

# Agroecology Plus Six (AE+6)

Strengthening resilience of small scale farmers in the drylands of the Sahel



Picture from a video “l’homme qui arrête le désert” by Mark Dodd about agroecology in Burkina Faso

## Solution Statement and Implementation Plan

Submitted to the

## Global Resilience Partnership

by  
**Groundswell International**  
and partners

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## Abbreviations and Acronyms

Note: Meanings of Acronyms in French are given in their English equivalents

AGIR	Global Alliance for Resilience Initiative
AGRHYMET	Agriculture, Hydrology, Meteorology research center (part of CILSS)
CCAFS	Climate Change Adaptation and Food Security initiative (part of the CGIAR)
CILSS	Permanent Interstate Committee for Drought Control in the Sahel

DfID	Department for International Development
DRR	Disaster Risk Reduction
ECHO	European Community Humanitarian aid Office
ECOWAS	Economic Community of West African States
EU	European Union
EWS	Early Warning System
FAO	Food and Agriculture Agency
FANTA	The Food and Nutrition Technical Assistance Project
FEWS-NET	Famine Early Warning System Network
FMNR	Farmer Managed Natural Regeneration (of trees)
GAM	Global Acute Malnutrition
HEA	Household Economy Assessment
HDDS	Household Dietary Diversity Score (HDDS)
HH	Household
IAASTD	International Assessment of Agriculture Knowledge, Science and Technology for Development
ICRAF	International Center for Research in Agroforestry
IFAD	International Fund for Agricultural Development
HEA	Household Economy Assessment
OCHA	Office for the Coordination of Humanitarian Affairs (United States)
NGO	Non Governmental Organisation
REACH	Renew Effort Against Child Hunger and Undernutrition
SUN	Scaling Up Nutrition
SES	Social AgroEco System (the farming system including farmers, communities, ecology)
SAREL	Sahel Resilience Learning (USAID supported initiative, linked to REGIS-ER)
SHARP	Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VSLA	Village Savings and Credit Association
WAEMU	West African Economic and Monetary Union
WDDS	Women's Dietary Diversity Score
WFP	World Food Programme

## Section 1: Project Data

### 1.1 Basic Project Data

a. **Title:** **Agroecology Plus Six (AE+6)**

b. **Region:** Sahel (Kaffrine in Senegal, Tominian in Mali, and Eastern Region in Burkina Faso)

c. **Lead Organization:** **Groundswell International**, a 501 (c) (3) registered non profit organization

d. **Target Start Date:** October 15, 2015      **Finish Date:** November 30, 2017

e. **Matching Funds:** National level partners in all three proposed project intervention sites already have on-going program activities, with funding from a variety of other sources. If the AE+6 proposal is successful, these activities will be adapted to more effectively address resilience, scaled up (extended to new villages) and “deepened” by adding complementary strategies.

f. Chart with all AE+6 Resilience Team members

Team Role	Name	Title	Email	Phone No.	Organization
Team Lead	Peter Gubbels	Director for Action Learning/Advocacy (West Africa)	pgubbels@groundswell international.org	+233 20 1379708	Groundswell International
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Picture from a video “l’homme qui arrête le désert” by Mark Dodd about agroecology in Burkina Faso

## Section 2: Innovation and Impact Pathway

### 2.1 Solution Statement and Theory of Change

**a. Main problem to be addressed:** An estimated 12 million small scale farmers and their families<sup>1</sup> in the risk prone, dry land<sup>2</sup> areas of the western Sahel<sup>3</sup> have become chronically vulnerable to food and nutrition insecurity. Depending primarily on growing millet, sorghum, and cowpeas,<sup>4</sup> a growing percentage of dryland farm households, estimated now to be over 20% in the Sahel, has become ultra poor.<sup>5</sup> Even in good rainfall years, they adopt negative coping mechanisms, such as taking exploitative loans, eating their seeds, reducing the number of daily meals and selling of assets. This has resulted in a growing “resilience deficit” and increasing dependence on humanitarian assistance.

**b. Root causes and drivers of this problem<sup>6</sup>**

Traditional farming practices can no longer sustain livelihoods in the wake of declining soil fertility, population pressure and climate change. Gender inequality, poor nutrition practices, and an inadequate community capacity for adaptation exacerbate the problem. Weak governance, marginalization, non-inclusive development policies, inappropriate technical advice, and the inability of small scale farmers to influence policies and government institutions to better address their priority needs are underlying drivers.

