farmers' Forum

Sappho Haralambous

International Fund for Agricultural Development (IFAD)

I think that we will all agree that a strong civil society, one that can help hold government accountable to its citizens, is an essential factor to answer positively the question posed by the Conference: "Can Africa Feed Itself?" Our task, in this parallel seminar now, is to discuss the role of a particular sector of civil society: farmers' and rural producers' organizations (FOs), in the context of rural development and poverty reduction in Africa. On the request of the organizers of this Conference, I will also share with you the experience of IFAD regarding its collaboration with FOs and the processes it is putting in place to enhance and institutionalize said collaboration.

Farmers' and rural producers' organizations have an important and growing role to play in three main areas: rural/agricultural development; poverty reduction strategies and public policies; and consolidation of good governance and democracy.

Regarding rural/agricultural development, FOs can play a critical role in determining the services most suited to the demands and resources of rural populations, in particular the poorest among them. In this regard, FOs provide goods for their members: group supply of inputs and individual income producing equipment; collective marketing of members' produce, collective procurement and management of production equipment, for example, irrigation, products storage, processing etc.

Farmers' organizations can also improve the purchasing power of poor rural producers by strengthening their capacity to negotiate, on better terms, with other economic actors, including of the private sector. Furthermore, they can influence decision making processes at local, national, regional and international levels to promote, especially, rural and agricultural policies that take account of the realities and specificities/peculiarities of family farmers and their central role in poverty reduction and social stability.

The formulation of poverty reduction strategies and, especially, rural public policies, at the various levels involved, is no doubt the prerogative of governments. However, their efficiency increases when they are based on negotiated compromises between the various relevant actors. In this regard, farmers' and rural producers' organizations contribute in three main ways. They represent the interests of their members in the articulation, implementation, monitoring and evaluation of such strategies/policies. They increase

efficiency of public policies by ensuring their suitability to the particular contexts they apply and, in so doing, they prevent adoption of ready made, top-down, normative and often externally imposed models. They can also promote bottom-up consultative processes that can ensure acceptance and appropriation by the rural people.

Linked to the above, in the area of good governance and democracy, FOs can contribute to improved transparency of decision-making and management; increased accountability of decision makers to rural populations; and to the knowledge and organizational empowerment of their members.

Farmers' organizations take many forms. They can be cooperatives and producers' organizations, economic interest groups, rural interest groups; unions, federations and confederations bringing together various local or regional grassroots organizations. Whatever their form, however, in order to be effective in the above-mentioned areas, Farmers' organizations need to have a number of specific characteristics. They need to be independent, autonomous, private and membership-based. Regarding the latter, membership is not based on specialisation and technical or economic performance (which might be the case with some rural organizations), but is broadly inclusive and reaches out to the most vulnerable groups of rural populations. Additionally, whatever its particular membership, the critical condition is that the organization is accountable to it and shapes its activities in response to the demands and perceived needs of its members.

It is also important that farmers' organizations operate beyond the grassroots level. In so doing, they act as interface between local societies and their larger environment rather than grassroots organizations whose activities are, usually, limited to the local level and aim, principally, to regulate relations between the different groups and individuals. Their aim, in broad terms, is to improve relations between their members and the economic, institutional and/or political environment and to render it more favourable to their initiatives. Furthermore, the organizations seek to influence economic and political decision-making centres and, accordingly, are structured at the different decision-making levels: local, national, regional even international.

In view of the above, the empowerment and capacity building of farmers' organizations should be given priority in any effort at rural development and rural poverty reduction, be it by national governments or donors.

Empowerment

Empowering rural people's organizations is a principle of engagement that informs all the interventions of the International Fund for Agricultural Development (IFAD), a United Nations agency established in 1977 with the mandate to: combat hunger and rural poverty in developing countries and to improve the livelihoods of rural poor people on a sustainable basis.

IFAD's operations aim at the economic, knowledge and organizational empowerment of poor rural people. These can be small and landless farmers, landless agricultural workers, artisanal fishermen; herders and pastoralists, small entrepreneurs. Special

attention is given to women and indigenous peoples.

The Fund's interventions aim at enhancing the access of poor rural people to: natural resources; improved agricultural technologies and effective production services; a broad range of financial services; transparent and competitive markets for agricultural inputs and produce; opportunities for rural off-farm employment and enterprise development; local and national policy and programming processes.

During the first two decades of its operations, IFAD always applied inclusive participatory approaches for the implementation of its projects at the grassroots level. It did less in relation to project design, strategy formulation and policy dialogue. During those years, it principally supported community-based organizations, self help groups and other grassroots rural institutions, sometimes creating new ones through government services and NGOs with the risk of dependency and weak sustainability. It worked much less in partnership with higher level producers' membership-based organizations operating beyond the grassroots and local level.

This tradition started to change in the end of the 1990s, when partnerships began with membership-based organizations of smallholder farmers and other resource poor producers at national, regional and international levels. This change was partly due to the emergence of new, independent small farmers' and other rural producers' organizations in many developing countries and partly due to the recognition, on IFAD's part, of the risks and limitations of its traditional engagement only with grassroots self-help groups and village associations.

As a result, since the late 90s, IFAD stepped up its support to building the capacity of such organizations. Programme and strategy development in Burkina Faso, Mali, Senegal and Rwanda were undertaken with the active participation of national FOs. Similar partnerships were forged beyond operations. For example, African FOs were supported to engage with the articulation of the agricultural policy of NEPAD. In West Africa, the Réseau des organisations paysannes et de producteurs agricoles (ROPPA) was supported to engage with the agricultural policy process of ECOWAS. In Latin America, a ministerial/FOs platform, Special Commission on Family Agriculture (REAF)/MERCOSUR, was established to promote family agriculture in the regional integration process of South America. At the international level, in 2002, the President of IFAD addressed the Farmers' Congress of the International Federation of Agricultural Producers (IFAP).

Farmers Forum

By 2004, the Fund was ready to consider how best to institutionalise partnerships with FOs. In February 2005, a workshop was organized with national farmers' leaders from over the world and representatives from global and regional movements such as IFAP, ROPPA and La Via Campesina. The consensus of that workshop was to establish the Farmers' Forum.

The Farmers' Forum was conceived not as a periodic event. Rather, it is an on-going, bottom-up process, a space of tripartite consultation and dialogue between farmers' and

rural producers' organizations, governments and IFAD focused on rural poverty reduction. It is an instrument for accountability of development effectiveness, in particular in the area of empowerment of rural poor people and their organizations. It is an interface between pro-poor rural development interventions and the process of enhancing the capacity of farmers' and rural producers' organizations.

The Farmers' Forum is a process fully aligned with IFAD's strategic objectives and is rooted in concrete partnership and collaboration at the country and regional level. Engagement with rural organizations at the field level and dialogue at the international level are articulated as mutually reinforcing processes. Following consultations at the national and regional level, the Farmers' Forum meets every two years for a global consultation, in conjunction with the Governing Council of IFAD, where all its 162 member states are represented at ministerial level, in the case of developing countries, from the ministries of agriculture; and in the case of donor countries, from the ministries of cooperation or finance.

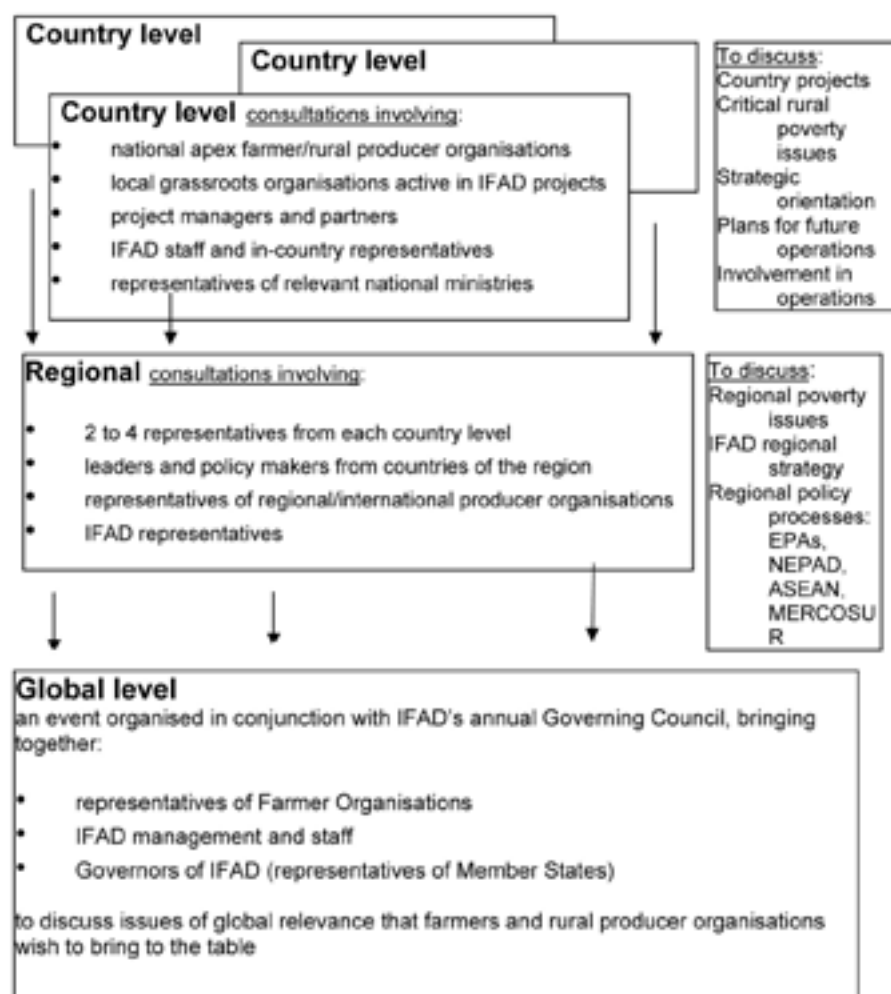
A set of guiding principles were agreed upon, most important among them: inclusiveness, pluralism, openness and flexibility, mutual recognition; avoidance of duplication; promotion of autonomy.

National consultations and policy dialogue feed into regional consultations which shape the Farmers' Forum biannual global meeting at the Governing Council. However, the success of the Forum depends on enhanced country-level engagement by FOs in the operations of IFAD, its projects and country strategies. Figure 1, below, presents the participation and contents of the consultations at the different levels.

The Farmers' Forum process is guided by a steering committee whose membership comprises of members of IFAD, La Via Campesina, ROPPA, Coordinadora de Productores Familiares y Campesinas del MERCOSUR (COPROFAM), the Asian Farmers Association (AFA), the World Forum of Fish Harvesters and Fishworkers (WFF). The steering committee works with a reference group within IFAD whose membership comes from all relevant units of the institution.

The first partial cycle of the Farmers' Forum (2005-2006) was concluded in February 2006 and the next one in February 2008, again at the Governing Council. The Forum process has, additionally, allowed many organizations to present their own work and agenda and receive direct financial support for IFAD. So far, the majority of these initiatives addressed policy issues such as access to land and land reform, food sovereignty, trade and economic partnership agreements, regional integration processes.

Figure: Tha farmers' Forum Process



Is there Future for African Youth in Agriculture?

Francis William Webber

National Coordinator, Sierra Leone Alliance Against Hunger

The answer is yes.

In Sierra Leone Poverty is widespread and deep. **About 26% of the population is food poor**, and cannot afford a basic diet; 70% live in poverty. There is a wide spread disparity in poverty's geographical distribution: although about 66% of the population (4.963.000) lives in rural areas, three-quarters of the poor are rural. In the poorest districts (*where war destroyed tree crops, or which rely on poor subsistence agriculture or artisan mining*) more than 8 out of 10 people live in poverty. Sierra Leone's poverty profile shows that the main poverty indicators are insufficient food, poor housing, poor health, and high infant and maternal mortality, high illiteracy, limited access to clean water, and lack of money. The youth is no exception. **Sierra Leone's poor social indicators reflect the low level of human development**, with especial poverty among rural women. Maternal mortality, infant mortality and fertility rates are among if not the worst in the world. Contraceptive prevalence remains low, as does female school attendance. Household poverty is high among subsistence farmers, as well as among households whose heads have little formal education, and large households. The high poverty rate among youth indicates the lack of economic opportunities for this potentially productive group.

Youths constitute 40 % of the population of Sierra Leone. During the civil war, an overwhelming majority of members of the armed factions were youths. They were also victims of the war wrought on the country by years of bad governance, corruption, electoral violence and injustice. However, the war hardly changed the dismal material and other conditions of youths. In fact, it is the consensus amongst academics, politicians and ordinary people that the war compounded the problems that youths face in the country.

Some of the problems underlying youth development in Africa include: unemployment, lack of access to justice, poverty, exclusion in governance structures and **low investment** in youth development especially in education and health. If the problems of youths are not addressed given the **memories of the destructive war**, youths are vulnerable to armed conflict.

Bad governance and lack of redress mechanisms have exacerbated the problems of youths, which have led youths to perpetrate violence, crime and murder, engaging in drug abuse and rape.

Small-scale farming is the source of livelihood for over 80% of Africans but domestic production remains at the subsistence level because of the use of rudimentary farming implements, the lack of subsidies and access to formal credits. The country cannot produce

enough food to feed its population. As a result, a significant proportion of the total population cannot afford three meals a day. Women provide two-thirds of agricultural labour yet they do not have control over land and the proceeds.

However, youth continue to face a range of challenges that constrain them from fulfilling their potential, covering the entire remit of social, economic, political and cultural issues present in African countries. Girls and young women in particular continue to suffer numerous disadvantages.

Nonetheless, it has been very easy to use and exploit young people as an expendable resource by warmongers across the African continent because their development needs have been neglected. Young people recognise that the changes they are seeking can only come when they themselves play a full and proactive role in looking for opportunities to develop themselves, demanding their rights to participation and protection. We stressed that government, regional bodies, international partners, civil society and the private sector come together to enhance the efforts and provide the conditions and opportunities for youth to take up their rightful position in society. This is dependent on allocation of specific resources for youth.

Trade

Other factors that have contributed to hunger include the indiscriminate liberalization of agricultural markets, which creates unfair competition for small scale farmers from cheap and heavily subsidized products from the developed countries; draining wealth from rural communities and marginalizing small scale farmers.

It has been an argument on most of our training meetings on right to food that the agreements negotiated between countries with different levels of economic developments and who have little understanding and meaning to poverty reduction, that trade liberalization is unjust to the needs and rights of local people and communities. Moreover, it creates agricultural dumping

We now that rural youth are not only among those most vulnerable to food shortages, but more importantly, they are the driving force behind African agriculture. Traditional forms of food aid have largely failed to recognise and enhance the productive capacity of the young people in Africa, and this in turn means that food aid has been ineffective in contributing to lasting solutions to hunger. While short-term emergency food aid is often essential, it must be balanced with longer-term assistance and more comprehensive programs for agricultural development that are designed to support youth's crucial contributions to agricultural production and their commitment to feed their families.

What Can African youth do: the experience of Sierra Leone Alliance Against Hunger (SLAAH)

The increase in the number of people experiencing chronic hunger has been the subject of much talk but little action. In 1996, world leaders gathered at the World Food Summit

and pledged to reduce “the number of undernourished people to half their present level no later than 2015.” When the leaders met again in 2006, figures released by the Food and Agriculture

Organization (FAO) indicated that the number of hungry people in the developing world had actually increased – from 796 million in 1996 to 815 million in 2002.

It is evident that the progress in World Food Summit Goals achievement were painfully slow and member states asked FAO to facilitate the creation of an International Alliance Against Hunger aimed to mobilize the necessary political will to overcome hunger and poverty.

