

CO-OPERATIVE FARMING

This is an advanced form of farming organization which involves farmers pooling their resources together like labour, land and capital in order to modernize agriculture, increase farm output/production. The Co-operative farming system was introduced to solve the problems of subsistence farming like pests and diseases, provision of farming equipment, lack of capital, lack of enough labour, market facilities, lack of enough and efficient storage facilities, transport facilities, production and poor quality products and many others.

Co-operative farming is highly developed in the developed countries like Denmark, Sweden, Netherlands, Belgium, and the principles of co-operative farming are being employed all over the world. It is important to note that co-operative farming has not been successful in most of the low developed countries mainly because of limited capital and cultural ties. Co-operative farming is carried out extensively in the former socialist states like Russia, Burma, Bulgaria, Romania, Hungary then Tanzania and China.

Co-operative farming has different names and its principles vary slightly in the different countries. In China it is called Communes, in Russia, it is called collective farming, Tanzania it's called Ujamaa villages, Israel it's called Kibbutz.

CHARACTERISTICS OF CO-OPERATIVE FARMING.

1. They are self-contained that is, they have their own schools, hospitals, power, piped water and many other socio-economic facilities.
2. They apply modern scientific techniques of farming for example the use of fertilizers, machines and research to improve product quality.
3. They pool resources together in form of land, labour, capital and many others.
4. It is carried out on large scale and collectively operated.
5. Transport, marketing and other costs are reduced as they are shared among the members of the co-operative.
6. Profits and losses are equally shared among the members.
7. Credit facilities are easily available to the member from the pooled funds.
8. Research is under taken and consequently, the members are educated about new developments.
9. The co-operatives elect officers to manage the systems operations from among the members which leads to high efficiency in management and consequently production.
10. Technical advice and services are provided by the extensive staff or workers all aimed at increasing production capacity.

11. Farms are either scattered or consolidated into one land piece. This is because there arises collective, indirect or public land ownership.

12. Co-operatives are officially registered and governed by laws and regulations.

ADVANTAGES

1. They stimulate industrialization and urbanization since they setup processing industries for agricultural products for example ginneries, creameries, fertilizer factories and many others.

2. From the thorough research carried out by co-operatives, farmers are entitled to advice and guidance from the experts, marketing officers and many others. They thus acquire new skills which increases their proficiency in the general farm operations.

3. Farmers benefit from the loans acquired by their co-operatives. They use such funds for purchase of land, equipment, improved livestock breeds and other goods which leads to improved production.

4. Co-operatives engage in the production of food stuffs which consequently saves the country's foreign exchange which would otherwise be spent on food.

5. Co-operatives lead to increased foreign exchange earnings through exports of various products to other countries which leads to increased exports.

6. In co-operatives, farmers incomes are increased. These are in form of dividends and bonuses from the co-operative societies and then from the direct sales by members to their co-operatives. This leads to improved standards of living.

7. Employment opportunities are generated for example in marketing, management, processing, research and other sectors.

8. Co-operative farming leads to the development of social services such as health centers, schools, roads, railways and sometimes power plants hence encouraging rural development.

9. Co-operative farmers attain farming implements and other facilities at cheaper rates due to bulk buying hence reducing on their production costs.

10. The setting up of standards for agriculture production by cooperatives guarantees high quality products which also sells extensively.

11. Co-operatives normally obtain more favorable terms of trade than individuals since they have a collective bargaining power/ standard. This is boosted by bulk sale and sale of standard grade of products.

12. Through co-operatives, the spirit of unity which culminates into nationalism is inculcated in the people hence nationalization of operations in the country.

13. Land is fully utilized where there is enough capital met unlike the case in shifting cultivation.

14. It discourages regional inequality among the farmers.

DISADVANTAGES OF CO-OPERATIVE FARMING.

1. It is expensive if it is carried out country wide. This is majorly in the coordination of the system of operation.
2. Farmers lack confidence in the elected salaried executives in the low developed countries. This is because they are usually associated with nepotism, embezzlement, corruption and many other vices which cripples the smooth running of the society.
3. People tend to resent each other due to their cultural beliefs and so cannot mix and work together easily.
4. It is not easy to organize people. Some of the people are not very co-operative and develop no desire to interact with people of different levels, others are lazy and leave the work to others because they have contributed much formerly and many others.
5. Politics at times is involved in the management of farms, hence those for instance those not for the government will not work effectively because of dislike of the government and political policy.
6. Co-operatives may hinder personal initiatives as hardworking and enterprising members may be discouraged by the group.
7. In low developing countries, processing plants set up by co-operatives often breakdown. Delays in acquiring the necessary spare parts hinders the smooth running of the cooperatives as well as mass production.
8. Political instabilities like in low developed countries easily affect the smooth running of the cooperatives since it can interrupt coordination of activities.
9. Production to a certain extent depends on natural factors, that is in case of drought, delayed rainfall, pests and diseases, so output will be seriously affected.

CO-OPERATIVE FARMING IN DENMARK

Denmark is sometimes described as "The land of co-operatives" mainly because they have been very successful and the system is highly advanced. Presently there are said to be over 10,000 co-operatives in the country and the Danish co-operative movement first began in 1866 with few individuals as members but now virtually more than half of the population are co-operative members.

The co-operative success in Denmark is partly due to a good education system with the provision of adult education during which the latest agricultural techniques are communicated to the farmers.

Co-operatives are systematically managed whereby members elect leaders from among themselves who work tirelessly for the good of the firms. Every co-operative in Denmark belongs to a joint association under a central co-operative committee and there also exists wide government involvement.

CONTRIBUTION OF CO-OPERATIVE FARMING TO THE DANISH ECONOMY.