**c. Vision of Success:** The AE+6 team envisions a growing movement of small-scale farmers and allies improving their own practices and creating an enhanced enabling environment, contributing to a massive transition by millions of farm households to a productive, sustainable, resilient agro-ecosystems. This will be done promoting agroecology<sup>7</sup> that is equity, gender and nutrition sensitive, integrated with other synergistic resilience measures that enable vulnerable groups to achieve lasting food and nutrition security.

**d. How will AE+6 contribute to systematic change?** Resilience for dry land farmers requires coordinated work across sectors. The most critical component, however, is transforming existing farming practices through agroecology (AE)<sup>8</sup> linked to strengthening adaptive capacity and social capital.<sup>9</sup> AE’s contribution to the resilience of the dryland “social agro-ecosystem” (SES) can be greatly enhanced if integrated with six<sup>10</sup> strategies to address: 1) women’s empowerment 2) social equity 3) nutrition 4) diversified (non-farm) women’s **livelihoods** through savings and credit 5) improved local governance to support **disaster risk reduction** measures 6) effective strategies for scaling including creating a local multiplier effect, networking and alliances with national farmer organizations, documentation, and advocacy to influence policy.

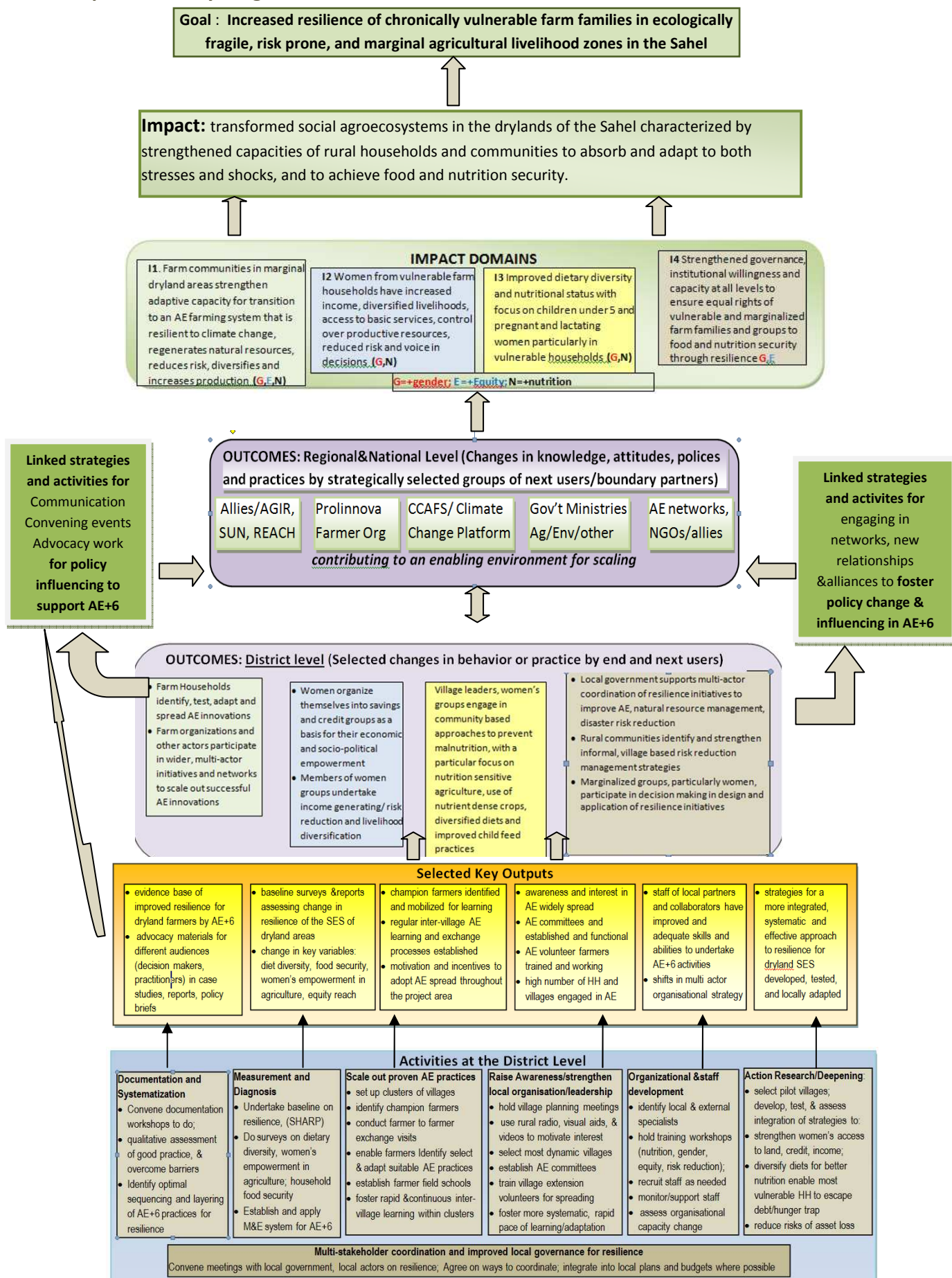
**e. Describe the influencing factors and barriers/incentives?** Dryland farmers, if provided with opportunities, will adapt appropriate low cost AE practices to their farming systems. Humanitarian donors have a huge incentive to reduce billions of dollars spent annually on the growing humanitarian case loads. However, many socio-cultural, political and institutional barriers exist including: strong gender bias, inappropriate agricultural development policies; low institutional capacity for multi-sectoral work.