Since its creation in 2002 the IAAH promotes coordinated work both at international and national levels with a special focus in multi stakeholder participation, key factor for creating comprehensive and effective policies and programmes against hunger and poverty.

The IAAH encourages and support countries in creating national and local networks, the National Alliances Against Hunger, which are offered technical support on the 4 main pillars of the IAAH work:

Advocacy, in order to mobilize the political will, to raise public awareness and to involve citizens in the national and international fight against hunger. In most countries investment in agriculture emerged as main factor for positive change. Civil servants are often involved in these advocacy activities, and in some cases NAAHs were able to have impact in national policy and programmes on agriculture.

Coordination, to maximise the work done at all levels. The IAAH facilitates National Alliances in their contacts with institutions, international organizations and, most important with other National Alliances. In Africa experience NAAHs coordinated work, strongly supported by ROPPA in West Africa offered to citizens the chance to discuss policy agreements and to identify key priorities for Africa to feed itself. Youth organizations are actively involved in this process.

Accountability, enabling people to take part to policy negotiation and to actively participate to national and local programmes on hunger reduction. Special attention is paid to enabling participation and accountability of small scale farmers especially youth and women farmers. In Africa National Alliances included Sierra Leone’s youth and women organizations led the creation and the developement of the National Alliances and brought their voices in the public debate.

Resource Mobilization, to maximize the use of funds taking into account needs of more vulnerable people and facilitating the broad participation of citizens in establishing the priorities for investments.

Sierra Leone Alliance Against Hunger joined the International Alliance at an early stage in 2004. It was promoted, nurtured and developed by a core group of civil society organizations and since then main effort were paid in the effect of dumping, focusing on dump rice and chicken as well as emported textle.

Consulting rural communities on their needs and problems in some cases reinforcing

their lobbying capacities in negotiating with local and national institutions

Organizing advocacy and training activities aimed to inform citizens on the Right to Food and to strengthen the lobbying capacity of citizens on hunger and poverty reduction strategies especially referring to impact of trade on agriculture development in Sierra Leone.

SLAAH made the Sierra Leoneans voice been heard loudly by civil servants, and similar work is planned for the near and next future.

We the youth of Africa and Sierra Leone in particular will join several campaign groups to see Fair Trade in Africa and see the end of trade liberalization or at least review most of the agreements in order to protect poor nations' farmers (youths and women farmers) from low-cost and often subsidized competition from abroad. But our personal and collective effort is not enough if governments of both low and high income countries do not put people in the center of their action.

Recommendation

More specifically we the Youth of Africa recommend that the US and other rich country governments should:

- stop imposing trade rules and economic policy conditions that make it difficult for African governments to support smallholder farmers, and push them towards excessive reliance on export-driven agriculture at the expense of food crops for local markets
- reform their policies and programs to support rather than undermine innovative approaches to agriculture and women's roles in food production
- increase funding for food aid and agricultural development

African governments should:

- promote, uphold and enforce youth's rights to land, credit, water, seeds and other productive resources
- establish structures at the community, regional and national levels to ensure that youth and women's voices are heard in the design and implementation of food and agriculture policies and donor assistance programmes
- expand state-funded programmes of treatment, care, nutrition and support for HIV-affected persons, especially in rural areas
- make sure that their people's right to food is sustainably fulfilled before pursuing the development of export markets; and go beyond food security (the pursuit of adequate food supplies) to introduce policies that will ensure their nation's food sovereignty

Political empowerment

John Mutunga

General secretary, Kenyan Federation of Agricultural Producers (KENFAP)

The world has the resources and the know-how to eliminate hunger and poverty. Statistics show that 30,000 people die of hunger each day, about 850 million people are severely hungry and about 1.3 billion people live in extreme poverty (MORE and BETTER). The climatic, natural, political, cultural and economic situations of countries are diverse and often unique. Any Aid to the DC should aim at eradicating extreme hunger and poverty while respecting and protecting the dignity of the people. Durable exit from poverty and insecurity for the World's fragile states will need to be driven by their own leadership and people, although the international actors can affect outcomes either positively or negatively. Adoption of good principles can help international actors maximize the positive impact of engagement and minimize unintentional harm (Principles - April 2007). More and Better An international campaign for food, agriculture and rural development Aid to eradicate hunger and poverty, aims to complement the partnership commitments set out in the Paris Declaration on Aid Effectiveness. Realization of the objectives require taking into account and acting according to the following objectives:

1. It is important for international actors to understand the specific context in each country and develop a shared view of the strategic response that is required. The support given should be provided in a manner that does not disrupt local production but should aim at;

- Supporting programs and policies developed by the recipient communities and countries
- Focusing on stimulating the local production and markets while utilizing the local expatriates.
- Strengthening the utilization and control of local resources
- Responding to local felt needs completely devoid of any vested interests.

2. Developing Countries mainly require political empowerment for their citizens. Focus on state-building should be the central objective of developmental Aid. International support should be towards enhancing support the legitimacy and accountability of recipient states by addressing issues of democratic governance, human rights, civil society engagement and peace building. Therefore aid should support local communities and community-based organizations particularly in building political empowerment for the citizens to;

- Articulate their views and implement their own development models

- Ensuring security and justice
- Mobilizing revenue collection and utilization
- Have meaningful participation in development processes
- Establishing an enabling environment for basic service delivery.
- Encourage greater accountability in governments

3. Trade is the single most important external source of development financing. The monetary consensus recognizes that Official Development Assistance (ODA) is a crucial instrument for supporting education, health, public infrastructure development and to enhance food security for LDC (Least Developed Countries). As part of their commitment, donor countries vowed to boost ODA to the long-standing target of 0.7 percent of their gross national income. Removing trade barriers and improving infrastructure to increase trade among developing countries could also have a big impact on improving incomes and food security(F.A.O 2005)

4. Both the World Food Summit in 1996 and the Millennium summit in 2000 set goals for reducing hunger by half between 1990 and 2015. Food production is key in development. For Aid to be effective it should give priority to strengthening small scale production sector to ensure realization of sustainable livelihoods.

5. Technologies introduced sometimes fail to assist the communities. Aid should aim at utilizing the local knowledge of the communities to build on the wealth of the local culture and knowledge held by the communities' .aid should aim at supporting processes that facilitate appropriate technology solutions.

6. Good Aid generates inclusive dialogue and engagement among different development actors. Implementation of development must be based on democratic consultations and meaningful ongoing community participation, therefore the Aid should contribute towards reducing existing inequalities.

7. Women play a leading role in agricultural production and in local food security. In developing countries, women produce 80-90 per cent of the food. Women are therefore a critical factor in rural development and their economic empowerment is essential to address poverty and food insecurity. Yet women farmers are one of the most vulnerable groups, often lacking access to resources, land, education and training, credit and to market opportunities.

- The active involvement of women in the decision-making process is consequently essential. Farm programs must address the special situation of women farmers, including their access to resources, access to land, access to education and training,

access to credit, or access to market opportunities.

- The creation of women observatories within national governments should be envisaged in order to look into their problems and needs in a specific way.
- It is important to possess statistical data to be able to identify gender-related differences in regard to status and production revenue.
- Greater involvement of women farmers in formulating the policy positions of the farmers' organizations representing them, as well as a more active participation in debates and national and international programmes within these organizations is necessary so that the specific requirements of women are incorporated into the policies advocated by the governments.
- Good Aid should be able to facilitate the empowerment of women for their involvement in key decision-making positions within the agricultural sector, while recognizing the fundamental importance they hold in providing for food and nutritional security.

8. Livelihoods are sustainable when they can cope with and recover from stresses and shocks that threaten food security without undermining their natural resource base. Building local capital, social systems, financial capital and the natural resources on which they depend is critical.

- Good Aid should be guided by a clear development paradigm supportive of the principles of social, economic and environmental sustainability and intergenerational equity.
- Improving environmental sustainability and food security by empowering the rural poor. A large portion for the hungry are concentrated in areas that are highly vulnerable to environmental degradation and climate changes. Efforts to promote food security and environmental sustainability can often reinforce each other.

9. Efforts should foster linkages between the local, national and global opportunities for learning and knowledge sharing. Aid should provide platforms for the exchange of experience globally provide nationally coherent programs for delivery of Aid and should foster linkages among local efforts. It should address problematic structures and mechanisms that limit the effectiveness of Aid reaching the world's poor and hungry.

10. Agricultural policies and practices change with development. Aid should focus on new policies and practices for agriculture which:

- Facilitate provision of sufficient safe and nutritious food i.e. address issues of the countries food and nutritional security
- Put emphasis on income strategies, peoples livelihoods, local production systems, protection of markets where needed to enhance national and local food security and avoid the use of food Aid where it will threaten the market for the local products
- Support realization of land reforms, water rights and unrestricted access to genetic

resources for food and agriculture and wider agricultural biodiversity for small holder farmers, exclusive fishing zones for artisan fisher folks; grazing rights for pastoralists; improved common property resource management

- Support sustainable ,farmer-led small-holder or community
- Agricultural systems (e.g. agro ecology, sustainable agriculture, organic agriculture)

11. Natural disasters affect development and require emergency measures. Even when natural disasters do not reduce aggregate food supplies substantially, they can have a catastrophic impact on some of the population groups. Often the poorest and the vulnerable are hardest hit, worsening poverty and malnutrition. Disaster also affects fragile livelihoods to such an extent that populations are displaced and long-term rehabilitation is required. Relief aid to achieve good results from Aid improved education and public awareness not only on how to implement but also how to avoid problems caused by poorly conceived Aid is required.

Good Aid especially should focus on Agricultural and rural development, because the majority of the undernourished live in poverty in the rural areas of developing countries, often in drought prone and marginalized areas. The rural population who live in the drought prone and marginalized areas, depends more directly on environmental resources and services, where they make daily use of soil and water for farming and fishing, forests for food, fuel and fodder of biodiversity of a wide range of plants and animals both domesticated and wild. To eradicate extreme hunger and poverty, aid must focus on Agriculture and rural development, which creates livelihoods that are truly sustainable for generation to come.

Norway can contribute towards agriculture and rural development in the projects that focus on sustainable agriculture, while focusing on the climatic, natural, political, cultural and economic situations.

What Would The Norwegian Government Do?

The fight against bad aid or aid offered against the principles of good aid cannot be won without the participation of nation states. As such, the Norwegian Government could assist through adding a voice in support of the principles of good aid, for instance in the campaign against bad aid as apparent where especially Food Aid is offered in kind. The Norwegian government could support the model of Food Aid and that promotes local production other than any other that negates this principle. For instance support of purchase of food in the aid target countries will promote local production as opposed to food and in kind where it might land at peak produce harvest time thus causing glut which in effect affects production in the ensuing season.

The Norwegian Government could set an example in being one of those that have achieved their 0.7% GDP mark in aid for development where required. Many countries in the world, especially the G8 are far from attaining this mark. There is great progress among

some EU countries, which shows their commitment towards supporting development in other parts of the world. The Norwegian government could emulate its EU partners as in support of pro-poor-policies which are aimed at increasing the resource base of the African countries, through more and better packaged aid.

Market access is one of the most important economic growth facilitating factors. Africa has the potential to produce a wide variety of farm products, which would greatly increase the incomes of the poor. Most of the prospective outlets are fairly sealed thanks to the emerging demands such as the EUREP GAP and the recent food air miles. It is important to have and sustain standards, in order to ascertain the quality of products. However, it is important for countries of product origin to be given consideration in the development of and implementation of standards and decrees. The Norwegian government could therefore come out in support of market access for African Agricultural products and consultative development and agreement on standards. It would also be useful for countries such as Norway to support collaborative research activities in both Europe and Africa before dialogue and subsequent agreement/decisions on imposition of imports sanctions.

Most countries in Africa are undergoing recovery from either armed conflict or disaster of other kinds. In such a situation, economies are fairly delicate/fragile, and livelihood support systems weak. There is therefore need for support in rapid technology transfer to promote productivity enhancement in agriculture which would not only facilitate food security but also economic growth, as most such economies are funded through agriculture. The Norwegian government could target enhancement of techno-transfer through support towards production and dissemination of such respite technologies.

Many African countries are suffering poor governance and lack of transparency and accountability. They therefore need strong civil society/organizations to keep them at check, and ensure fulfillment of such governments' promises. Unfortunately most of the bilateral and multilateral donor relations between different governments fall short of supporting the people's watch dog institutions. The arrangements are between governments which may turn out to be routine and therefore sustain some unfavourable status. Some recent developments have served as eye openers in that bilateral projects, whether credit/grant or a combination of the two have a people's organization empowerment components, which is normally in grant form. This enables to sustain a relationship between governments as implementing agencies and CSOs as peoples' watch dogs, a symbiotic relationship that has shown great success. We would like the Norwegian government to consider supporting civil society organizations to be able to monitor effectiveness in the process of crafting and implementation of development projects/programmes. Since governments may be reluctant to enter into credit agreement which benefit strengthening of CSOs, it is recommended that such support is in grant form.

There is some growing concern over the promotion of the myth that "Africa's green revolution could only be attained through genetic engineering". Incidentally, the African farmers are not convinced that sufficient research has been conducted in this field to so conclude, and that conventional research has totally failed. The African farmer see some

influence for and in propagation of neo-liberal policies which could adversely affect the future generations. Unfortunately, there is little or no support for through pro-farmer empirical research to confirm or negate this hypothesis. The Norwegian Government could therefore step in to support pro-farmer research, to evaluate the possibilities both short and long term and implications of using genetic engineering to feed Africa, vis a vis other conventional technologies. There is great fear that should the moratorium on terminator technology be lifted, then African farming may be dictated from elsewhere.

One of the greatest African food production problems is low input use, thus leading to low productivity of the soil. Majority of the farmers – being poor – need to be lifted out of poverty through pro-poor policies and actions. Access to credit for input purchase is a major limitation. Whatever packages there may be, they are either too expensive to access or conditions ridden. A government like the Norwegian one could develop a strategy to alleviate suffering of the many poor farmers through availing a cheap, less conditional credit package in the form and manner easily accessible by African small holder farmer. This could be done through governmental, non-governmental or CSO relation with Norwegian government agencies.

In some countries like Kenya, there are no clear bilateral development initiatives after exit of NORAD. It is proposed that re-opening of the NORAD programmes be evaluated and focus examined to have much more of people than government orientation.

The eroded ability of nation/state to exert desirable interventional measures to correct market failure setbacks on farmers, needs to be restored. We are calling for a change from support to export oriented agriculture to one that fully supports domestic food production if African agriculture is to thrive. We need to sufficiently protect our markets from products that destabilise prices, bearing in mind that local and regional markets handle the bulk of farm produce. Such markets greatly contribute to those countries development and poverty eradication. There is therefore need to stop policies that promote dependence on food imports through relevant supportive mechanisms geared towards promotion of local food production where there is comparative advantage, a situation that the Norwegian government could support.

Agriculture for a most African countries, is a matter of life and death. The history of GATT reveal that time was essential for the developed countries to develop their agriculture. African countries and by extension developing countries therefore deserve some room for choice making and promotion of their desired agricultural development objectives. The negative impact of liberalisation, which by far supersedes the gains, has considerably curtailed development in developing countries, which are mostly dependent on agriculture.

We completely agree with the Norwegian Farmers Union that the position of farmers in the food chain needs to be seriously evaluated, in line with the accruable benefits. Experience has shown that the further away products are sold from the producers, the lower the benefits to the producers. Farmers/producers have least taken charge of their produce marketing. In some cases, products lose their identity soon after crossing

the national boundaries. For instance, African Coffee and Tea is not available as such in the world market, yet the two products are used to blend and therefore improve the quality of similar products from other countries. One would expect those products to earn the farmers substantial income, but on the contrary, coffee farmers have been so much exploited as to abandon production in preference to much lesser income earning alternatives. We need to take control of our products as opposed to the provisions under the WTO market access pillar.