1. Farm inputs are purchased in bulk which is relatively cheaper than buying in small amounts for example seeds, fertilizers, equipments and many others thus farmers get much profits and make enough saving.
2. The co-operative management undertakes collective grading and storing of several farmers produce which they sell in bulk. They are able to negotiate more favorable terms on the world market. As such, a farmer is always assured of selling all his produce at favorable prices.
3. Many factories for the processing of agricultural products are owned and managed by co-operatives for example Bacon, Ham, canning plants, slaughter houses/ abattoirs and many others thus the profits are shared by members, today, 85% of the milk from the Danish farms is processed by co-operatives, 40% of the exported eggs and many others. Hence farmers get double earning, making the farmers co-operatives the fourth largest in the country.
4. Co-operatives provide loans to farmers on easy terms in case of any need to purchase land, equipment or other goods and also if they wish to make improvements in building and land that is draining areas or improving the soil.
5. Farmers receive advice from experts like marketing officers on how to manage their farms which helps to improve efficiency and the quality of the produce in order to make high returns from their land.
6. They also provide specialized machinery which individual farmers cannot normally own and this is often borrowed from the co-operatives.
7. Co-operatives also provide transport and storage facilities for the farmers produce that is, they normally send refrigeration trucks to collect dairy products.
8. There has been improved standards of living due to the improved earnings by the farmers who are also able to meet social needs for their families.
9. Co-operative farming in Denmark has stimulated industrial growth for example setting up of creameries and abattoirs. There exists over 1000 dairy related industries, over 100 factories for bacon and other products for example meat caning and butter making .
10. Enormous foreign exchange is earned by the Danish government from the exportation of various products to many European countries for example 40% of the eggs exported are handled by the Danish co-operative egg export.
11. A lot of employment opportunities are created by the existence of cooperative societies.
12. Co-operatives undertake research in various fields aimed at enriching the system.

Generally the co-operative movement has benefited the entire Danish community especially farmers, and rural people have given Denmark a status of being one of the countries with the highest standards of living in the world.

COMMUNES IN CHINA.

This is a system of co-operative farming carried out in the Communist Republic of China. They came into existence after the Chinese revolution of 1949 when the communist government took over power and introduced new land reforms in China.

Under this system, the production resources are communally owned that is land, capital, labour and many others and the central government is in charge of all communes. The communes are self governed societies.

ORGANISATION OF SOCIETIES.

Each commune is divided into production brigades and each of those is divided into a number of basic units which are known as the production teams (villages). Each has about 25-30 families covering about 3000-12,000 hectares of land with about 9,000-60,000 people in each village is supposed to give a quarter of its produce to the central government at a fixed price. There are about 26,000 communes in China today.

After the sale of the produce, profits are divided according to the effort and nature of the work done. Today, there are about 26,000 communes in China. The main crops grown on the communes are wheat, rice, pineapples, and many others and animals kept include pigs and poultry.

AIMS OF COMMUNES.

1. To improve on the yields by use of scientific techniques that is application of fertilizers, mixed farming, use of tractors and many others.
2. To improve on the standards of living of the Chinese with amenities like schools, hospitals, better transport, clean piped water and many others.
3. To increase land under farming and to increase productivity of mechanization.
4. To conserve water in dry areas of China for land use through irrigation.
5. To fully utilize the abundant redundant human resources that is, employing labour intensive techniques in agricultural production.
6. Controlling flooding majorly along R. Huang-Hio.

ECONOMIC IMPORTANCE OF COMMUNES.

1. It has led to increased output in China thereby providing the country with enough food requirements.
2. Improved standards of living have been realized.
- 3 It has promoted development of transport and communication for example Shenyang province has the best developed transport network in China.
4. It discourages inequalities which was quite rampant in China since each region developed due to the efforts of the communes.
5. Employment opportunities have been created.
6. The use of land has been effectively maximized.
7. Due to the need to improve on yield and productivity, research in agriculture has been emphasized.

Negative contribution.

1. There always exist conflicts among workers in the village farms.
2. The land lords forcefully lost their lands to the central government which took over and distributed the to the brigades.
3. At the beginning, there was serious lack of skilled labour necessary for the operating of the farm in order to improve on production.
4. There was also lack of capital to invest in the communes since t was an intensive system to cover the entire nation.

ADVANTAGES.

1. Work is highly specialized which saves a lot of time and other vital resources.
2. Each worker is paid according to the efforts put in the production activity.
3. They provide social amenities to the population from the extra profits attained.
4. The decisions to be used on the farms are not burned since they are handled by the central committee.
5. The government undertakes the transport, storage and marketing tasks and provides farm implements and facilities.
6. The people have been able to improve on the agricultural output.
7. Farmers are taught new methods of farming.
8. Farmers receive inputs at a subsidized cost.

9. It has promoted land consolidation and all its advantages.

10. It has led to agricultural modernization.

DISADVANTAGES.

1. Being programmed by the central authority reduces individual enterprising ability and normal and moral work productivity also reduces.

2. Payment is based on what one has done which is a disincentive to the sick and disabled.

3. All member have to take part in compulsory regular military training and they form part of the reserve army made up of both men and women.

CO-OPERATIVE IN TANZANIA

(UJAMAA VILLAGES)

The word Ujamaa is Swahili word meaning togetherness. It a modern type of African traditional farming where everyone helps and is helped by a society where they live. It is a voluntary productive society under co-operative system based in social ownership and means of production that is labour, capital and land.

The system was started in Tanzania in 1967 by Mwalimu Julius Kambarage Nyerere who was then the president. Under this system the government attempted to change agriculture and make peasants from Ujamaa villages.

By 1975, the government had succeeded in resettling 3.5 million Tanzanians in 7500 villages. This was possible by the aid from the US of \$29 million spent on rural improvement, education and literacy programmes management training and book keeping. The villages were engaged in projects like afforestation and re-afforestation, road construction, preparation of new fields and many others.

Before the system was introduced, Tanzania depended on subsistence agriculture with few crops being grown and most of the establishments owned by the German and British. In 1967, Ujama system brought a change in the form of economic and social development and helped to eradicate other problems like inequalities within the local communities, ignorance and poverty as well as exploitation of man which had been encouraged by the colonialists thereby dividing the people.

AIMS OF SETTING UJAMAA VILLAGES

To establish a self governing community/society for general development of the country.

To organize the efforts of the people more effectively. This was meant to make better use of the rural labour by bringing the scattered people under shifting cultivation together so that they could grow enough food and each crops to improve the economy of the country.

To increase agricultural production by having all means of production under the control of the peasants.

It was also aimed at changing the educational programme in the country through setting up schools and institutes where people could be introduced to the ideas of the Ujamaa system.

To eradicate the exploitation of man as was heavily practiced by the German and the British in the land.

To improve on the standards of living of the people through the provision of the social infrastructures like tap water, electricity, roads, hospitals and many others.

To improve the security system of the nation especially within the local community by using villages as part of the military organization.

ORGANISATION OF THE VILLAGES

The villages were organized on the principles of the Ujamaa where all the scattered communities were brought together and formed a total of 20,000 villages by 1980. The sizes vary from place to place depending on the number of people found in a given place for example Wmenge village in Lindi was the biggest with 90 families while others has 20 families especially in the central part of the country due to the tsetse flies and little rainfall.

Each of these villages was served with a primary school, clean water, health services and transport network. The predominant mode of production is a peasant system though each village had a commercial farm of about 100 hectares and those village farms are in reality state co-operative run by a managing committee and headed by a farm manager responsible to the government.

Each farm village is given farm equipment and other farm imports by the central government leaving the co-operative movement to take care of marketing, processing and providing other inputs to the farmers. The ministry of agriculture and co-operative main aim is to advice farmers about better crops and farming methods.

The profits from the farm are shared according to work done depending on the skill, performance and the nature of work done. Some of the profit is set aside to assist those with family problems while the rest is devoted to commercial like building schools, buying water pipes and many others.

BENEFITS OF THE UJAMAA SYSTEM

1. Employment opportunities have been created in the country.
2. There has been mobilization of labour for projects such as re-afforestation, irrigation, setting and construction of roads.
3. Improvement in the production of both food and cash crops has been realized for example in Mwenge village in the Lindi region . crops grown include maize, cassava, soya beans, rice, beans, cotton, and tobacco.
4. There has been an increment in the area under cultivation.
5. Labour mobilization has led to the opening up of the areas which would otherwise still be lying idle.

6. There is now self sufficiency in food production in some villages like Mwenge settlement.
7. There was improvement in the standards of living of the people because they earned wages and they were able to purchase social items.
8. Unity was created amongst the people which led to the nationalization as the principle of Ujamaa.
9. It led to the education of most of the people and to date at least 90% of the Tanzanians have gone to school.
10. There was rural development that is, the communities established were with clean piped and safe water, schools, health service as well as transport network.
11. The system has also promoted the growth of towns and industries majorly those producing fertilizers and farm chemicals for spraying.
12. Farmer acquired better techniques of production through the extensive services provided by the government.

DISADVANTAGES.

1. The land in which farmers where settled was very undesirable that is, farmers were forcefully settled in village communities and became more of government workers in which others ended up withdrawing their labour power in protest.
2. Farmers income was quite meager. The government officials decided the portion to be given to each farmer after the sale of the produce and the biggest percentage goes to those who supplied the various inputs and administration.
3. Output is not guaranteed since the production over depends on weather conditions and some of the sites were physically marginal lands.
4. The government lacks enough resources to provide facilities such as water, health facilities and primary education.
5. The system is planned and controlled by the government agencies. This kills the enterprising abilities of the locals and limits production of the various outputs.

MARKET GARDENING.

Market gardening is the cultivation of vegetables, fruits and flowers for the urban market. Market gardening can also be referred to as truck gardening farming since the commodities are transported by use of trucks to the market.

This type of farming is well developed in densely populated industrial countries of north and western Europe that is Britain, Denmark, Belgium, Netherlands and north USA and southern Canada because the daily demand for fresh vegetables, salad crops, table fruits, eggs, milk and meat is tremendous. Market gardening may be in suburbs or in areas where conditions are favorable for particular crops.

CHARACTERISTICS.

Farms are usually small compared to other agricultural practices.

Land is intensively farmed and irrigation is often used to boost other forms of precipitation.

Crops may be grown on fields or glass house (green house system).

Vegetables require fertile soils and areas where soils warm rapidly in spring which makes it light and easy to work which makes it an advantage. Soil fertility is also maintained application measures or fertilizers.

It requires large labour force because the crops require much attention and most of the work is done by hands though on relatively large farms, machine harvesting is possible.

The farms require large capital since it is scientifically managed. The money is used to purchase farm implements and facilities and establishing farm policies.

There must exist a well established communication network to link up the farmers to the consumers.

ADVANTAGES

High yields are obtained since there is use of scientific methods of farming.

The market gardens are easy to manage since they are small in size.

There is market for the products since farms are mainly located near the urban centers/ towns.

There can be production of crops out of the normal seasons since cultivation can be effectively carried out in the green houses.

A farmer can earn high income since few people deal in this type of farming and as such, prices of those commodities tend to be high.

The products obtained are of good quality due to the methods used that is scientific approach and intensive use of labour.

DISADVANTAGES.

It is a very expensive venture because of the approach undertaken that is scientific approach is to be applied.

There is need for lot of labour to do the work and then the problem becomes expensiveness.

It cannot be carried out far from the market or in areas with poor transport since commodities produced are not durable and therefore need immediate consumption.

High loss can occur in cases of price fluctuations because of specialization.

It is a taxing venture since it takes a lot of the farmers time as it requires intensive care.

Since the goods are majorly perishable , they cannot be stored for a longer period of time. This can lead to dumping and loss.

The farms are not highly mechanized because the plots are very small and therefore mechanization is uneconomical and also the fact that the commodities are very delicate and need human labour to be able to pack/ harvest.

FACTORS FAVORING MARKET GARDENING IN NORTH WESTERN EUROPE.

There exist cool climate good for the production of crop grown on market gardening.

There exist production soil which is heavy and fertile and this explains why in UK, it is more carried out in the valleys of York.

There exist large market in the industrial cities of the rich western Europe. Industrialization provide the population with the purchasing power for the industries raw materials and labor's` consumption.

The region posses enough capital necessary for establishing such farms.

There exist good transport network for the transportation of the products, workers and buyers to and from the market.

High technology in the region made farm facilities and equipments cheaper.

Research in the region is highly developed which makes a lot of different processed products produced from agriculture output and encourages farms to grow more and more crops.