The position of African countries is that the trade rules should allow for existence and promotion of various forms of agriculture in all countries that supports initiatives geared towards food security. The framework for choice and promotion of SPs and SSM should be designed in view of the desired flexibility for the needs of a given country. Some African countries' position to the WTO negotiations proposed and clearly outlined the criteria for choice of SPs. Being the same position held by the G10, it therefore implies that there is no conflict between farmers in the north and those in the south. All the farmers have a common position as discussed and agreed upon in the north south dialogue meetings.

Conclusion:

The Norwegian government has shown clear commitment towards enhancing development of the under-developed countries. It has also come out clearly in proposition of pro-growth policies at various dialogues, especially the WTO negotiations among others. Norway could however do better in getting more involved in actual development work at national or sub-national levels of the developing states of Africa. A module of bilateral development initiatives, in clear recognition and support to the efforts of the non-state actors is therefore most preferable. It is also believed that if Norway added its voice in support of pro-growth policies of African Agriculture among its peers in EU, then there are possibilities of a change in attitude for the better. Good Aid for Africa require; strong partnership with like minded nations within the influential groups of states and governments, such as the Norwegian government.

Aid with “string attached”

Gertrude Kenyangi Kabusimbi

Support For Women In Agriculture And Environment (SWAGEN)

The question “*What is good development aid for agriculture? How can Norway contribute?*” is timely and to the point. It is a question that stops us in our tracks to take stock and, make new strategies. The constraints of Africa are not only fiscal but tactical as well.

Take Uganda for instance!

To begin with: The country depends on foreign aid for nearly 50% of its budget. Only 57% of the taxes due to the government are collected but the rich and politically powerful evade taxes as a result of weakness in tax administration.

Secondly, African government have a tendency to be extravagant or to make wrong public expenditure priorities e.g. Uganda spends \$200 million on the military per annum, and \$200 million on an unnecessary, bloated, public administration structure per annum.

Thirdly and most ironical, there is the cost of absorbing foreign aid! The Bank of Uganda is holding treasury bills to the tune of \$700 million, interest payments on which cost the taxpayer \$110 million per annum.

Consequently some quarters of society are skeptical about Foreign Aid charging that it;

- a. Is a subsidy for government incompetence and corruption because it undermines incentives for the government to improve the tax administration structure that would lead to clamping down on the rich and politically powerful who evade taxes.
- b. Encourages African governments to maintain their corrupt and profligate military and public administration expenditure at the expense of prudent fiscal policy.

Recommendation (How can Norway contribute)

I would like to recommend the following:

1. Revisit your approach: The government, NGOs and people of Norway should adopt the bottom-up approach while maintaining the top-down approach that is currently in use. The top-down approach has the advantage of being time and cost effective and giving quick results. It's excellent for relief, rehabilitation and emergency services. However, it suppresses local initiatives and kills the self help spirit as the recipients become complacent and develops a dependency syndrome. It also does not provide for participatory situational analysis, problem ranking, strategic planning, pre-project appraisal etc. It therefore works on assumptions and usually misses the target.
2. Involve the subsistence farmers in the process of development right from conception

of interventions to the end. As the late Mwalimu Nyerere of Tanzania rightly observed **“You cannot address poverty without addressing the poor”**. Hold interactive workshops that target subsistence farmers directly so that the two or more parties can share information, learn from each other, exchange ideas and plan together.

3. Build the capacity of the subsistence farmer groups

4. This can be done through:

- Transfer of information, knowledge and skills impartation by training and enabling the grass root farmers to have access to current information in easily accessible resource centres.
- Facilitating the interaction of subsistence farmers with Agricultural Research Institutions and other extension service providers to enable the poor grass root farmers know about and acquire the available appropriate technology innovations
- Empowering subsistence farmers with micro-credit to purchase inputs such as high yielding, pest resistant planting materials, pest and disease control measures, post-harvest appropriate technology for handling, preservation, storage and transportation.
- Supporting value addition and quality control of agricultural produce: Provides subsistence farmers with means to process, package and brand their products for sale in lucrative markets where they can fetch a good price

4. Help indigenous NGOs and CBOs (Community Based Organizations) secure funding. The EU has NGO cofinancing for development projects in Africa but it is a requirement for an African NGO to have a partner NGO in an EU country to secure this funding. Nelson Mandela of South Africa is on record for making a historical statement that **“Only free men negotiate”**. I'd like to make one of my own **“Poor people do not negotiate**. They are prepared to sell their birth rights just to survive”. Poverty ridden subsistence CBOs are unable to meet the high cost associated with engaging in the often lengthy and expensive processes involved in demand for their rights, follow up on unfulfilled promises or negotiating for better services with government departments who have their hands in national coffers and can sleep in expensive hotels, drive powerful 4 wheels trucks and get fat allowances. not to mention commanding respect when engaging government. Local NGOs need meaningful, sustainable funding partnership for a considerable period to get on their feet. Norway could enable them acquire decent office premises for a good work environment, competitive remuneration to attract and retain good quality staff, modern office equipment like computers and where possible vehicles to facilitate movements. The once only donation of euro 20,000 for example, is welcome and will work while it lasts but when it is used up, the NGO goes back to square one..

5. Promote favourable terms of trade between Europe and Africa. Lobby and advocate for the lifting of trade barriers and opening European markets to African agricultural products.

6. Give African governments aid with “strings attached”. Norway should demand good governance, better tax administration and prudent public expenditure.

What type of aid is sustainable for agriculture – How can Norway contribute to Africa?

Bartolomeu António, Paulo Camusiza, Diamantino Nhampossa

National Union of Peasants (União Nacional de Peasants – UNAC), Mozambique

UNAC's Position in Relation to Concerted Action

It is clear that the policies currently being implemented are neo-liberal, due to the impositions of multi-lateral financial institutions, bilateral donors and private investors, leaving it up to us to stand against the disaster that the dominant model is generating. For this reason UNAC is proposing an alternative model of development in general and agriculture in particular for Mozambique – namely food sovereignty.

Food sovereignty involves the right of people to healthy and culturally appropriate food produced through ecological and sustainable techniques and the right to define their agricultural and food systems. It puts the food that they produce and consume at the centre of food systems and policies, instead of the type of food that is imposed by the market and corporate interests. It defends the interests and inclusion of future generations. Furthermore, it offers a strategy to resist and dismantle corporate and commercial regimes, as well as returning food, agriculture, and animal raising to local producers.

Food sovereignty gives priority to the economy and local and national markets and strengthens the family farming sector which will become responsible for agriculture, fishing, animal raising, food processing, distribution and consumption based on environmental, social and economic sustainability. Food sovereignty promotes transparent trade that guarantees a fair return to all and the right of consumers to control eating and nutrition. It ensures that all rights related to the use, benefiting and management of land, water, seeds, domestic animals and biodiversity remain in the hands of those who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, different peoples, racial groups, social classes and generations.

How can Norway help? It will obviously not be through the dumping of food aid which can destroy the efforts of national producers; nor can it be through the imposition of industrialised and dependent agriculture. Recognising that badly advised aid can cause more harm than good, peasants need priority aid to be aimed at responding to the agricultural policies defined by communities and local governments without any conditions imposed for macro-economic reasons. Aid should respect and promote human rights and prioritise support for peasants, and their local initiatives and organisations. This aid needs to be monitored by civil society organisations and institutions such as FAO and IFAD.

Next we will present the demands of peasants in relation to different items that can be provided as aid to the agricultural sector, which are also in harmony with the idea of food sovereignty.

Peasant Participation in the Formulation of Policies, Strategies Legislation, Relations, and Decisions:

1. Continue to consolidate participative democracy, ensuring the effective participation of peasants in decision making processes.
2. Expand the democratisation process to experiences involving the drafting of legislation, policies, strategies and decisions, as well as the control of the execution or implementation of these same normative instruments and decisions, promoting their effective implementation.
3. Develop legislation that classifies food as a right in compliance with article 25 of the Universal Declaration of Human Rights, article 1.2 of the International Convention of Economic, Social and Cultural Rights, articles 55 and 56 of the United Nations Charter and Convention No. 169 of the International Labour Organisation, which has still not been ratified by our country.

Agrarian Production Environment:

1. Encourage agrarian reform in order to achieve the objectives of food sovereignty, through the security provided by land ownership, free access to resources, knowledge and technology and the use of land for productive purposes.
2. Ensure that women and young people are granted equal rights and opportunities in relation to natural resources, which can provide some compensation for the historic discrimination that they have endured and which has victimised them;
3. Facilitate access to and control over land, water, forests, seeds and the means of production (including financial resources and training), commercialisation and the valorisation of national production.
4. Combat the privatisation and commercialisation of life through the prohibition of the taking out of patents and of genetic engineering of all forms of life.
5. Accelerate the operationalisation of the Law of Local State Authorities (*Lei dos Órgãos Locais do Estado* - LOLE), the regulations related to this law, District Decentralisation Processes (*Processos de Descentralização Distritais* - PDD) and the related financial aspects aimed at ensuring the visibility of peasants in the process.
6. Ensure that instruments that increase the force of animal traction are drafted, so that areas farmed can be increased and in order to allow a reduction in the environmental pressure resulting from the slash and burn technique.
7. Increase the level of public investment in agriculture in Mozambique, to ensure that the minimum target level of 10% of the General State Budget as agreed by the African Union is reached.
8. Increase the allocation of resources to agriculture, directing these resources to meeting

- the needs of local populations, so that they will be used to encourage increased productivity and production.
9. Guarantee public investment to permit improvements and progress in the investigation, development and rural expansion process.
 10. Encourage incentives and efforts aimed at peasant autonomous organising.
 11. Provide peasants with management techniques for their crops and enable them to administer production systems as units that can generate income, welfare and wealth.
 12. Implement accelerated literacy programmes for peasants, thereby enabling them to intervene better as socio-economic agents.
 13. Support the establishment of agrarian credit systems (which can be implemented either through agricultural banks or some other form of provision).
 14. Reinforce (with human and material resources) rural expansion and investigation services, ensuring that these services use participative methods that can guarantee peasant visibility.
 15. Make public investments to create conditions that can permit progress in the agro-processing industry, including the local processing of agrarian production.
 16. Increase investments in water retention and irrigation systems in agricultural land and other types of investment to reduce dependence on natural factors.

Markets and Agricultural Commercialisation

1. Regulate food aid in Mozambique to ensure that productive efforts in the country are not undermined.
2. Prevent imports and other subtle forms of dumping from destabilising internal markets.
3. Work to prevent international commercial rules from becoming an impediment to the implementation of a sustainable peasant based production system.
4. Give priority to the production of food for the internal market.
5. Assure fair prices for agricultural products through a combination of measures adapted to the real situation of our country, including customs protection, the management of supply, collective commercialisation, sustainable production methods, etc.
6. At the international level fight for the recognition of the right to protection, reinforcing the management of supply in global markets, involving exporting countries and the importers of products available in Mozambique in this process.
7. Reinforce production capacity to ensure that food needs are fulfilled, using for this, amongst other measures, proper protection against damaging imports, something which should be considered a right.
8. Rehabilitate and activate the rural commercial network, which ensures the delivery of

raw materials, the collection and distribution of peasant production, and the stability of markets and prices.

9. Make investments to improve transports conditions and the price of transport, ensuring compliance with technical norms and the regulation of costs.

Development Questions - the Provision of Basic Conditions:

1. Fight for the development of school and health networks that can provide assistance to peasants and their dependents. Special attention should be given to the provision of an education that can give poor people skills and trades. In addition, equal attention should be given to adult education and adult literacy classes, which is a way of recovering the time lost by an entire generation of Mozambicans.
2. Warn students and their communities about the education curriculum reform process and the postponing of its dissemination.
3. Ensure the health of communities through measures that guarantee access to drinking water and sanitation, which will have a positive impact on the public health system, preventing individual health problems.
4. Increase the placement of technical professionals in the health and education services, especially teachers and nurses.
5. Increase educational measures aimed at girls, including a clear approach to the systematic problem of pregnant students.
6. Guarantee the opening and maintenance of access routes to productive zones, assigning them investment priorities under the scope of the District Development Plans.
7. Intensify the HIV/AIDS prevention and mitigation programme with family agricultural productive communities and extend the treatment programme promoting the production of highly nutritious food.
8. Prioritise, encourage and promote micro, small and mid-sized companies as a model of development for the country.
9. Implement the division of the financial benefits of business projects in relation to natural resources, including the gradual purchase of shares in these ventures by communities
10. Valorise all cultural forms and the identities in all processes involving decision making or listening to opinions in relation to the management of natural resources.

Money counts, but the quality of the assistance is crucial

Aksel Nærstad

Senior policy adviser, Development Fund, Norway

Coordinator of More and Better – an international campaign for food, agriculture and rural development aid to eradicate hunger and poverty

Most of the people in Africa are living on the countryside and are working in or directly linked to agriculture. Despite of that the African governments spend only about 5 % of the national budget on agriculture. In 2003 the heads of states and governments in Africa committed themselves *to adopt sound policies for agricultural and rural development, and commit ourselves to allocating at least 10% of national budgetary resources for their implementation within five years.*¹ So far, only one country, Malawi, has reached the goal.

The low priority of agriculture is the same in development assistance. Only 5-12 % of the development assistance from the OECD countries goes to agriculture. Less than 3 % of the Norwegian bilateral development assistance is for agriculture.

According to the International Fund for Agricultural Development (IFAD) the development assistance for agriculture collapsed during the 1990's. *The real value of net aid disbursed to agriculture in the late 1990s was only 35% of its level in the late 1980s.*² The background paper for the conference in January 2006 of ministers of agriculture in the African Union describes the same situation: *After a peak of US\$4.8 billion in 1989, aid to agriculture in Africa declined to a level slightly above US\$2.5 billion after 1997.*³

There is no doubt in my mind; more money is needed for agriculture in Africa to eradicate hunger and poverty - from governments in Africa and in development assistance.

There are signs of changes. We might see more of the money in development assistance going into agriculture in the coming years. The World Development Report 2008 from the World Bank is underlining the need for increased support for agriculture and rural development. The US-foundations Bill and Melinda Gates Foundation, Rockefeller Foundation and Bill Clinton Foundation have the last few years allocated much more money for agriculture in Africa than ever before. The big questions are:

- What kind of support does Africa need?
- What kind of assistance do the donors offer – or push?

The quality of assistance

It is easy to find many examples of good projects and support for agriculture in Africa, from African governments, OECD-countries, international institutions and from NGOs.

But there is also a lot of bad assistance. A lot of the assistance is top down. The farmers and other people in rural areas do not have any influence, and the assistance is not based on their needs. Aid is also used as a tool to promote the interest of the elites in African countries, of donor countries and multinational companies.

The common opinion at the general meeting of the More and Better campaign in 2006 was very clear: A shift in the development aid is needed. Development aid has to be based on the needs of the local communities and countries, not the policies and conditions set by donors and international institutions like the world Bank, IMF and the WTO. The organisations of farmers, artisan fisherfolks, pastoralists and indigenous peoples have to play the most important role to define and steering development aid programs for agriculture, fisheries and rural development.

Most agricultural production in Africa is sustainable, but not all. Unfortunately there are plenty of examples of loss of soil fertility, soil pollution and soil erosion, loss of biodiversity, overconsumption of water, etc. Unsustainable agriculture is also supported and promoted by some governments, international institutions, donor countries and organizations.

We need define what is good assistance for agriculture and rural development, and we need to build up a strong pressure behind demands on a shift in the delivery of development assistance.