THE GREEN REVOLUTION

The original idea of the green revolution came from the southern Asia in the mid 1960`s. the purpose of the revolution was to use modern technology in agriculture in developing countries in order to increase food production. The rapid increase in cereal food production is what is called the green revolution.

The green revolution involves the introduction of use of high yielding varieties (high breeds) of cereals like rice, wheat, maize (corn) and millet, improvement in farm technology and fertilizer production and use of chemicals such as weed killers and insecticides are also being encouraged and extension of irrigation to avail water when it is needed in the field.

GENERAL FEATURES

High yield varieties of cereals are being encouraged for example wheat, rice, maize, barley and many others. These replaced the low yielding traditional strains.

Irrigation farming system has been introduced in the system to cater for periods of low rainfall.

There is increased use of farm machineries for example tractors, combine harvesters and many others which boosts mass production of cereal.

The development of new hybrids with a shorter growing season for example in Asia which has promoted double cropping of rice a practice which was never heard of.

The development of cereal types which resist diseases, drought and many others. This is done by inter breeding, grafting the traditional breed with the new fast yielding developed in Mexico.

Increased use of fertilizers to increase the fertility of the soil and subsequent productivity.

The wider provision of credit by the government so that irrigation pumps could be bought and new wells sunk to tap water, machines installed and many others.

ADVANTAGES

High yielding varieties have been introduced through research.

There has been increase in food production especially in India.

Use of new farm technology and machineries have been introduced in the idle east and most especially in India where the system was first developed.

The wider use of fertilizers created a new market for the new fertilizer factories to be developed all over India and have provided new job opportunities.

The local farmers have been educated in India demonstrations and extension work for example the application of fertilizer techniques and many others.

Many storage facilities have been created to aid store the increased products.

The scheme provides farmers with credit facilities and loans on manageable terms.

The extension of irrigation has increased the demand for electricity in the country areas. Rural electricity has therefore been promoted and improved standard of living of the people is being realized.

DISADVANTAGES

The farm machineries are very expensive to purchase for local farmers and must buy in foreign cash which foreign exchange is scarce in dumping countries like India.

Farm machineries need careful maintenance and skilled technicians to repair them yet such skilled labour is lacking in the low developing countries.

The cost of importing spare parts and machineries is high since they are not produced locally in low developing countries and they keep on breaking frequently.

Many small farmers find it difficult to switch to using new fast yielding variety and fertilizers because of limited capital and security for loans.

Most countries where the revolution has picked up, the majority of the farm are very small and still scattered. This makes their irrigation hard and very expensive.

Over production has resulted into falling prices in the near market. This has affected USA so much which had engaged in cultivation.

With green revolution poor farmers are unable to use new technology, new variety and fertilizers application. This means only the rich farmers can afford. Thereby widening social status in the society.

Wide application of machines eventually leads to rampant unemployment for example in India.

LIVE STOCK FARMING

Live stock farming refers to man's attempt to rear the domestic animals like pigs, sheep, cattle, goats, chicken, horses, camels, ducks, turkeys, geese, ostriches and many others. All this is done with an aim of gratifying man in one way or another majorly food production, transport and so pets and money making tourism.

The main aim of this subject matter is to deal with a few like the cattle, goats sheep which are widely reared. In that regard therefore livestock rearing can be categorized into three and that is, nomadic herding/pastoralist, ranching and dairy farming.

NOMADIC PASTORALISM

This is a form of subsistence agriculture where the pastoralists depend on their livestock for their livelihood. It is categorized by true nomads and trans-humance. The true nomads takes rearing long with their animals as a permanent thing but the trans-humance pastoralists move in regard to change in climatic belts,

Examples of nomadic pastoralists of the world include the Aborigines of central Australia, Mongols of Mongolia in central Asia, Tuareg of the Sahara desert, Fulani of west Africa that is Senegal, Mali, Nigeria, Mauritania, Cameroon, Turkana, Masai and Karamojongs of East Africa and many others.

CHARACTERISTICS OF PASTORALISM.

It is occupied by purely nomadic pastoralists who depend entirely on their animals for subsistence survival.

The most important activity is live stock keeping on a subsistence land and the livestock kept are the most valued like goats, cattle, sheep and camels are kept in the desert areas.

Traditional breeds of animals are kept which are in most cases of low quality and yield poor quality products (milk and meat).

Communal grazing of the animals is normally practiced.

The live stocks are individually owned but the land belongs to the entire tribe.

The live stocks are fed on natural pastures comprising of tree leaves, grass and sometimes pods of some seeds and many others.

Large number of animals are kept to aid them meet their economic and social obligations.

Seasonal movement is a must to ensure that there is constant pasture and water for their animals.

Over grazing as a resultant effect of over stocking is a common phenomenon in the area.

Grass burning is done during the dry seasons with the hope of getting fresh pastures sprouting at the onset of rain.

Soils in the system are poor for crop production thereby forcing the people to practice less crop growing which is normally women's work.

Permanent settlement is still a dream in the system. The temporary houses exist where there is enough pasture and water for both the pastoralists and their animals.

PROBLEMS OF THE PASTORALISTS

The problem of the pastoral community lies within the category of physical and manmade problems.

Physical

They face a problem of low and unreliable rainfall bringing severe lack of drinking water for live stock and human beings.

The dry season scorches away the grass which becomes brown and falls off leading to shortage of pasture and deterioration of livestock.

The pastures being natural are usually poor and impalatable to the animals since they consist of rough grass and thickets which are only nutritious when young.

Tropical pests and diseases reigns for example tsetse flies causes trypanosomiasis (nagana) in animals and sleeping sickness in man. Other animal diseases include Rinder pest, East coast fever plus foot and mouth diseases.

The type of animal breeds that exist in the areas are generally of poor quality and generally of poor quality and very slow to mature. The products are also poor and of low quality.

There are possible attacks by the wild gamers since many of the pastoralists like operating in areas near game park.

Man made problems.

Due to the practice of communal grazing, there is rapid spread of pests and diseases.

Over dependence on only one source of food (the animals) normally results to severe famine and malnutrition.

Over stocking by the pastoralists results to over grazing which brings about soil erosion and pasture deterioration and eventually poor animal quality.