More and Better

More and Better is a campaign and network of farmers', fisherfolks', development organizations and other non governmental organizations.

Global, regional, national and local organizations are taking part. The two global farmers organizations are taking part; International Federation of Agricultural Producers (IFAP) and Via Campesina, as well as the two global fisherfolks organizations, WFF and WFFP. Organizations from about 40 countries in the South and the North are taking part in the campaign.

Our goals are

- a substantial decrease in the number of hungry and undernourished people and people living in poverty
- a major increase in development aid for agriculture, rural development and food in the developing countries.
- significant improvements in the quality of aid for agriculture, rural development and food

Common principles

More and Better has developed some common principles for good aid for agriculture, pastoralism, fisheries and rural development. The principles are based on concrete

experiences and have been developed during some years, but can of course still be improved. (The principles are presented on the last pages of this section of the book)

I would like to underline some points. Assistance should support the programs and policies developed by the recipient communities and countries. They should support sustainable, farmer-led, smallholder / family / community agricultural systems, and promote diversity: – human, cultural, biological, environmental, and in production methods.

Support farmers' organizations

The most important in development assistance for agriculture and rural development is to support and help strengthen farmers' organizations and other social movements in rural areas. It is necessary to create political pressure from below for the changes which are needed. Small NGO's can play an important role in many ways, but without mass based social movements it will not be possible to make any big shifts either in the priority of agriculture or in the way development assistance is given. And only with strong farmers' organizations the farmers and other people living in the rural areas can decide their own future.

How can Norway contribute?

Norway is a small country, and even if Norway is among the countries which give the highest share of the gross national product (GNP) to development assistance (about 0,95%), the money from us cannot change the world. The amount of money is important, but the political role Norway can play is more important.

The position of the Norwegian government is that each country has the right to produce food for their own population. They should really fight for this in WTO and other international organizations and institutions. The government should go even further and promote and fight for food sovereignty, which other articles go more into. It is also very important to go against dumping and subsidized export from rich countries. The Norwegian farmers' organization and the government have the common position against dumping. That's good, but more can and should be done.

The Norwegian Trade Campaign which consists of labour unions, farmers' organizations, rural organizations, environmental, humanitarian and solidarity organizations, have asked the government to put an import tax on food imported from rich countries which are directly or indirectly subsidized. Sugar from Denmark is for instance sold in Norway for about one third of the cost of production in Denmark. Of course it is not possible for farmers in Malawi and Mozambique to compete in such a biased market. Such a tax might or might not be in conflict with the WTO rules. We ask the government to test it. If any country bring Norway into the dispute settlement body in the WTO, it would be a lot of attention about unfair trade rules. That could be helpful in our fight for changing them.

Also on other issues can Norway play an important political role, both the government

and organizations. We can fight for more power to the farmers and less to the multinational companies. We can internationally highlight the importance of supporting agriculture and farmers' organizations etc. The Norwegian government is supporting the More and Better campaign politically and economically. It should now take a step further and promote the principles for good aid that we have developed.

Even if the amount of money from Norway is a small part of the total development assistance, it is important. Of course it is important if people and organizations get support or not. In the 1970 about 30 % of the development aid was used for supporting agriculture. Now it is less than 3 per cent. Many organizations in Norway have demanded that it should increase to 20 % of the total assistance

Strengthen civil society cooperation

Organizations, universities and institutions in Norway can also play an important role in supporting organizations and people in developing countries – and we have a lot to learn. It is also in our own interest to strengthen the cooperation with people in developing countries. I'm glad that the farmers' organizations in Norway are active in their international organizations and for the last years have strengthened their cooperation with farmers' organizations in developing countries. To strengthen the cooperation between farmers' organizations and cooperatives in Norway and developing countries should be given high priority.

I would also underline the importance of strengthening the cooperation between universities and researchers in Norway and developing countries. Norwegian scientists and universities have a lot of knowledge and experiences also from agriculture in Africa. Together with scientists and farmers' organizations in Africa they can play an important role in supporting sustainable agriculture in Africa.

Endnotes

1 African Union Summit Declaration On Agriculture And Food Security In Africa, Submitted by: The Conference Of Ministers Of Agriculture Of The African Union in Maputo at the Second Ordinary Session of the Assembly, 10 to 12 July, 2003. www.fao.org/docrep/MEETING/006/AD121E/AD121E00.HTM

2 Rural Poverty Report 2001, International Fund for Agricultural Development (IFAD). Published for IFAD by OXFORD University Press

3 STATUS OF FOOD SECURITY AND PROSPECTS FOR AGRICULTURAL DEVELOPMENT IN AFRICA. African Union Ministerial Conference of Ministers of Agriculture, January 31-February 1, 2006. Bamako, Mali. FS/Exp/(I), page 16

Comments

Alhaji S. Jeng

Bioforsk – Norwegian Institute for Agricultural and Environmental Research

In trying to answer the above questions, one may need to ask one or two questions before going further:

1. Why does Africa still need agricultural development assistance?
2. Why are we having this meeting on the subject today?

The answer to both questions is that, after several years of development assistance, and after billions of kroners have been invested by donors, the continent is worse off in terms of food production than it was 2 to 3 decades ago. It is clear to all that there are things, several things that both donors and recipients of aid are not doing right. The reason for such an assertion is that, by definition,

“Good agricultural development assistance would include the wide range of investments and activities that contribute to the ability of agriculture to foster economic development and reduce poverty, hunger and environmental degradation”

(Michael R. Taylor and Julie A. Howard, 2005, <http://www.wilsoncenter.org/events/docs/ExecSum.pdf>)

Good agricultural development assistance should aim to achieve some of the essential goals of

- **Poverty reduction** (raising and maintaining the standard of living of those the assistance is intended for)
- **Food security** (securing access to food)
- **Sustainable production** (not produce to the detriment of the environment)
- **Capacity building** (building capacity in research, production, marketing, export etc.)
- **Good governance** (facilitates social and political stability as standards of living rise and food is secured)

Poverty, hunger and environmental degradation are more widespread in sub-Saharan Africa (SSA) today than ever before clearly indicating that earlier assistance has not succeeded. The responsibility lies with both donors and recipients. Thus the question “How can Norway contribute”? should actually have read “How can Norway and Africa contribute”?

Starting with Africa:

- Africa should start “taking the bull by the horn” be in charge of its own destiny;

- African leaders must act responsibly and seriously seek solutions to African problems;
- African governments must formulate and implement policies that do not discriminate agriculture, e.g. increase budgetary allocation to agriculture, subsidizing agricultural inputs and supplemental irrigation, credit, land tenure etc.;
- Africans must be transparent and accountable to their people regarding the assistance intended to alleviate poverty; and
- Africa must ensure political stability to get out of the vicious cycle of hunger and poverty.

As for Norway:

- The billions of kroners that go into development assistance are Norwegian tax payer's money. An important step in the right direction is for the tax payers to hold the Norwegian authorities accountable for the poor results attained after several years of investment. Tax payers must begin to be interested in how their money is being spent and demand results;
- Norway must continue to perceive aid recipients as partners in development and not only as poor beggars;
- Therefore, Norway should begin to lay down conditions to the aid being given out, but it must not lose sight of the need to address the priorities set out by the recipient countries as formulated in the PRSPs;
- Norway should support policies that are positive towards local initiatives;
- Norway should invest in overcoming technical barriers (product quality standards, sanitary-phyto-sanitary (SPS)) to trade between developed and developing nations; and
- Lastly, but not the least: In this age where the quest for alternative (Renewable) energy supply is mounting, many multinational companies are turning to Africa to grow crops of the gramineae (maize, sugar cane) for biofuel. Norway should be in the forefront to discourage the use of the best agricultural land in SSA for this kind of production when food security is still an unattained goal.

Common principles for good aid

MORE and BETTER - an international campaign for food, agriculture and rural development aid to eradicate hunger and poverty

The climatic, natural, political, cultural and economic situations of countries are diverse and often unique. However, there are several common principles which could improve the quality of aid targeted for agriculture, pastoralism, fisheries and rural development;

Aid should support the programs and policies developed by the recipient communities and countries. Aid should be provided in a manner that does not disrupt local production and markets. It should support long term development and respond to the expressed needs of local communities. Local and national food security should be a top priority for aid. Aid should lead to greater autonomy and self-reliance of the recipient countries with regard to food production and availability of food for all. Aid should strengthen the local control of resources and reach the intended beneficiaries in rural areas.

Working with local communities and social organisations : Better aid supports local communities, community-based organizations and social organisations particularly in building: political empowerment; the capacity of people to articulate their views; implementation their own development models; and meaningful participation in development processes. It recognises that the needs and realities of rural communities are at the core of solutions to solve hunger and poverty. Development aid should give priority to strengthening small-scale production sector to ensure realisation of sustainable livelihoods for the majority.

Building on local culture and knowledge: Knowledge held by communities is based on generations of people interacting with their unique surroundings. Better aid should build on the wealth of local culture and knowledge held by communities, supporting processes that facilitate appropriate technological solutions.

Promote diversity: Aid should promote diversities – human, cultural, biological, environmental, and in production methods.

A culture of participation: Better aid generates inclusive dialogue and engagement among different development actors. Implementation of agricultural, pastoralism, fisheries, forestry and rural development must be based on democratic consultations and meaningful ongoing community participation. Aid should contribute towards reducing existing inequalities.

Gender is key: Women play a major role in agricultural production and in local

food security. Better Aid facilitates the empowerment of women, recognizing the fundamental importance they hold in providing food for their families and for the community.

Sustainability: Livelihoods are sustainable when they can cope with and recover from stresses and shocks that threaten food security without undermining their natural resource base. Building local capital, social systems, financial capital and the natural resources on which they depend is critical. Better aid should be guided by a clear development paradigm supportive of the principles of social, economic and environmental sustainability and intergenerational equity.

Coherence and linkages: Efforts should foster linkages between the local, national and global, opportunities for learning and knowledge sharing. Better Aid should provide platforms for the exchange of experience globally, provide nationally coherent programs for delivery of Aid, and should foster linkages among local efforts. It should address problematic structures and mechanisms that limit the effectiveness of aid in reaching the world's poor and hungry.

Changes in delivery and focus of aid

New policies and practices for agriculture, pastoralism, fisheries and global food trade are needed to end hunger and poverty, and to promote sustainable development. Changes in the delivery and focus of aid are needed to achieve this.

To support such new policies and practices aid should:

- facilitate provision of sufficient, safe, nutritious food (food security);
- put emphasis on income strategies, peoples' livelihoods, local production systems, local markets, fair trade, fair and good distribution systems, protection of markets where needed to enhance national and local food security, and avoid the use of food aid where it will threatened the market for local products
- support realization of land reform, water rights and unrestricted access to genetic resources for food and agriculture and wider agricultural biodiversity for smallholder farmers; exclusive fishing zones for artisanal fisherfolks; grazing rights for pastoralists; improved common property resource management;
- support sustainable, farmer-led, smallholder / family / community agricultural systems (e.g. agroecology, sustainable agriculture, organic agriculture).
- To achieve this requires improved education and public awareness not only for how to implement this but also how to avoid problems caused by poorly conceived aid.

Some definitions in this document:

‘Aid’ in this document is synonymous with ‘development assistance’ and other similar terms. Different terms are used in different languages and by different organisations. ‘Agriculture, Pastoralism and Fisheries’ includes cropping, livestock husbandry, pastoralism, fisheries, forestry and other natural resource use for food production and food gathering, which is dispersed throughout rural, urban and peri-urban areas.

‘Farmers, Herders and Fisherfolk’ in this document refer to smallholder peasant/family crop and livestock farmers, herders/ pastoralists, fisherfolk, landless farmers and indigenous peoples, among other users of natural resources for food production.

‘Natural Resources’ include land, water, coastal commons, forests, genetic resources / agricultural biodiversity,

More information about More and Better: www.moreandbetter.org

Strategies for how Africa can feed itself and preserve the environment

Makanjuola Olaseinde Arigbede.

National Coordinator, United small & Medium scale Farmers' Associations of Nigeria (USMEFAN)

The theme of the conference at which this paper was delivered: 'Can Africa Feed Itself?', is, to say the least, quite tendentious. At the heart of the theme is the assumption that Africa might really not be able to feed itself and must depend on others to do so for her!! Before dwelling on what strategies Africa needs to adopt to ensure that its capacity to feed itself, which has been variously doubted, is freed from the myriad of obstacles confronting it, one needs to affirm that, indeed, Africa can feed itself.

This doubt about Africa's ability to feed itself is often expressed more or less overtly in many circles of the North, particularly within the corridors of the International Financial Institutions (IFIs), the Trans-National Corporations (TNCs) and those agencies that promote them, in the hallowed halls where members of the G8 (?G9)¹ work out how next to try resuscitating the eternal victim of their neo-liberal greed and genocidal economic and political impact. Many a global proposal for saving the ostensibly marooned humanity of Africa, have come straight out of the doctrinal tomes of Governments, foremost social commentators, so-called Agencies of Development – particularly United Nations agencies, the Media as well as the Academia of the North. Indeed, it has come to be accepted around the world and, tragically also by many of the bureaucratic and political elites of Africa itself, as the unfortunate but undeniable truth!

A faithful attention to history and the truth of how nations and peoples impact on one another — for good or for ill — would require that the theme of this meeting should have been presented thus: *What factors or forces obstruct the capacity and right of Africa to feed itself?* Putting the question this way would indicate that we understand the legitimate complaints of the South on the inequities, injuries and sheer wickedness contained at the heart of the interaction of North and South at many levels — economic, political, cultural, etc. And this is the sense in which this brief paper would examine the issues.

We are not unaware of the questions that might immediately follow our assertions above: "Is Africa alone in the South? Why is she unable to pick herself up and succeed just as other notable members of the much touted South have done? Why are the farmers of other countries of the South succeeding and 'making it' whilst those of Africa seem to be eternally condemned to failure? Why are India, China, Brazil, Argentina, Mexico, Cuba, etc., able to feed themselves while Africa and its countries remain a beggars' basket? etc., etc.

It is important that we should quickly dispose of these false questions so as to make way for a clear understanding of precisely why Africa, and most other member nations

of the much abused South, have been brought to the brink of abiding food insecurity and other calamities. While insisting on this line of thought, it is necessary to affirm that we do not in any way intend to argue that the countries of the South themselves and their peoples are blameless for their plight. But let us clarify the above questions with the examples of India, Brazil, Argentina, Mexico, China and Cuba.

The alleged success of **India** regarding the ability to feed itself is patently hollow and false, as attested to by the rising suicide of farmers², the mass desperation of the families of these farmers, the rampant poverty that afflicts the humanity of this great nation that has given the world so many important gifts of culture, politics, economic development, etc. Is it saying too much when we assert that the majority of the more than 600 million small farmers, despite their diligence and skills in agriculture, actually go to bed, they and their families, with their stomach devils rumbling to the high heavens for lack of food? Is it possible to deny that the millions of tons of grains stored away in the bulging silos of the Green Revolution have not and will not assuage the hunger pangs that the impoverished farmers of India live with? When the majority of these farmers live in desperation, poverty and hunger, can India truly be said to be allowed to realise its ability to feed itself? These false claims obviously focus on the sterile figures of GDP, GNP, Gross Agricultural Production, etc., without of course, interrogating the quality of this 'national bounty' in terms of the class and social categories actually enjoying the bounty. It is also never made clear that India that has bequeathed to the world perhaps the most nature-adapted and successful agricultural system, having become the victim of the factory agricultural system of the North, has become patently incapable of achieving or maintaining any semblance of FOOD SOVEREIGNTY, not simply Food security? Concerned and committed activists in India as well as the generality of the peoples of this great sub-continent have analysed, proposed, canvassed, advocated, marched in the streets against repressive government measures that waste the national agricultural patrimony and even died in public protest, at this monumental reversal and injustice. Yet, TNCs, the IFIs, G8, and local lackeys of this external plague, have continued to deny the truth and scale of the ongoing and threatening genocide inherent in the continuation of the neo-liberal global and national policies on agriculture which underpin the disaster.

Mexico, — where the price of the Tortilla, the most important national staple, leaps to the high heavens, beyond the groping and aching reach of the masses of citizens who only ask to eat a decent daily meal, any time the price of corn from the North, USA, borne on the wings of NAFTA, goes up a few cents. Surely, Mexico is not feeding itself! Indeed, the slightest increase in the percentage of the US annual corn production that is devoted to producing fuel for cars and other engines, in what has been falsely called bio-fuel production/revolution³, the peoples of Mexico wake up to face the escalated anger of HUNGER! Yet, Mexico has the natural endowment to produce all the corn its people need and more. Mexico which is the original home of corn has become — thanks to neo-liberal economic partnership agreements, the dominance of the doctrine of comparative advantage as deployed in NAFTA, the presently dominant free market

fundamentalism — a beggar for US-grown corn!! Of course, the official figures of economic performance/fundamentals which we are told, indicate how well a country can feed itself, or the figures for agricultural productivity solely presented in terms of aggregate quantities of monocultured crops harvested, show that Mexico is doing well and does not belong in the same camp as the continent of Africa that cannot feed itself — what a veritable lie!!

Argentina that reels in the throes of death of its agricultural production capacity at the leafy-poddy hands of Soya is also showing very healthy economic figures and cannot be said to be incapable of feeding itself. But, when its nature-endowed gift for bountiful agricultural production to feed its people is interfered with by life-gobbling TNCs determined to milk every pod of Soya out of the lives and soils of this great country, disaster of genocidal proportions and a patent inability to feed itself, become the lot of the victim country. But the IFIs, staunchly backing up the horrendous practices of the TNCs, and with their trigger fingers blackmailing local economic operators and rulers, allow only one song to emanate from the constricted throat of the country that labours under such suffocating impact of neo-liberal economic policies — “Mexico is doing well”. Yes, its economic fundamentals are healthy, the investment climate is attractive and inviting, Mexico is a success story. But from whose point of view and in terms of the interests of which class/es of society??

Brazil, one of the world’s most endowed countries and definitely potentially one of the biggest and most successful economies in the world, not simply in Latin America, is also not accused of not being able to feed itself. After all, the figures returned by the agencies and economic evaluation institutions of the world, show that it is doing well, the economic indicators and fundamentals are all good and this country is on its way to becoming a ‘developed’ and wealthy country, shedding its membership of the third World. But curiously, the alleged success does not seem to touch the lives of the millions who go to bed daily, petrified by the thought of where the food could possibly come from the next day. This success at feeding itself has nothing to do with the masses of citizens who are landless and must fight and die to obtain a slice of land on which to produce their livelihood in dignity and with security! The devastation of the lives of Indigenous peoples and the destruction of their ancestral lands that are daily alienated into the grasping hands of TNCs, both local and foreign, with the consequent impoverishment of the people, does not show in the healthy economic indices that elevate the country. So long as the common-wealth of Brazil is firmly in the grasp of neo-liberal forces, even if the presently reigning government and Party come from a long radical struggle against just this neo-liberalisation of the world, all is hunky dory and we can exempt this great country from the plight that Africa typifies — a chronic inability to feed itself.

I have included in this brief tour of characteristics and capabilities, the two countries, **China** and **Cuba**, for a special reason. I have done this in order to begin to raise for our consideration, one of the critical factors that allow a country or a whole continent, to stand up to the forces of decimation. These are the characteristics that Africa must

forcefully bring to the fore if it is to escape from the insult of being regarded as being incapable of feeding itself.

China is, reputedly, the most populous country in the world today and one of the 'foundation' members of the Southern Caucus of the Poor. It is not possible to deny that the deeply rooted culture and achievements of this fabulous country of more than one billion inhabitants have given great gifts in the area of culture, science, philosophy, politics, etc. to the world and its colossal treasury in the field of agriculture has imparted a lot to humanity. The Chinese people have fought great battles in search of the most appropriate way to run human agglomerations to the benefit of the majority of people rather than in the interest of a crust of society. And despite the horrendous suffering that they have passed through, thanks to the meddling of external predators from today's North, they have won the accolade of having surpassed all competition in moving the largest numbers of people and in the shortest time imaginable, from abject poverty to a state of food security and dignified livelihood.⁴ Of course, given its large population and the major challenges with which it still must contend, there are yet large numbers of its citizens who remain vulnerable daily to insecurity of food and other necessities of a good life. But nobody flaunts the insult of a collective inability to feed its people on this great nation the way Africa, a whole continent is daily ridiculed around the world.

As for 'tiny' **Cuba**, that country constantly under the steamy breath of the giant of the North whose intentions are hardly hidden, dependency and adherence to the same factory agriculture that the North prescribes has been shed for food sovereignty and sustainable security. Nobody can accuse this outstanding and exemplary country of not being able to feed its people. It has come full circle, from dependence on Soviet subsidy and prop/walking stick at the cost of embracing a most inappropriate agricultural system and relying on one major crop for export earning, to its present masterly position of being food sovereign, with a richly diversified agriculture and a great deal to teach those who are not allergic to learning. But for the sustained economic embargo and other strictures placed on this country by the USA, Cuba might have been able to offer some help in feeding the up to 30 million citizens of the US who still live below the poverty line and in view of whose plight it might have been correct to say that this giant of the North is unable to feed itself!!

Both China and Cuba have 'something' that other countries and the continent of Africa also have in abundance but which these two countries, unlike Africa, have deployed and utilised to a high level in order to earn the respect of the world and their own citizens. This same treasure, which is still being held in abeyance in most of Africa — GOOD AND COMMITTED LEADERSHIP — is one of the STRATEGIC TOOLS that this paper examines as we discuss further on, the strategies for how Africa can *free its capacity to feed itself* from the constraints that presently obstruct and threaten to strangle it.

Strategies for Africa to free up its capacity to feed itself:

Does Africa have the Resources for recovering its capacity to feed itself?

Before dwelling at any length on the strategy and tactics that Africa needs to adopt for this great task, made even more daunting by the obstructive global governance, Trade and Financial institutions and their policies, it is important to stress that **Africa has all that it takes and has always had the capability to feed itself and will continue to do so**⁵. It is pointless, obviously, to strategise on the shaky ground of serious lack of resources or endowment for any particular task. Africa is not being called upon to strategise in the absence or poverty of resources for its own food sovereignty and sustainable security — in a manner that respects and sustains the environment.

Contrary to what a lot of commentators from the North readily harp upon and which, unfortunately, Africa's leaders and intellectual/bureaucratic as well as political elites tend to accept, Africa's capacity for food sovereignty is not obstructed or made more difficult by any alleged overpopulation or population pressure. We argue, in agreement with Manfred Max Neef, that the question of the interplay between numbers and outcomes in the demographic sphere, must be understood not as a unilinear relationship but a complex one. Indeed, we must speak, not simply of numbers of persons but also of the available resources and the way these are consumed by the persons, in short, about ECOSONS/ECOPERSONS⁶. Once we take this perspective on population matters, the density of population takes on greater importance than simply total numbers. Indeed, on this basis, it is clear that a lot of Africa is in fact under-populated, especially when we consider the critical population numbers necessary for comprehensive and multi-level development of any society. Africa must stop being intimidated by these Neo-Malthusian scare assertions and recognise that while it is important to keep reasonable check on human procreation in society, Africa is no culprit whose development is self-obstructed by its own fecundity. It is interesting to note that:

- 6 countries in Africa and 20 'developed' countries have population densities higher than 500/1000 hectares of land;
- 3 countries in Africa and 19 in the 'developed' world have population densities higher than 750/1000 ha.; and,
- 2 countries in Africa and 16 in the 'developed' world have population densities higher than 1000/1000 ha.

It is the neo-liberal ghomids/demons that consume the resources that Africa has in abundance and needs for the sustenance of more citizens than it currently carries, not the swarm of human beings projected by the disciples of Malthus of yore, that have brought the continent to the brink of perpetual hunger.

The other scare assertion that is used against Africa is the claim, baseless in reality and largely not founded on actual research, that the soils of Africa are fragile and cannot support the vigorous agriculture that the continent needs. Of course, if we would only

open our doors to full scale invasion of our soil by TNCs, this alleged fragility would discriminate between us, owners of the soil, and these foreign farmers by producing abundantly and sustainably, to the extent allowed by over chemicalisation, for foreign operators and not for us! The truth of the matter is that in many areas of our economic and productive life in Africa — scant research has been done while extensive claims have been made, and we shall return to this dilemma later in this brief paper — reliable statistics are quite often not available, hence, the credibility of a lot of statistics-based claims remains extremely fragile. Different agencies often simply concoct their own statistics to serve whatever agenda underpin their ‘work in Africa’. They then sell these to our bureaucratic and political leadership, while mostly ignoring our academic elite who, standing in dire need of proper support as our Universities are neglected more and more and bypassed by all sorts of new constructs of donors. In their turn, these often highly trained but hungry intellectuals, either accept these contrived statistics, keep quiet or simply join the bandwagon and proclaim the credibility of falsehood. I have been interested in soil-related matters in Nigeria for upwards of 3 decades and I am yet to come across a truly verifiable nation-wide study on the nature, depth, resilience, general fertility as well as specific composition of our arable and tree covered/forested soils. I do not know of many efficient and well coordinated soil testing effort by any of our governments or by their funders. Yet, we are told in very loud and frightening terms, and our youths in learning institutions are drugged with this falsehood, that our soils are fragile, unsustainable, low in fertility, etc., etc.!

When we are not being distracted with these contrived nightmares, we are called to accept and tremble at the unacceptably low level of fertiliser usage on our farms by our allegedly primitive smallholder farmers. Led by structures such as the IFDC, we are assailed by Agribusiness TNCs and their home governments, to open our hearts to chemical fertilisers, and all our troubles will surely come to an end as the continent and countries would then truly be able to feed themselves. I had the privilege of participating in inserting African farmers’ viewpoint into one such jamborees which took place in Abuja, Nigeria recently, dubbed the Africa Fertiliser Summit. As this paper is not the place to begin a comprehensive critique of that charade, I would simply insert the views of the collective farmers of Africa as composed by the African Farmers’ Regional Steering Committee (for participation in the Africa Fertiliser Summit) which made a major input into the proceedings. In its ‘Green Book’, the committee, gathering views from all over Africa from smallholder farmers and their organisations, had this to say and I quote:

.....The steering committee feels that the Summit is based on a wrong premise. We sincerely think that the underlying industrial agricultural production paradigm insufficiently captures African farmers’ and farming realities and is not in the interest of the majority of African farmers. African agriculture is predominantly based on mixed farming systems and small family enterprises. We therefore urge go beyond this tunnel vision and the exclusive attention for fertilizer use. Africa needs a paradigm that supports family farming as an economically viable, labour absorbing

and environmentally sustainable enterprise, bedded into mixed cropping systems that integrate livestock production.

.....The strong focus on fertilizer strategies that would accelerate increased use of chemical fertilizers results from the referred basic premise of the Summit. As farmers of Africa we think this focus is one-sided. The problem of farmers, particularly the smallholders, is degrading soil fertility and not fertilizer per se. It is difficult therefore to discuss fertilizer issues without considering the soil fertility crisis. Africa needs comprehensive strategies and legislation for Integrated Soil Fertility Management, that include but are not limited to fertilizer use.

These and other views expressed by the Steering Committee for Farmers' participation in the Africa Fertiliser Summit show clearly that farmers of Africa strongly reject the scare tactics being deployed by TNCs and their support agencies and unfortunately easily believed by our leaders. Ironically, however, the committee itself may have fallen for the claim that African soils lack fertility, without a vigorous research to properly settle the questions surrounding this claim. If we would but move closer to the actual practising smallholder farmers of Africa, they would have educated us about the true characteristics of our soils.

All told, what we are at pains to establish is that despite the claims being made by those who would have Africa labelled a failed continent which stands in need of the helping hand of the North to save it from self destruction, Africa, in fact, has all it takes to become food sovereign and actually help other parts of the world deal with hunger and poverty. The human resource for this great task has never been lacking, the only problem being that of obstruction by diverse agencies, intellectual resource pilfering by the North, failure of vision and commitment on the part of Africa's leaders, and a lack of courage and determination to press for change in the way things are done on the continent, especially by the elite strata of the countries therein.

Forces/Actors militating against Africa's recuperative possibilities:

Having partly established that there is indeed material on which proposed strategy and tactics would feed for meaningful change, we must now examine some of the more important factors and forces responsible for Africa's failure, to date, to properly express its innate capability to feed itself:

Too many Toxic Fingers in Africa's Pot of Soup

This serious dilemma carries with it the ever present danger of 'food poisoning' on a massive, genocidal scale. From the First Globalisation, otherwise known as the Trans-Atlantic Slave Trade, which Africa suffered, — and there have been five globalisations inflicted on this beleaguered continent by the North — the continent's right to determine its own trajectory in history has been rudely abrogated by intruders. The 'forced and

violent globalisation of productive energy and creative talent' in this easily the most horrendous visitation of genocide by one part of the world on another, prevented a sound African foundation being laid for the future development of the continent, in all spheres.

This was quickly followed by frank colonisation which ensured that the development and deployment of Africa's productive energies would be tailored to the needs and interests of its colonial masters. What Africa planted, the type of agricultural system it adopted for doing this, etc. were determined from outside its own collective being and in the interest of the colonisers.⁷ Thus, the system of food production that had served the continent for millennia, like those of other parts of the world such as India, was forcefully and by dictats, overrun by a pale image even, of the Western model. In all areas of endeavour — political, economic, agricultural production and how the productive forces are deployed and exploited, 'Trade', Industrial development, etc., etc. — Africa, and its elite were obliged to copy and accept whatever the West promoted as 'the correct path'.

Independence in most of these African countries was no more than a charade which left their elites and the generality of citizens, holding a limp flag of alleged political independence, empty of any economic independence or power and certainly bearing faded colours of an invaded culture. Neo-colonialism took over from frank colonialism and the obstructive process continued. There was no serious attempt made, either by the colonising plunderers or the victims of this plunder, to effect restitution for centuries of forced expropriation of natural and human resources of Africa by the West/North, for the extraction of African energies to further the development of the North⁸. Indeed, what might have been an inadvertent restitution in the form of Western Education and Health service provision turned out to be a long term albatross around the neck of Africa. These otherwise salutary social services produced 'profound foreigners' for Africa under the guise of equipping her with an educated literate crust to drive the continent's development.⁹ The immediate post-independence development effort of most of the countries of Africa was quickly taken in hand by the West and directed towards all sorts of inappropriate strategies and options — from Technology Transfer to Import Substitution strategies; rapid Heavy Industrialisation to Agrarian development options utilising the Western Industrial agricultural option; Capacity Building to Entrepreneurial Development options, etc., etc.

All that the West was interested in were options that perpetuate neo-liberal development which would favour continued exploitation of the continent by the TNCs and their home governments. The little prosperity that the continent managed to acquire, especially through the self-awareness and assertion of the OPEC countries that left the continent awash with Petrodollars in the early 70s, was soon drowned in the borrowing spree, promoted by the West and swallowed by the gullible and corrupt leadership that had taken over the baton of governance from the colonising, plundering forces. These largely unproductive loans and their floating interest rate regime which changed whimsically and to the detriment of Africa's economies, combined to open the way for the next 'Globalisation' in the form of the World Bank – IMF Structural Adjustment programmes forced on the continent. This brutal prescription which hurt the ordinary working people

of Africa further deeply confused and damaged the economies of the countries, making it even more difficult for them to feed their citizens and turning them into net importers of food, largely from the West.