Conflicts that result over the grazing land can lead to death of many people and loss of animals when rustling sets in.

There is scarcity of veterinary services due to lack of extension services and infrastructural service development.

There is limited market in the locality for sales of the products like meat and milk since every nomad has at least a cow to survive on.

Burning of bushes exposes the soil for easy erosion which leads to soil degradation and extinction of some palatable species of pasture grass.

Many of the pastoral communities are conservative and do not want to change from their traditional way of livestock rearing. This hinders any improvement to be made.

SOLUTIONS

The land tenure system should be changed from communal ownership to either individual or clan or group ownership so as to ensure effective utilization and protection of the land area.

The young pastoralists should be encouraged to look for alternative sources of employment after their education thereby minimizing the problem of employment opportunities.

Pastoralist should be gradually introduced to crop economy alongside animal farming. This will partly solve the problem of constant famine and malnutrition in children.

Den farms should be established with an aim of teaching pastoralists scientific and modern approach to animal keeping.

The pastoralists should be encouraged to reduce on the animal number with an aim of matching the carrying capacity of the available land for grazing. This will reduce on over stocking, over grazing as well as soil erosion and environmental degradation.

There is need for basic education in order to break through the traditional conservativeness and backwardness of the nomads.

Establishment of important infrastructures such as roads, health units, education facilities, veterinary services. All these will help minimize on the problems facing the pastoralists.

There is need for government to introduce industries dealing with the dairy and meat/beef production to encourage commercialization of the animal industry in the areas.

For the water shortage, there is need to tap the underground water through drilling boreholes and construction of valley dams to accumulate water during the rainy season for the dry spell.

WHY NOMADIC PASTROLISM HAS PERSISTED

The climatic conditions of the areas is harsh and this discourages settlement. This leaves vast empty land where pastoralists can practice their farming.

The natural vegetation (grass) found in the area covered by the pastoralists favor their practice since it facilitates easy movement of livestock, promotes clear visibility hence easy to detect troublesome wild games and it burns easily.

The areas receive low and unreliable rainfall and are marked dry seasons which makes cultivation of crops very difficult unless irrigation is practiced but due to economic inability of the pastoralists to adopt to irrigation, pastoralism remains the best option.

Traditionally the nomads largely depend on livestock as a way of life and consider themselves as cattle keepers and are often unwilling to change their traditional outlook.

Pastoralists own land communally. In this regard individuals are free to use the land and this encourages movement from one place to another.

More so, all basic necessities of life like food and clothing can easily be attained from the animals. So the people find it easier to stick to pastoralism for example milk, meat and blood for food and hides, for clothing and beddings.

The pastoralists also attach spectral values to the animals that make them feel raring animals is the source of final and permanent happiness for example they help in bride wealth payment, act as symbol of wealth, prestige and power in society.

Lack of sufficient capital by the concerned nations to develop the areas by setting up ranching schemes and other necessary facilities such as irrigation to develop the areas.

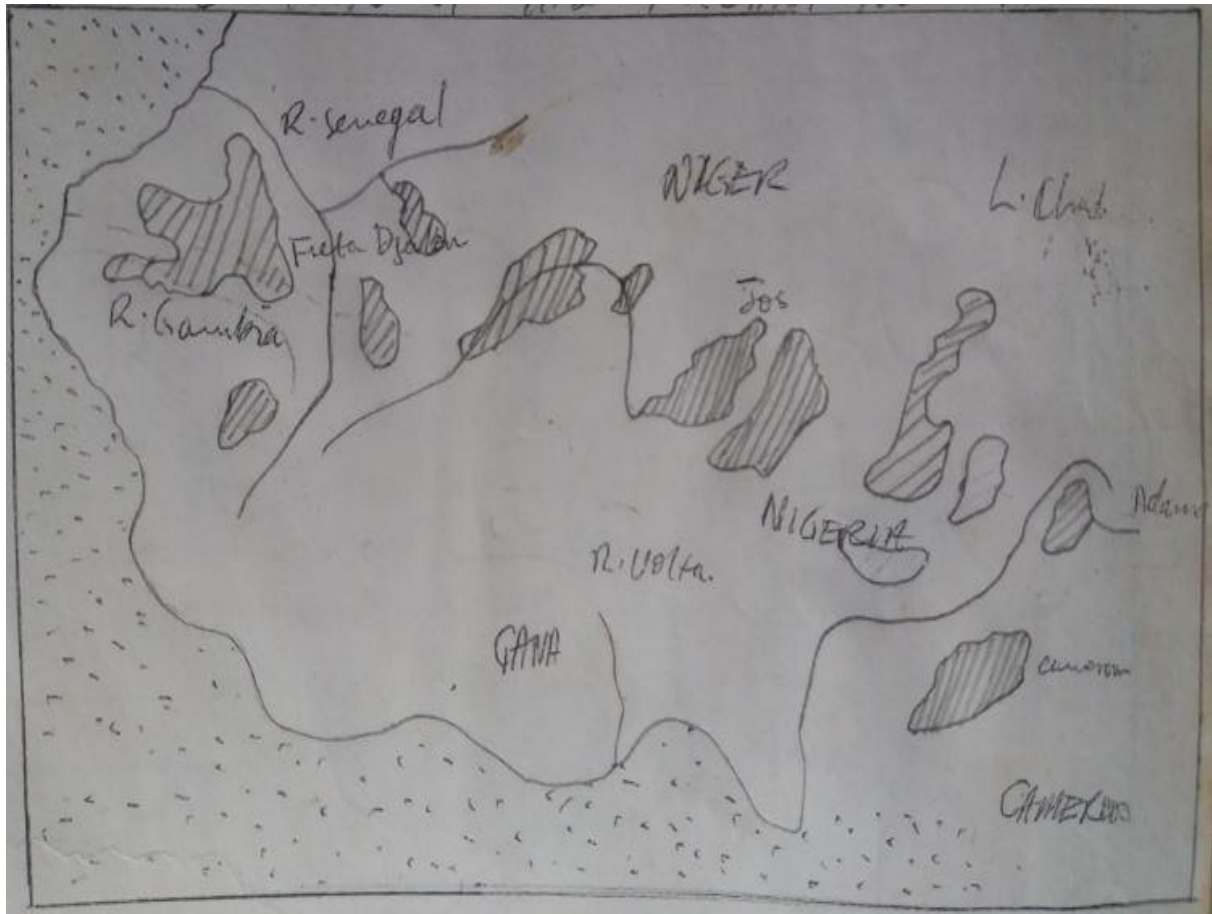
CASE: THE FULANI OF WEST AFRICA

This group of nomads are spread out through the Sahel and savanna zones of the west to lake Chad on the east. They are believed to number over 7 million people. The region experiences long dry season with rain average of 760mm to 840mm per annum and much lower in the southern Sahel with average as low as 500mm.