Under pressure, however, from a global counterforce made up of progressive forces, change agents and institutions around the world, peoples' movements, etc., this latest face of globalisation received serious bashing and had to retreat. But it only did so in order to apply cosmetic surgery without effectively altering the underlying anti-human, class driven visage. Some concessions were made in the form of minuscule debt relief offerings, various palliative programmes/Terms to make the debt burden less oppressive and therefore, more likely to be repudiated in a backlash. All these ameliorative 'Terms' — The Venice Terms introduced in 1987 for the poorest countries that were undertaking adjustment; The Toronto Terms that succeeded the Venice Terms in June 1988 and were made available for the low income, heavily indebted IDA-only countries; The Houston Terms proposed in July 1990 for the middle-income countries and allowed for deferrals of payments, rather than debt reduction enhancements that could ensure more even spread of debt service payments; and, The Naples Terms which was adopted in December 1994 for the poorest and most-indebted countries — failed to heal the severely exsanguinated victim of neo-liberal global governance. When significant concessions were finally offered within the last few years, seeing a country like Nigeria jubilating over an alleged debt cancellation, the victim was almost already moribund!!

Without giving Africa any meaningful respite, its tormentors moved ahead to consolidate their victory by proposing and pressing most countries of the world into yet another 'Globalisation.' This time, it is the Corporate, TNC – directed globalisation — which has been given massive teeth, to bite and hurt any dissenters — which has Africa in its grips. And, on the back of this latest offensive, the Trans-National Agribusiness corporations are mounting a major onslaught on the capacity and right of Africa to feed its own people the way it surely can, freed from disruptive interventions. Indeed, it is truly amazing that in the grips of these forces of devastation, with incessant externally promoted and resourced internecine wars and conflicts thrown in for good measure, Africa has managed to survive at all and not simply gone fully prostrate on its empty belly.

Africa, in addition to having to labour under the heavy yoke of Corporate globalisation and the relentless whip of the WTO, has been subjected to severe haemorrhage through what I prefer to call, INTELLECTUAL CRADLE - ROBBING GLOBALISATION. That globalisation — the fifth in unbroken succession — which, despite the resistance of the North to agree to truly free movement of labour, promotes the robbing of the intellectual manpower of the South. Africa may be the most severely hurt by this human pillage, the second Trans Atlantic Trade in Human beings and their creative energies. A major resource that Africa stands in dire need of and which it produces for its own use, including helping to strengthen its food sovereignty status — its high caliber Intellectual Manpower — is lured away by big money and promises of attractive working conditions once Africa has been impoverished and rendered incapable of stemming the competition.

Through unbelievably perfidious schemes like the American Green Visa Lottery that is peddled openly all over Africa, the intellectual manpower of Africa is 'globalised' to the detriment of the continent! Is it surprising then that Africa's ability to feed its people has been severely compromised?

While reiterating that Africa should not and does not simply wallow in self pity, however, blaming all its woes on others, we insist that it would be nothing short of criminal insincerity to fail to acknowledge the fact that over a period of nearly five centuries, Africa has been a victim of sustained pillage and genocidal injustice. Despite all this, the continent will remain vital and capable of taking its own destiny in its own hands — so long as, and providing that, it is able to extricate its manacled hands from the chains of Neo-liberal brigandage, called Trade relations or, even Economic Partnership Agreements, etc.

Leadership and Governance deficiencies — Political, Bureaucratic, Intellectual.

The spheres of politics and governance concern the most important aspects of the lives of citizens and their communities. Every other sphere of life: health, social well-being; defence; general security; production, self-reproduction, etc. of communities, is controlled and determined by the nature and quality of governance in the society. Hence, it is of the utmost importance that this sphere should enjoy the highest quality of manpower. Besides the political leadership, in what must be recognised as the Triumvirate of Leadership, if we focus on the so-called modern sphere of life, there are the Bureaucratic and Intellectual leadership groups that must serve a society diligently for there to be any progress. When any of this critical triumvirate fails badly to discharge its duty to society, the result is a misruled, misled community of people.

Deficient leadership is certainly not restricted to Africa as a cursory survey of the quality, particularly of the political leadership in most countries of the world would show. It has almost become commonsensical all over the world that only fools implicitly trust politicians. Those so called in most countries, come to the task with a heavy baggage of insincerity, a huge appetite for telling lies and a strong tendency to cheat the very people who cede their sovereignty to them. Even in recent times, political leaders of supposedly developed democracies have deliberately lied and taken their people, the flower of their societies, into needless war in which thousands of them have died for no just cause. Only a few of those that we rely upon to carry the burden of political leadership around the world and determine how our lives will be run, actually deserve such high esteem and trust or really rise to the level of true statesmanship/stateswomanship.

What to do? Citizens cannot all run government at the same time and representation becomes unavoidable. Different groups of citizens as well as individuals have many different and group interests which compete for attention in society. The only way in which these interests and representation can be peacefully worked out in any community is through negotiation and sometimes through violent struggle among the different interest groups. Political parties, structures of society charged with the task of modulating these

competing interests and needs of society have, however, become veritable instruments of class domination and individual megalomania. The only countervailing force that prevents these inherent defects of representative democracy from freely lauding it over society is the state of popular mobilisation — strong popular experience in struggle for sane governance, the existence of popular institutions of self-empowerment, alternative people-based visions of correct governance, and the production of alternative, people-faithful leaderships at all levels.

Africa, like most other continents and countries, has had, from time to time, exceptional leaders who have inspired and been deeply committed to the wellbeing of the people, their masters and mistresses. However, in a way that may be specific to the continent, the popular foundation for the development of this countervailing force is weakened by the imposition of foreign systems of governance, jurisprudence, religions, formal language, etc. on largely non-literate populations. The result is that the springboard from which popular struggles take off — their deeply-rooted cultures and norms — have been severely weakened. Political leadership that arises on such foundations are apt to be easily corruptible and despotic, especially when the template itself is one of mass poverty and ignorance. Of course, quite revolutionary leadership often develops precisely from such antecedents but this has not been the general direction that Africa's response to such experience has taken¹⁰. Rather, Africa has moved from slave raids by the North, to being drawers of water and hewers of wood for foreign masters, to labouring in the vineyards of the master who has gleefully expropriated the product of African labour to develop their own countries, to distorting and unwanted tutelage in all spheres of national endeavour, and, finally, to new servitude under neo-liberal constructs of global governance. The elites of Africa that have inherited power from the plunderers, with few exceptions, have merely adopted the instruments of mass coercion and expropriation bequeathed to them at so-called Independence! Africa took on the propaganda about the divine and sacrosanct nature of Western Democracy and moved into Western type Representational Democracy — without the benefit of a highly developed popular sector already properly steeped in struggle against bad governance. The result, predictably, has been that Africa has moved from one grotesque governance to a worse one, and suffered under the most horrendous corrupt leaderships in the political sphere. And when, as in globally acknowledged superior cases, African leaders of sterling qualities and commitment have emerged, the leadership of the North has quite quickly mobilised its arsenal of destruction to demonise and 'neutralise' such 'Communists'!!

The bureaucratic leadership that Africa has produced has, naturally, been determined both by the colonial experience of the continent and by the type of politicians that have taken control of the countries. Like the political leadership, these 'permanent, unelected regulators of society' have tended, in the main, to be corrupt and quite uncommitted to the popular cause. In most countries of Africa, these bureaucrats, coming from educational backgrounds that have been run through the mills of Northern cultural - intellectual enslavement and responding to the distorted political atmosphere, end up

being quite unable to serve popular interests. Not having real opportunities or incentives for developing and implementing their own patriotic visions, they easily fall prey to the ideas and programmes that emanate from the North's factories of intellectual imperialism. The very few who have escaped this total domestication, have been labeled deviants and rebels who have very quickly been neutralized. This bureaucratic leadership has seldom gone beyond being mere executors of policies, ostensibly formulated by them but actually directed by politicians. They have been unable to impose a popular-interest determination on policies just as they have themselves been tethered to the ideational posts of the class in society that they represent.

In every country, the intellectual leadership/elite has had to play a very important role in challenging the misgovernance that both the political and their appended bureaucratic elites foist on society. Indeed, it can be said with much justification that the ideational, visionary and patriotic collapse of the intellectual elite spells doom for the country concerned. In the case of Africa, the intellectual elite has, at its cradle, been taken over and culturally distorted by the North. No serious attempt has been made, in the history of most African countries, to reverse this trend by re-orienting the intellectuals to a more home grown and culturally relevant perspective on all fronts. The story is told of Thakurdas Bang, an activist of the 'Quit India Movement' in 1942, just released from jail, and a budding economist who had just secured admission into Ohio University in America and wanted to receive the Mahatma's blessings before leaving India. Thakurdas approached the great Mahatma as he sat on the floor in his hut writing, and said: "Bapu, I have been released from jail and now I am going to America to study economics". The Mahatma looked up. The brown face with the rimmed glasses and a white moustache. He uttered only one sentence. "If you want to study economics, don't go to America; go to the villages of India." And he continued his writing. Thakurdas quietly came out of the hut. He tore up his travel papers and the admission letter; and within a few months went to live in a village with a group of his students, to live like a villager, work in the field and understand the economics of the farmer by living like him.!! The generality of Africa's intellectual elite would never have had such an experience and, if they had, would have resolutely rejected the Mahatma's advice. The result of this mindset in the African intellectual is that instead of projecting, developing and generalizing a truly African perspective in all spheres, he/she has found it more convenient to appropriate a finished product, a foreign perspective which often has nothing to do with his culture, experiences and people's interests. Malaria fever, for instance, has failed to attract the intellectual genius of the African researcher, even when this intellectual has gained global recognition for being deeply creative as servant and researcher in many spheres of knowledge in the North. Malaria is principally a Southern problem. Sadly, one often encounters otherwise erudite African Intellectuals waxing eloquent on the advantages to Africa of the WTO, of GMOs, of the infamous AoA (Agreement on Agriculture), an instrument used by the North through the WTO, to further deprive Africa of the right and capacity to feed its peoples! Whether they be based on military or civilian usurpers of the peoples' sovereignty in African countries, it

has always been the African intellectual who have conferred legitimacy, credibility and a modicum of competence on African governments.

All in all, it has been this triumvirate of power that has held Africa down while Northern TNCs, Governments, Intellectuals and sundry Social and 'Scientific' commentators have raped the continent and sapped its capacity to insist on and sustain its own food sovereignty. It is this trio of Africa's daughters and sons who have promoted neo-liberal causes and subjected their own fathers and mothers, uncles and aunts, brothers and sisters, to the whims and caprices of the elites and ordinary citizens of the North. It is they who have brought the insult upon Africa of the global doubt — as to whether or not the continent that gave the gift of organised agriculture to the world 7,000 years ago and has fed its peoples for millennia, can actually now feed itself!!

The 'Mirror Image' conception of the world by the North; the 'Catch up with the North' mindset of the South.

From the period of first contact of the North, then West, with the South, the dominant perspective governing the relations of the two hemispheres has been that of an ineluctable Mirror Image. Just as pre-modern scientists believed that the Earth was flat, the opinion formers and policy movers of the North have always felt that what the North is at any time in its development and in all spheres including religion, is what the South must and would be aspiring to become — mirror image-wise. At the bottom of this perspective, of course, is the belief that the South is, by divine ordinance, an inferior replica of the North that should aspire to come as close as possible to being like the North, much as Christians must strive but never actually succeed to become like Jesus Christ. It must remain one of the mysteries of self-negation for science, which prides itself in being objective and empirical, to believe this fiction spurn in the minds of inveterate racial bigots. Social scientists of all shades have found it easy to prescribe developmental direction and programmes to Africa on this basis, truly, in some cases, genuinely believing that there could be nothing more desirable for the South but to be what the North is — although they must never actually get there. All through the period of colonisation, when a semblance of administrative structure began to be erected in the colonies, the driving thought was to produce a parlous replica of the Northern elite which would be better able to serve the magisterial needs of the coloniser — economically, politically and culturally. As the North contemplated a false hand over of power, the administrators and policy makers of that hemisphere took care to prepare a cadre of future rulers who would be an acceptable imitation of the master and promote the designs of neo-colonialism — sort of 'Governing for the North'. They succeeded to a large extent too. Indeed, the painful aspect of the impact of this perspective on North – South relations is the fact that Southern elites, at all levels actually believed and promoted this self denigration. In the political field, governance systems were happily and self congratulatorily borrowed from the North and foisted on the peoples of Africa. The intellectual elite, unmindful of the history and achievements of their own people, as if Africa never governed itself before the advent of colonialism, gleefully adopted prescriptions,

especially in the area of agriculture, from the North. Even where the traditional skills and knowledge of their own people stood out as incontestable testimony to the superiority of what they had, these elites ignored such evidence as there was and failed to search for evidence where these did not stand out, preferring to 'Go to the North'! Once they had accepted this cultural enslavement, it became relatively easy for them, whenever the opportunity arose, to flee to the North, not merely in search of greener economic pastures but also to 'be with the chosen'. And when the North, through its Agribusiness TNC tentacle, needed to turn its face to Africa in order to intensify the expropriation that had been proceeding at a low key for ages in the agricultural domain, all it needed to do was scout out those daughters and sons of Africa who had been appropriately prepared for the role of 'introducers'.

In addition to the above perspective, and greatly strengthened by it, African elites have embraced the aspiration **'To Catch up with the North'**. Of course, this perception of the right way to development has at its heart, an acceptance of the inferiority of everything African and the unquestionable superiority of all things Northern. Programmes and policies were churned out on the basis of this perception and nothing was done seriously to find out if these programmes actually fitted Africa or if, indeed, there were other perspectives on the global scene that might be more applicable to African interests and needs. To make matters worse, our leaders junketed around the world, 'studying' Northern examples, and this was most grotesquely evident in the political arena, only to return and establish distorted versions of what they claim to have seen abroad!! Double Jeopardy indeed!! And since this approach to development is based on a mirage, our leaders simply chased an eternally fleeing shadow, never accepting that the chase was fatally flawed or actually a lost cause. Our leaders never stopped to ask themselves if it was actually in our interest to be going where the North had been or whether, in fact, the North, if it had the opportunity of a second try, would have gone that way. Perhaps a more careful study of the 'voices from the North' might have helped them to see that even in the North itself, there had always been the 'lone voices in the wilderness, calling to Northern leaders to alter course for more sane, human- and nature-friendly options, especially in the realm of food production.

Trans-National Corporations hold the world to ransom — both South and North.

The key player in the submergence of Africa, and the rest of the South, during the era of colonialism and the immediately following Neo-colonialism, were the governments of the North. These governments played the main part in colonising Africa and formalising the pillage of the continent, even though this was carried out through the instrumentality of licensed companies. The extraction of surplus from the labour of Africa and into the treasuries of the North was carried out by governments and it was these same institutions that battled one another over infringements of areas of influence and resource extraction. The minimal public works that were carried out in the colonised

countries derived their force and rationale directly from governments, though the elites in these metropolitan centres did contribute significant ideas and requests to government action. The maintenance of the clearly repressive legal order as well as the foundations for the cultural assault on their victims were masterminded and largely implemented by Northern governments. And the transition from frank colonialism or rejection of same in some African countries with consequent open armed struggle by the victims, to the next stage of this process of subjugation of peoples, was also government action.

However, as the neo-colonial era matured, the key player gradually but surely changed from governments as such to the already burgeoning Multi-National Companies. These companies whose activities held important implications for the economies of Northern countries gradually gained in power, influence and wealth and they became the preferred tools of Northern governments to continue the rape of Africa under the guise of so-called Free Market trading. As the companies gained in strength and as they widened and deepened their global connections into actual Trans-National entities, governments commensurately lost power to these increasingly self assertive institutions. These TNCs have inexorably become so powerful, much more so than most governments even of the North, that they have come to control these governments and, in return, use the governments to achieve their greedy business aims. Governments have come to find themselves in the position of instruments of TNCs — a fatal reversal for the world's economy. Indeed, the major part of the push for the formation of the WTO, as well as the main control of the IFIs, come from positions handed to governments and their agencies by TNCs. With the capture of Northern governments, of course, comes the total subjugation of the South to the whims and caprices of these Lords of the market. Northern governments have set up all manner of structures of consultation with TNCs as they formulate official policies and table government positions at global negotiations. The phrase: "In His Master's Voice" has come to be stood on its head in the relationship of Northern governments and TNCs. The oligopolistic tendency at the heart of TNCs has produced ever fewer corporations controlling global trade in specific commodity lines, gobbling up one another, to establish immensely powerful entities, richer than many countries, even of the North, let alone of the South, that now find it almost impossible to control this Frankenstein monster. Indeed, governments now prosecute one another in order to satisfy demands made by TNCs in respect of the freedom to trade and exploit as they wish around the globe.

The Agribusiness component of this global entity, has trampled the aspirations and resources of large swathes of the world, especially in the South, leaving desolation, poverty and death in its wake.¹¹ As these corporations encounter resistance from the public and, to some extent, governments of the EU countries in particular, in addition to the havoc already wreaked on compliant Southern countries that have opened their doors to these corporations, like Syngenta, Monsanto, etc.,¹² profits are falling, making investments in the Biotech arms of these corporations unattractive, the TNCs have shifted their gaze to as-yet-uncaptured Africa. Africa is the next frontier where huge profits and returns on investments are to be made and these corporations are employing every conceivable means

of getting this last continent to fully comply. Already, most of these countries have been literally robbed by TNCs in all spheres of economic endeavour. The looming threat to food sovereignty in this targeted continent is very real and deeply worrying particularly in the Northern scramble for a piece of Africa on which to produce Agro-fuels. The activities of these insatiably greedy corporations constitutes one of the most dangerous obstacles to Africa's struggles to take its food sovereignty in hand and guarantee food to its peoples.

Unequal competition from Industrial Export oriented option of food production.

Perhaps the most serious threat to the possibilities of Africa regaining its capability to feed itself comes from the Industrial agricultural option of food production that the North dangles before African leaders. In terms of output on monocultured crops, with the high input of chemical fertilisers, pesticides, energy and huge machinery, this option can claim high productivity which is, however, not always sustained, as exemplified by the contraction of productivity in the much touted Green Revolution. However, even when we discount the huge damage that this option does — to ecosystems, to the livelihood of large masses of farmers, to the integrity of rural areas, to the health of citizens of countries of the South that become its victims — we still must condemn it for a continent like Africa. The present hype organised by TNCs and their agencies, both research and marketing, as well as by individual scientists who abuse their professional integrity and sing its praises, is designed to achieve uncontested acceptance of its arguments by leaders and the organised private sectors of African countries. The promises made by its protagonists are a fraud and unless they are so exposed, Africa is poised for human misery of genocidal proportions. In anticipation of admission into this club of 'successful farming countries, leaders of African countries find it defensible to neglect the alternative option of smallholder family farming and low external input agriculture that have been shown to be highly successful in other parts of the world. Cases like those of Argentina and the so-called Green Revolution are sold without exposing the seamy side of it all and the cost in human and ecological-biodiversity terms. African scientists who tamely accepted their own marginalisation in the global comity of scientists, leap to the promotion of this option as the only meaningful one to overcome hunger in Africa. The fact that once this option is fully embraced, African agriculture is not only handed over to TNCs and their merciless exploitation and despoliation of the continents' agricultural patrimony but immense human suffering, like the ongoing farmers' suicides in India, would be the harvest reaped by the continent. Food sovereignty would be a forgotten possibility for the continent, food dependence and rampant hunger and poverty would overtake millions of citizens.

What's to be done??

Having said the above, we shall now proceed to indicate some of the more important steps — strategy and tactics — that Africa must adopt in order to free its innate productive

capacities, through its own farming peoples, for its own Food sovereignty. It is important to note that I have not attempted to offer proposals on what an alleged 'International Community' must do, since I do not believe that the main responsibility rests elsewhere but principally in the laps of Africa itself. Africa can and will feed Africa and all what others can do in this Herculean task, is to listen to, not obstruct, not seek to direct or capacity-build Africa towards this goal. Africa has had its capacity tampered with and distorted sufficiently and it can well do without this effort to help make Africa like the North in a false mirror image consciousness that drives the self-arrogated 'Burden of the Rich', of the North, to civilize and rescue the South from self-imposed poverty!!

Rediscovering African Unity

Perhaps the most important strategy that African countries need to adopt for success in this colossal task is to re-discover **true unity**, based on the finest cultural norms handed down to today's generations by the mothers and fathers of the continent. I must not be misunderstood here to be referring to the kind of 'unity' that our leaders have been able to cobble together in the present sub-regional and regional multi-governmental institutions like ECOWAS, UEMOA, AU, etc. Without meaning to trivialize the work that has been done by sundry leaders and their army of bureaucrats from member nations, it must be said quite clearly that, like President Obasanjo of Nigeria said in his valedictory speech at ECOWAS PARLIAMENT recently, the bodies have undoubtedly failed to realise the dreams of their founding fathers (and mothers). These institutions have been only half heartedly supported or even comprehended by the leaders themselves and, to make matters really worse, none of them has derived from the aspirations of citizens of Africa or actually involved them in the unity process. If the vision expressed by the founding fathers is taken as an articulation of the ideological foundations of the unity structures, no development has taken place on these expressions since the beginning. Indeed, for founding fathers like Kwame Nkrumah, the unity that Africa must seek was seen as a radical departure from the dependency syndrome from which it had suffered for centuries and a rejection of the negative and inferior self image that many of its leaders felt comfortable with. In addition, these institutions were construed within the psychological framework of high profile for donor funding as an indispensable tool for Africa's development. Indeed, apart from the writings of early leaders like Sekou Toure, Kwame Nkrumah, Obafemi Awolowo, Nelson Mandela, Augustinho Neto, Nwalimu Julius Nyerere — writings which were accused of being too socialistic — no fresh and sustained theorization of unity and for unity took place. Consequently, the movement lost track of itself and became simply a periodic jamboree to which leaders came to relax and reaffirm their continued membership of the 'African Club'.

Africa needs a well-defined theory of Unity which also evolves and develops to take account of a constantly changing world. This theory must give a clear expression to how Africa sees itself in relation to the rest of world and how it perceives its responsibility in terms of a civilizing mission, to the world. The Myths, necessary to propel the energies

of the continent must be clearly enunciated in this 'theory of self and unification'. The sense of Africa's critical position in the world and those attributes that are special about Africans and which underlay their collective sense of global importance must be given strong expression. It is such 'myths' that will provide the motive power for African citizens to excel at all times and in all spheres, insisting on their own 'uniqueness' and ability to achieve any set goals. It is in terms of the 'myth' of Africa as special peoples that insults to our collective reality will provoke instant and unequivocal rejection by every African.

The substance of this theory must emanate from the aspirations of the people, be re-submitted to them for 'auditing' and be refined and deployed as tool for Africa's self definition and awareness. Such a connection with the popular nexus would provide a constant auditing tool with which the people would make it difficult and certainly unacceptable for any leaders to deviate from 'what we all agreed'. Since the theory would define the roles and responsibilities of not just the leadership but of the followership too, it would achieve the necessary articulation of energies needed for our self-empowerment. Every sphere of human endeavour, both in historical and current time frames, would be covered by this articulation. It will provide the foundation for the enculturation of successive generations of Africans and make them truly proud to be Africans. It would provide the tool for strengthening Africans against cultural invasion and a loss of self esteem which leads to easy ship jumping in search of better climes, leaving the homestead to decay.

What I am at pains to emphasise here is that African leadership must, as a matter of urgent responsibility, mobilise citizens in each of our countries to join hands with their leaders to construct this ideational basis for our Unity. It would not do to produce a patchwork of ideas, often quite disparate, of two or three leaders, sewn together by the common thread of an acceptance of 'beggary' as valid tool for self-empowerment, the way the NEPAD construct turned out to be. A genuine respect for the citizens and a realisation of the interdependence of leaders and followers for a meaningful Continental Unity, must underpin this effort. Any Unity proposal that is top – down must surely fail to catch the imagination of the African and command her/his energies for the major task ahead. In order for the African to sing: "I am African and Proud; I am Black and Proud" this mobilisation must be undertaken with the utmost seriousness of purpose and in such a way that the followers are able to believe the leaders, this time around. A credible Social Compact between leaders and the led must be an essential part of this articulation.

Contemporaneously with the mobilisation of the citizenry for Unity, the leadership must cause to be developed, a clear and comprehensive politico-economic basis for Africa's interaction, among the countries of the continent and between the continent and other players on the global field. Our penchant for borrowing and copying must be clearly repudiated by this articulation of Africa's economic self understanding and how the economic aspirations of its peoples would best be served in a fiercely competitive world. Areas that would be regarded as Strategic and Sacrosanct in the economic domain must be clearly spelt out so that it is not possible for any leaders or their advisers to auction

away our collective economic wellbeing on the altar of global interaction. Those aspects of our collective economic life that must not be brought to any global negotiating tables, like the area of our food production and agriculture in general, should be already quite clear such that our leaders never fall under the temptation to sign away our sovereignty — food and otherwise. It is important to see this task not as one in which we simply tinker with existing articulations such as what we already have for NEPAD, AU, etc. or any other Unity constructs. When the North gets together to work out globalisation schemes, Africa must also get together to analyse and respond, as one, to such schemes. Indeed, Africa must become consistently proactive and take the first step in proposing a basis for global cooperation, rather than wait to be drawn into Northern programmes.

It would be necessary for the leaders of today to hold a special summit to examine this demand and accept it. They would then need to work out just how to set up the process of re-discovering African Unity with their peoples full participation. I am aware that the sub-regional intergovernmental institutions already have some relationship with CSOs, particularly Youth and Workers' organisations, with special emphasis on Farmers organisations. So long as it is understood that this effort rejects any crude instrumentalisation of peoples organisations and would not be satisfied with governments parleying merely with pliable so-called farmers organisations that are no more than apron strings of governments in power, it would be acceptable to utilise the existing connections. The aim would be, to capacitate these various organisations of civil society to be able to mobilise wide sectors of citizens for all inclusive dialogue in each country of the Union. The Unity that we can rely upon to take us to our destination must be a Unity of the People themselves, not merely a contrived Unity of governments.

Development of an Exit Plan from donor Dependency

A trap that the North has quite astutely set for Africa, like the rest of the South, is that of promoting and making permanent the concept of Donor importance for any meaningful development effort in the South. It has unfortunately been that most African leaders, cannot conceive of serious developmental steps without first asking themselves the question of where and how to secure donors for it. Even in NEPAD that was sold in its introduction as a home grown plan to be based solely on Africans and their energies and other resources, the leaders could not resist making a request of the G8 for some 64 billion dollars — as the masters' gift to 'good boys' who have decided to police themselves and their peoples and maintain the peace.

We certainly do not need to be as dependent as we have allowed ourselves to be and while we are not advocating autarky as the direction in which Africa must go, we insist that **Africa is sufficiently well endowed, if we pull together, to be able to pay our way in the world.** Our friends who may wish to contribute to our effort can surely do so but not because we beg for donor funding or cannot do without it but because, as they help us, we also help them. It is important that this concept of Reciprocal Assistance must be

emphasised in all our dealings with the North. I cannot resist the example that I cited not long ago — when Nigeria had a huge sum of money, some \$500 million, recovered from where a previous President had stashed it away in Europe, and now held in trust for Nigeria by the Swiss government. At an AGM of one of the new donor-promoted and definitely donor-driven Agricultural Research Institutions in Africa, I discovered that donors took control of the decisions of this vital organisation and all for the 3 – 4 million dollars that they were giving to the research organisation annually!! I raised the question as to how we could be expected to respect African leaders if, in this sort of case, Nigeria whose Head of State was then AU Chairman/President, could not take full responsibility for financing this research organisation. If Nigeria funded the organisation with a sum of 10 million dollars per year, Africa, not donors, could legitimately and confidently take control of the institution and help it orientate its researches in the direction that would favour Africa. Africa must find the formula that would allow our countries to **Share, because we Care** for one another. Our Unity must find the necessary approach to working together in an economic system that relies, not on the so called Market, free or otherwise, but on Filial relations and mutual dependence.

De-emphasising the so-called Free Market in Inter-African economic exchanges

The so-called Free Market is clearly a fraud and does not exist anywhere as we all know that governments intervene from time to time, even in the so-called central protagonist countries that hold this economic bogey as divinely ordained. African governments should feel free to unleash the talents of our economists and other social scientists to discover for us how to engage economically without becoming enslaved by some fictitious or disembodied Market.

As a result of the trauma inflicted on many African countries by 500 years of the painful history of hemispheric interaction, especially the senseless atomization of Africa which caused unnatural separations and created fictitious nation states, many of Africa's countries cannot stand on their own without support. The variations in the continents weather and ecological nature also leaves some countries in dire need of collaboration for survival. Our argument is that these challenges which confront Africa can be tackled by Africans in a true Union of Africa where what happens to Burkina Fasso is seen to have also happened to Nigeria and vice versa. Why must Nigeria, for instance over-produce cotton so as to compete with sister Mali who is also a large scale cotton producer just because the economies of the North are based on this insane competition which eventually leads to acrimony and even wars? Surely, **an alternative filial, sharing and caring economic system** is not only possible but capable of achieving success for all concerned. The Unity that relies on the cynical perspective of: “God for us all, Everyman for Himself and the Devil take the Hindmost” will leave all of us, individually, vulnerable to the predatory vultures of Northern economic systems.

As we detach ourselves from this cut throat competitive economic doctrine and

practice, we must also break the bonds that tie us to the so-called global governance institutions, particularly the WTO, IMF and the WB. Africa must, as a united entity, exit the so-called Economic Partnership Agreements, EPAs, and repudiate the Agreement on Agriculture, AoA, of the WTO, as well as insist on a wholesale reformulation of the TRIPS, NAMA, etc., etc. In short, we make bold to say that Africa really has no business getting itself enmeshed in the WTO where countries are obliged to ensnare one another in an ever more vicious mutual ambushing. Without any delay, our leaders should refuse to continue to negotiate on this global arena on strategically sensitive issues like our food production rights and capabilities, the need to protect our national industries from unfair competition and our agricultural production and farmers from commodities dumping. We, the peoples of Africa, did not mandate our leaders to go to Europe to bargain away our Right to Food, our Food Sovereignty, our right to appropriate technologies as other countries of the world have done sometime in their history and did not have to wait for the illusory benevolence of so-called transfer of technology, which never happens. Our leaders must engender the Unity that is able to protect us from Traders' Laws which forbid us finding out how to, and actually carrying out, manufacture of essential medicaments to tackle health challenges that confront our peoples. These same TNCs parade the continent of Africa, pillaging our biodiversity and not respecting our intellectual property rights, including patenting the Neem Tree, Tree of Freedom, given to the entire world by India Freely!! If Africa is to regain its rights and capability to feed itself and adequately support the livelihoods and well-being of its peoples, it must review these unhelpful agreements and ordinances. After all, there are well over 40 International Agreements and Ordinances agreed to by many of the countries of the world but to which the United States of America has refused to agree, including very sensitive and important ones that have to do with the very existence of the universe. Why does Africa consider itself bound to worse agreements that are clearly not human-friendly in the least?