The vegetation that grows there are palms, baobabs, Shea butter trees, shrubs and some short grass during the rainy season and thorny bushes.

The Fulani make use of the higher plateaus of Futa Jalon, Adamou highlands, Joss plateau and the Cameroon highlands.

A SKETCH MAP SHOWING THE DISTRIBUTION OF THE FULANI IN WEST AFRICA



The nomads here live wholly on the products of their herds and supplement their diet with roots, grains and vegetables through exchange with their neighbors.

The Fulani practice trans-humance that is during the dry seasons when the grass weathers and stream dwindle, the tsetse flies retreat slowly southwards and later move northwards as the rain spread all over the land in April and May. And the Fulani too follow such trend seeking tsetse fly free land.

the Fulani can be categorized into three groups that is the true nomads, trans-humants and the sedentary groups.

Sedentary groups

These group takes into regard those who have adopted arable farming alongside animal rearing and they have permanent settlements.

True nomads

These are basically pastoralists and move from place to place in search for water and pasture. They occupy the drier parts of the Sahel region.

Trans-humants

This group possesses temporary settlements and their movement are seasonal restricted to the dry season when water and pasture are scarce. They supplement on their diet by butchering their animal products with other food stuff like sorghum, millet and cocoa yams.

Problems facing the Fulani nomads are more or less the same with the general problems of the nomads as noted above. That is shortage of water, pasture, poor animal breeds, pests and diseases, wild animals, lack of adequate capital, poor handling by natives, overgrazing resulting from over stocking and many others.

ROLE OF PASTORALISM IN RURAL ECONOMIES

They aid in cultural ways like paying bride wealth.

The pastoral community rely on the skins and hides for clothing and beddings.

It acts as stores of wealth since pastoral communities prefer storing their wealth in terms of animals.

The cattle kept act as symbol for social status and esteem most especially where one owns large herds of animals.

The animals provide food to the local community in form of blood, milk and occasional meat.

The animals are sometimes used as a medium of exchange since, to acquire any other thing they use animals in exchange. For example to get other food stuff like millet, sorghum and many others.

The nomads at the sedentary level rely on animals for their energy to plough their farms for cropping. Besides, bulls are used to pull carts loaded with assorted property during shifting periods and harvesting time for collecting produce.

During cold night, the cow dung and sometimes the bones are burnt to provide warmth to the people.

The cow dung can be further used for decorating walls and smearing the floors by the nomads.

INNOVATION THAT COULD RAISE THE PRODUCTIVITY OF DRY AREAS (NOMADIC AREAS)

Introduction of ranching and paddocking system in cattle keeping areas .

Initiative should be made to plant various nutritious pasture so as to improve quality of animals.

Introduction of better breeds of animals in dry areas and cross breeding.

Changing land tenure system. This will ensure standard utilization of the land.

Introduction of veterinary services in dry areas of Uganda to ensure good health of the animals.

Introduction of irrigation facilities in dry areas and construction of boreholes to reduce the water problems which affect both animals and pastures.

Establishment of milk collecting centers in rural dry areas to provide markets for the farmers milk and enables them to commercialize their farming system.

Improvement in transport to enable easy movement of milk products from rural areas to urban areas for marketing.

Availing credit to rural people in the dry areas through commercial institutions.

Diversification of economies in dry areas.

Education which leads to attitudinal changes in various economies for example of pastoralists can change to commercial and dairy ranching.

Ranching on underground resources can be made and people change their economic outlook.

Afforestation would change the climate and productivity of the area.

Establishment of valley dams and bore holes would be necessary in the dry areas.

LIVESTOCK RANCHING

Livestock ranching refers to the extensive use of land for animal farming which involves the paddocking system to rear animals. The best ranches on the globe are found in the countries within Europe, USA, Australia, New Zealand, Argentina, Botswana, Zambia, Zimbabwe, Tanzania and many others.

CHARACTERISTICS/FEATURES OF LIVE STOCK FARMING

The ranches are usually paddocked by fences which creates a barrier to facilitate rotational grazing.

The land carrying capacity of the farm is normally altered to that is over grazing of the farm does not exist in the ranches.

The farmers do not migrate with their animals like in pastoralism that is there exist permanent farms and circled.

The pastures are improved with re-sown nutritious alfalfa, lucerne, clover (pink or purple white flowers) which are best for animal grazing.

Different types of animals are usually kept with reference to the temperate grasslands of Europe, north land USA and Australia. Sheep are reared together with cattle.

The ranches are scientifically managed for example selective breeding is done for quality promotion, regular disease control and many others.

Enormous amount of money is required to operate such farms. For example to buy machines, attain veterinary services, staff and labour management.

The land is co-operative or state owned.

The farms are extensive and cover hundreds of hectares.