What Food Production Option will restore Africa's Right and Capability to feed its people and preserve the environment?

If Africa must recover its right and capability to feed itself and preserve the environment, our leaders must make a most important choice whose consequences would affect the lives of tens of millions of its citizens as well as millions of unborn Africans. It cannot be a frivolous or uninformed choice just as it must carefully weigh responsibility attached to what choice is made, for the livelihood and well-being of all.

The options open to Africa for producing the food that its citizens need to live a good and productive life are not many, indeed, they may be just two clusters:

1. the presently dominant Industrial/Factory agricultural option, characterised by:
 - a. Large scale operation.
 - b. Monoculture of a single crop per farmed area,
 - c. Employment of huge machinery — for land preparation (land stumping, ploughing,

- harrowing, ridging, etc.), seed drilling or other planting, fertiliser application, insecticide application, harvesting, etc.
- d. Utilisation of high energy input.
- e. Use of Herbicides or Herbicide tolerant GMO seeds for weed control,
- f. Minimal use of human labour except at harvest for some crop types,
- g. Employment of High Response Varieties of seeds and seedlings,
- h. Heavy usage of water; etc., etc.
- i. Generally preferred by Huge TNC Private sector operators;
- j. Severe on Biodiversity and the environment.
- k. Generally high productivity, at least in the first few years, although a diminishing return tends to set in later.
- l. Preference for animal confinement and battery cage management for most livestock.
- m. Preference for large scale trawler, catch all options in open sea/ocean fishing, etc.

2. The Agroecological/Low External Input option, which would also include the Organic farming option, characterised by:

- a. Typically small scale;
- b. Generally employed by family farmers;
- c. Low external Input,
- d. Generally favouring traditional seeds and seedlings which could be improved,
- e. Moderate utilisation of water as locally adapted seeds and seedlings are often preferred,
- f. Mostly labour intensive,
- g. Gentle on bio-diversity and the environment.
- h. Typically based on mixed cropping, not monocultures.
- i. Tendency to utilise the traditional knowledge and skills of smallholder farmers well attuned to the environment.
- j. Productivity usually good with good management.
- k. Free roaming option for most livestock,
- l. Preference for Artisanal fishing and cattle raising; etc., etc.

These are the two major options from which our leaders must choose, and choose quickly. The implications of choosing either of the options must be clearly understood and taken into consideration as the wrong choice now would lead to serious consequences for millions of Africans, perhaps for millennia to come.

What we see at this time is a major onslaught to have our leaders decide in favour of the Industrial agricultural option. This push is being unleashed on Africa by TNCs, Orthodox agricultural scientists, specialised agricultural institutions being floated by a welter of

stakeholders, governments of the G8 countries through their so-called development support outfits like the USAID, DIFD, etc., the CGIAR group of research organisations, the IFIs, African scientists who have been bought over by the devotees of this option, Chemical Input manufacturers of all sorts, In addition to the general push, the seduction of GE seeds and seedlings as magical solution to Africa's food problems is being employed freely but falsely. Africa-based but Northern controlled new fangled research institutions are deployed to make the advocacy seem home grown and to legitimise sinister plans such as the Rationalisation of Seeds and the introduction of GMOs and even Terminator seeds!!

It is important to emphasise that the implication of making this choice would be extremely grave and heaven help our leaders should they make such a devastating choice for their people. A choice of the Industrial agricultural option would be sure to lead to the following amongst other consequences:

1. High yields obtained on the farms at the cost of marginalizing at least 300 million smallholder farmers throughout the continent and driving them to despair.
2. The uncontrolled introduction of Genetically Modified seeds into an Africa that has very weak biosafety regulations that can be enforced or for which the continent has no scientific capability to track.
3. Very rapid destruction of African traditional seeds that have been adapted to our environment through centuries of careful selection and propagation by our own farmers, as well as the eclipse of our traditional agricultural knowledge and skills.
4. Huge profits accruing to Agribusiness TNCs who have no concern for the land on which they farm and merely use our cheap labour for maximum profit — moving away to fresh land once they have exhausted their present allocations.
5. Serious negative consequences for the general health of the citizens who live near enough to these predictably huge farms. Living examples of this type of damage to humans and nature are fresh in Argentina, Brazil, etc. and there to be seen by anyone who cares. Even the unborn children who cannot be accused of any sins or participation in the process, are subjected to the risk of life long malformations and diseases which make their lives, post partum, a living horror!
6. The advent of an economy characterised by high growth and rising GNP and GDP but with worsening poverty and hunger for the majority of citizens. The continuing farmer suicides in India are a warning to those leaders who might be tempted to take such decisions.
7. Skyrocketing Unemployment, not only of the youths but more seriously of the older farmers who have been displaced from their source of livelihood and who cannot be absorbed into alternative employment. The lack of alternative employment in the so-called modern industrial sector would result from local industry being strangled by Northern (TNC) monopoly practices, de-industrialising policies of the North, and the

transfer of either low labour requiring or toxic industries to Africa.

8. Severe social tension and disruptive activities of the citizenry as a result of acute marginalisation of masses of people who become hopeless and easily driven to violent resistance. How will Africa bear the burden of over 300 million desperate women and men turned into economic refugees in their own land without any hopeful berthing point?
9. Mass exodus from the rural areas of the continent with a loss of all the culture and other treasures like medicinal herbs and knowledge leading to severe congestion of city slums with the attendant implications of high criminalization of the youths, and other aberrant behaviours.
10. A more and more permanent destruction of African bio-diversity and general agricultural patrimony.
11. The conversion of Africa to a more and more food import dependent continent that truly cannot feed itself!!

What Africa must do.

In view of the above, the strategy that our leaders and the rest of Africa must adopt at the level of each country can be characterised thus:

1. Preference for the Smallholder family farming option for food production.
2. Giving Constitutional force to the choice of the smallholder family farming option. This is with no prejudice to those who may still wish to employ the industrial large scale option but to make it clear that government has elected to focus on the smallholder option for maximum support.
3. Provision of gainful and dignified work for the over 70% of citizens who are presently engaged in smallholder family farming — which, through decades of neglect has become synonymous with subsistence farming which it certainly isn't.
4. Implementing a land-to-the-tiller land reform programme strictly applied and with an upper ceiling on land holding.
5. Making water, both for home use and farming, available to the rural areas and the farms. Small earth dams and other water catchment and harvesting programmes should be made available to this option of food production, along with other important production resources made readily available to farmers.
6. Primary focus on producing food for the citizenry and raw materials for our fledgling industries rather than production for export to a more and more constricted foreign market that is really a mirage.
7. Focus on local, national, sub-regional and regional markets and on creating access to these markets for the smallholder farmers — as we pursue ever more determinedly, the sub-regional and regional economic integration that we have neglected in our pursuit

of the seductive foreign/Northern market and global integration before home level integration!!

8. Developing a comprehensive re-direction of agricultural research to focus on the challenges confronting smallholder farming, especially in respect of the gender fit of agricultural technologies.
9. Reconceptualisation of the nature of smallholdings in a manner that makes it capable of supporting a decent and dignified life for the farmer, especially to encourage the youths who may be highly trained, to make farming a vocation. The size range, depending on soil and ecological characteristics, combination of Arable crops – livestock – Tree crops preferred and supported in the location of farms, etc., must all be carefully worked out to provide a good livelihood and leave room for expansion to the upper limit agreed by stakeholders.
10. Protection and improvement of our local adapted seeds and seedlings, through non-GMO approaches to seed improvement.
11. Avoidance of over chemicalisation of farms, either from heavy application of inorganic fertilisers or from pesticides and herbicides.
12. Promotion of practical farming, with the possibility for the youth, in schools and other higher institutions, to actually earn an income from such practice.
13. Outright rejection of the GMO option, including the satanic Terminator seed option. Insistence on dominance of local seeds, and the right of farmers to reuse seeds from their own harvest. The protection of our seed is of paramount importance.
14. Search for and development of smallholder agricultural technologies, which can be accessed, initially, from countries that already have the skills well developed, even if they are themselves not currently emphasizing them. These technologies must include those for weed control through the use of Bio-pesticides as from the Neem, and through Integrated Pest and farm management approaches.
15. Promoting dialogue between farmers and farm workers through their respective protective organisations, to achieve good conditions of work for the later while assuring the former of a fair return on her/his production.
16. Support for the re-conceptualised smallholder farms through the provision of Approcredit (Appropriate Credit), On-farm storage and minimal value addition capabilities, etc.
17. A rejection of the no tariff proposals of the North as this is important for staving off dumping on our markets. The North, through all sorts of devices, continues to deter our access to its markets, being careful not to let this be called tariff imposition!
18. Promotion of urban and peri-urban small scale vegetable farming by city dwellers;
19. Dedicating at least 20% of the annual budget to agricultural support, for at least 5 years in succession.

20. Promoting and giving support to Farmers' Organisations to assist their development and self-empowerment. It is virile and self confident farmers' organisations that can effectively play the role that producers themselves must play in this re-discovery of our Unity.
21. Re-focusing African research and researchers in agriculture to specifically African problems and interests and on the basis of African talent, resources, and employing the time-honoured eco-friendly seed improvement techniques and processes that have been neglected for GMOs. This re-affirmation of the right and responsibility of Africa, not foreign donors, to develop seeds for Africa must also include our determination to save our Tertiary Institutions of agricultural training from extinction — the way private sector driven institutions destroyed University based research in the UK and other European countries. This step would ensure that we do not place our high caliber researchers in these universities at the mercy of TNC money and, sometimes, having to conduct bad science in order to stave off hunger. These institutions are our only guarantee that we shall be able to determine and carry out home-relevant researches in agriculture in the future and not be held to ransom by Agribusiness TNCs.

In addition to these directly farming related steps that each of our governments should consider taking in their different countries, there are yet a few other matters to attend to in order to make what is gained truly sustainable:

- The sovereign act of rejecting the present focus on export trading with the Northern market in view, also requires that we intensify and continually develop intra-regional trade. It is at the level of sub-regional and regional trading and in view of our determination to be our brother's/sister's keepers that a no-tariff regime can and should be maintained. This becomes practicable once we have ensured that there would be no undue subsidies in any of the countries of the region and that overproduction is not permitted through the employment of production/output management. In order to facilitate this intra-regional trading and exchange, Africa must establish effective transportation networks linking all countries, for easy and inexpensive movement of goods and services. In regards to this requirement, it might be necessary to consider the building of a trans – Africa rail system — to move goods and humans more efficiently. Already, the NEPAD process, for whatever it is worth, has begun this road network construction but we must now take the process to a new height and with the utmost speed.
- It is important that a comprehensive 'auditing' of commodities, particularly local staples, produced in each country be carried out. This is important in order that a generally acceptable formula can be established for sharing responsibility for production and the allocation of crops on which each country would place emphasis. This, of course is not to say that the allocated crops would be the only crops each country it would produce. A modicum of food sovereignty must still be maintained for each country.

- In order to be able to respond effectively to natural disasters, large scale crop failure, etc., in any country of the region, it would be necessary that an African Farm Support Fund, almost in the sense of a Continental Agricultural Emergency Bank, be established through self-reliant contributions.
- It goes without saying that labour must be free to move from one country to another within the region. This should help avoid the bottlenecking of labour in one nation with disruptive effect on the entire system. It would be important to ensure that conditions of labour are closely similar throughout the continent if the arrangement is not to be destabilised.

The suggested strategy and tactics above are just a brief enunciation of what is really a very massive undertaking, if the direction proposed is taken up. Assuming that it is, we feel very confident that the option recommended is the most appropriate for the maintenance of the integrity of nature, protection of our biodiversity and a truly sustainable use of our agricultural patrimony. The option recommended does not rely on poisonous chemicals or harmful practices that may damage the environment. As much as possible, the dominant praxis must be to **collaborate with, not overpower/conquer nature** in the process of producing food for Africa.

Endnotes

1 We use G9 here in anticipation of the next chapter in the tactical notebook of the North as it strives to break any and all solidarities built up by the South as protective association on the world scene. This chapter may well be the contrived admission of India or Brazil into the club of the great, more in order to diffuse Southern solidarity than out of a sense of genuine equality with the new entrant.

2 Despite the clear causal relationship between the neo-liberal policies, at home and on the global scene, and the suicide of farmers, Vandana Shiva reports in her essay: "The suicide economy of corporate globalisation", February 2004, as follows: "at the domestic level, official agencies in India are in deep denial of any links between free trade and farmers survival. An example of this denial is a Government of Karnataka report on "Farmers suicide in Karnataka - A scientific analysis". The report while claiming to be "scientific", makes unscientific reductionist claims that the farm suicides have only psychological causes, not economic ones, and identifies alcoholism as the root cause of suicides. Therefore, instead of proposing changes in agricultural policy, the report recommends that farmers be required to boost up their self respect (swabhimana) and self-reliance (swavalambam)."

3 It is important to emphasise that the term, 'Bio-fuels' is a deliberate distortion of what we are talking about which is actually 'Agro-fuels.' The former is what our foremothers and fathers have practiced in using the de-oiled chaff of palm kernel flesh for cooking, using cow dung for making fire, using the husk of palm kernel, etc. to make fire for cooking and other household needs — and this is certainly not harmful to biodiversity or food security. The latter, however, is simply snatching the food grains and oils away from the mouths of human beings in order to feed the greed of automobile and other engines, making it impossible for people to compete with

the greedy, often satanic technologies of the 'West', for maize, cassava, palm oil, sorghum, etc. Agriculture, which was meant for feeding people, now turned around to feed engines such that the very biodiversity on which our and nature's health depends is endangered.

4 China is widely known to have moved from 406 million hungry to a mere 189 million hungry in a relatively short period of time, a feat unequalled by any other country.

5 See "Building on Successes in African Agriculture", Ed. By Steven Haggblade.

6 *The ECO-PERSON or (ECOSON), a la Manfred Max-Neef, is the unit of population, a more helpful and dependable one than our current instruments of measurement. The ECOSON being the human person plus the rational scale of resources (in terms of nutritional requirements, housing, clothing, etc.) needed for him/her to attain and acceptable quality of life, as defined for his/her particular location and time.* If this concept were used as the measure of population, would the "North" not be vastly over-populated while the "South" is grossly under-populated? Where a single, average U.S. American would be found to be equivalent to 100 "Ecosons" while an average Nigerian is no more than 0.2 "Ecosons"

7 Issa Shivji – "The changing Development Discourse in Africa" – aptly captures the situation: "The colonial economy was typically disarticulated, almost tailor-made, for exploitation by colonial capital, linked to the metropolitan trade and capital circuits. Extractive industries like mining predominated. Plantation agriculture existed side by side with subsistence peasant cultivation, all concentrating on one or a couple of crops for export according to the needs of the metropolitan economy."

8 See Walter Rodney's "How Europe Underdeveloped Africa".

9 See Franz Fanon's "Black Skins, White Masks"

10 Africa, like other countries of the world, has produced its own Franz Fanon, Amilcar Cabral, Sekou Toure, Nwailimu Nyerere, The Osagyefo Kwame Nkrumah, Nelson Mandela, to name but the most well known ones.

11 See: "Argentina's Torrid Love Affaire with the soybean" Seedling, October 2004; by: Lilian Joensen and Stella Semino

12 The devastation visited on India and other Asian countries as well as on Argentina, Praguay, Brazil, Bolivia and Uruguay — declared as the "the United Republic of Soya" by Syngenta in 2003, is already too well known.