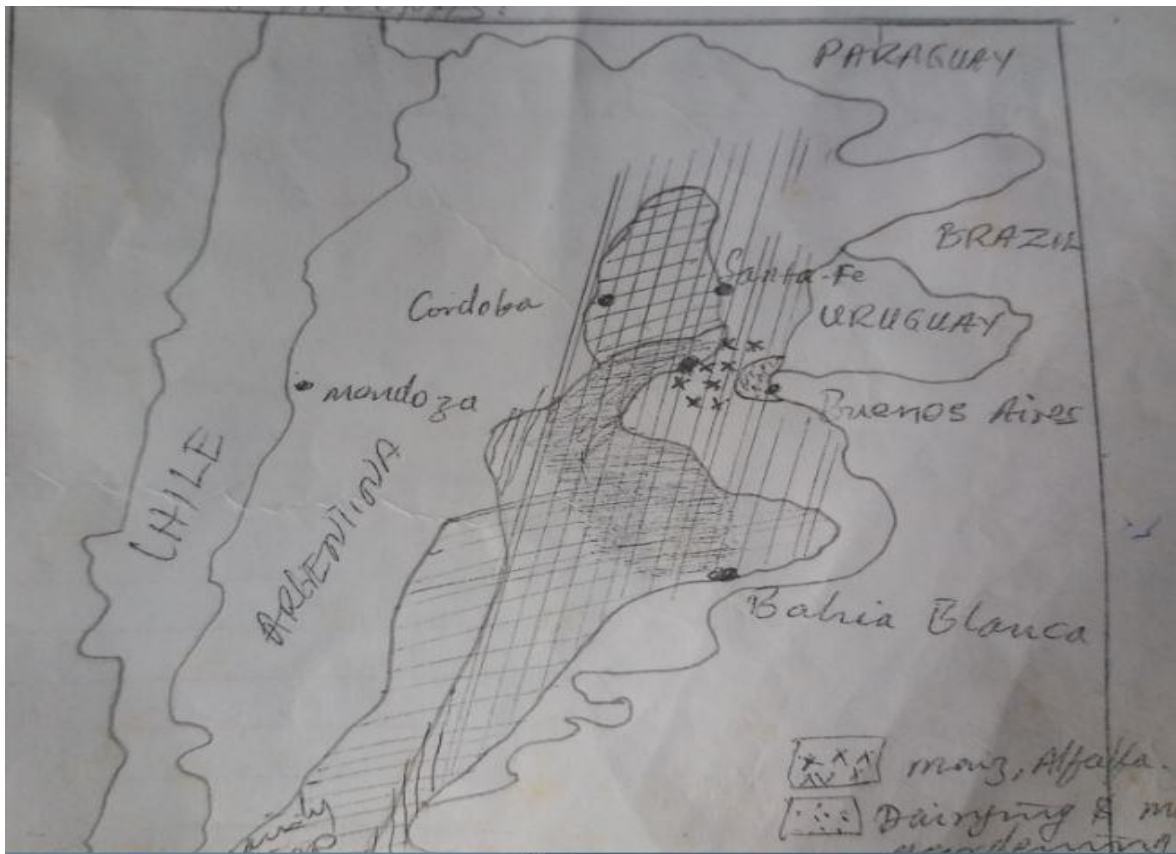
Record keeping is an important feature. The record includes animal number, sales initiatives (policies) being implemented on the farm and many others.

CASE: ARGENTINA

Argentina has about 59 million cattle in the pampas grasslands which accounts for only 5% of the world's cattle population. And the vast majority are kept for beef.

Today the vast cattle farms known as Estancias may be 10,000 hectares (25000 acres) in extent and usually measured by gauchos (cowboys). Smaller farms called chacres are also common.

ARGENTINA'S EXTENSIVE RANCHES ON THE PAMPAS



FACTORS FOR HER RANCHING DEVELOPMENT

The flat relief on the land aided mechanization on the ranches, construction of important infrastructures and easy establishment of Estonians.

Favorable climate that is winters are not wild (not too cold). the north east region is free from frost for about 300 days a year. Summers are warm and much of the pampas receive at least 700mm of rainfall per annum and no marked dry season.

The pampas had open grasslands that were easy to clear and was free from dangerous insects. The pastoduno grass which was naturally on the ground also initially supported the establishment of the ranch.

The migrants from western Europe provided the initial capital for farm establishment.

Population increase in western Brror provided potential market for the beef products of the pampas.

Improvement in transport network especially after the establishment of steamer ships with refrigeration facilities and various railway lines which connect the pampas to the coastal ports like Buenos Aires and Bahia Blanca.

Introduction of improved breed of animals by the early European colonies during the 19th century was another additional advantage for example European cattle breeds like hereherds and alfalfa sown to fatten.

Improvement on skills required for example of handling loans, cross breeding animals, facility maintenance and many others.

BENEFITS

The ranches produce large beef quantity for home consumption and surplus for export to Europe (Germany majorly) and Arab states leading to foreign exchange.

Led to improved diet of the nation with per capita consumption of 100kgs.

It has stimulated the development of industries for example canning factories, leather turning, fertilizers and many others.

Generation of employment .

International relationships.

Improved standards of living.

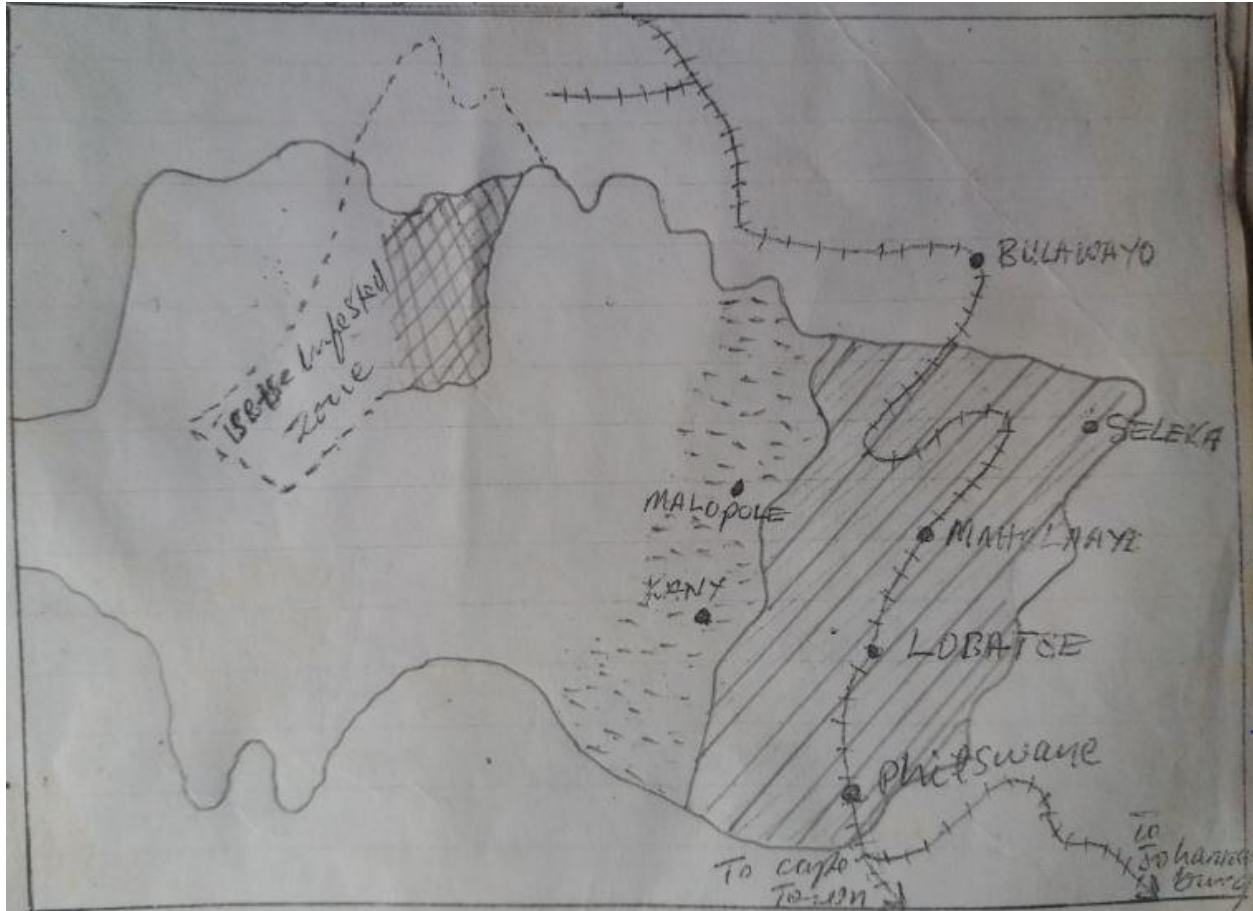
Capital got leads to diversification of agricultural activities.

And many others.

CATTLE KEEPING IN BOTSWANA

Cattle keeping is an important activity in Botswana. Most of the cattle are kept using local methods but in some areas demonstration ranches were established to improve on the industries. Most of the cattle keeping is for beef. By 1964, Botswana had 1.4 million cattle although this number has been fluctuating.

SKETCH MAP SHOWING CATTLE KEEPING IN BOTSWANA



FACTORS THAT HAVE INFLUENCED CATTLE KEEPING IN BOTSWANA

Climate: Most of Botswana receives very little rainfall of between 200mm and 600mm which is not suitable for arable farming. However, this little rainfall allows the growing of pastures and grazing can be done extensively especially as the country is sparsely populated with modern methods. Cattle keeping has successfully fit in this climate.

Relief: Most of Botswana is mountainously flat which is an advantage to cattle keeping industries. As a result, there is easy movement of cattle in search for water and pastures. Also the cattle keepers easily transport their cattle to the industries.

Availability of pasture and water: Botswana has grassland region ideal for cattle keeping. The cattle grazing is done on natural pastures on extensive scale. An added advantage is the presence of some water courses particularly seasonal rivers in the eastern part which are source of water.

There is extensive land available for the keeping of animals. This is because Botswana is sparsely populated. The country has population of about one million in the area of 712,000km² on average. This has made extensive grazing possible.

In Botswana, there are low instances of pests and diseases. Botswana being a semi arid area, there are limited bushes that would attract pests and diseases. It is only a small part of Northern Botswana around Chobe game reserve which is infested with tsetse flies. Thus grazing can be done freely in other parts of Botswana.

Cattle breeds kept are local type which are more adopted to the environment particularly the harsh climate. For example the zebu and Afrikaner. New breeds have been introduced and across breeding is encouraged.

Due to limited economic activities people have resorted to cattle keeping. Crop growing is limited to the unreliability of rainfall. The country is not blessed with minerals nor fishing potential though tourism is relatively important. Thus forcing the people to resort to cattle keeping.

The transport facilities which were constructed in major cattle keeping areas have assisted in the development of the industries for example transport facilities help in the evacuation of cattle and its products to and from the industries and abattoirs.

Both local and foreign markets were available. Beef is the main source of protein to the people and some of it is exported to Britain, south Africa, Angola, Namibia, Zimbabwe, Zambia and many others.

Capital to use in the development of live stock industries was available provided by the European union which time money got from the beef export was used to sustain the industry.

Government policy: the government policy of more diversification of the industry assisted in its development as its first step that is the government established demonstration ranches to demonstrate to the farmers modern application to livestock keeping and its products management. The government also established mobile animal husbandry units which travel regularly across the country.

Modern methods of animal husbandry are being used. The farmers have learnt modern techniques from demonstration farms and extensive officers. Currently farmers use spays, paddocks, do deworming, use supplementary feeds to improve on the cattle quality. The stock is also reduced by selling away mature oxen and other infertile animals.

The establishment of processing industries also acted as stimulant. In the industries, there is packaging and freezing of meat for local consumption and export.

PROBLEMS FACING CATTLE KEEPING IN BOTSWANA

Harsh climate: most areas receive rainfall of less than 500mm which in some cases has led to severe droughts and resulted into the loss of cattle for example in 1964, the cattle in Botswana numbered 1.4 million but later figure had been reduced to 0.6 million in 1967.

Pests and diseases. This is a problem in the northern part particularly around Chobe game reserve.

Poor transport and communication. It is only the eastern part which is well served with a good road and railway network .

There are few industries in Botswana to process the cattle products for export. Its only Lobatse abattoir and factory which is very important.

There is a problem of lack of pasture and water particularly during the dry season. This is a period when the seas and rivers and swamps dry.

Inadequate skilled labour.

Market problems that is inadequate internal market because of low population in Botswana and in external markets, there is competition with other beef exporters like Argentina, Australia and Newzealand.

Keeping mainly local breeds which are of poor quality although they are resistant to diseases.