**f. How you will create change? What short and long term strategies? With whom will you work?**

AE+6 will generate an evidence base in three countries to establish a “proof of concept” of agroecosystem transformative change through progressive sequencing and layering of AE and linked resilience practices. This will be done by supporting vulnerable households and women farmers in 60 communities across 3 countries<sup>11</sup>, in coordination with local government, technical agencies, farmers’ organizations and NGOs to strengthen resilience. AE+6 will create change by: **testing and adapting new practices; empowerment** for social and gender equity; **strengthening the institutional capacity** of its partners and local actors for multi-sectoral action for resilience; **developing a “farmer to farmer” multiplier effect**<sup>12</sup> for scaling out AE; **undertaking “action research”** to integrate gender, nutrition, and risk reduction measures; **documenting lessons learned, results and processes; “leveraging” this learning through communications and advocacy; linkage with national and regional networks**, national farmers organizations, food security and climate change platforms (CCAF<sup>13</sup>/FAO), key actors in the national AGIR<sup>14</sup> (resilience), the USAID SAREL platform, SUN<sup>15</sup>/REACH<sup>16</sup> (nutrition) processes, and through the Sahelian members of **Prolinnova**<sup>17</sup> (an international multi-actor learning network to promote local innovation in ecologically oriented agriculture).



## 2.2 Impact Pathway Diagram



## 2.3 Innovation and Impact

### a. Statement of project impact

The longer term impact of AE+6 is the transformation of social agroecosystems in the drylands of the Sahel, characterized by strengthened capacities of an estimated 12 million people to absorb, and adapt to both stresses and shocks, and achieve sustainable food and nutrition security. Clearly, it is not feasible to achieve such an impact in just 2 years. Instead, AE+6's immediate goal is to contribute to this longer term impact by demonstrating proof of concept (based on evidence) of an integrated approach to resilience suited to dryland areas in 3 dryland areas (in Kaffrine Region of Senegal, the Tominian Circle of Segou Region in Mali, and the Eastern Region of Burkina), each with populations ranging from 150,000 to 300,000. (See map in Annex 1). This grounded field work, coupled with existing evidence, will be leveraged, through communication, advocacy, networks and strategic alliances, for scaling up. In the 2 year project cycle, AE+6's shorter term impacts in three program areas will be **strengthened absorptive and adaptive capacities of the more vulnerable groups** (poorer households and women farmers), benefiting 15,000 people (in total, there are specific targets for women) of 2,000 HH in 60 villages, across 4 domains:

- 1) local farming systems become more productive, diversified, sustainable, resilient, gender and nutrition sensitive; and contribute to regenerating natural resources (soils, trees, water, vegetative cover).
- 2) women in more vulnerable households have increased income, control over productive resources, reduced risk and strengthened voice in decision-making (empowerment)
- 3) pregnant and lactating women and children under 5 in poorer households improve their dietary diversity and nutritional status
- 4) local governance institutions have strengthened commitment, and capacity to support poorer, more vulnerable groups within communities to reduce their risk, and improve food and nutrition security

### b. What are innovative approaches, technologies and institutional arrangements you will employ?

The unique selling point and innovations of the AE+6 approach are: 1) a more appropriate system for innovation and spread of resilient agroecological practices (including agroforestry, soil and water conservation) through farmer experimentation and farmer-to-farmer learning; 2) explicit strategies to integrate gender, equity and particularly nutrition into AE which are currently largely lacking; 3) addressing resilience both as an improved **"process"** (by which actors better coordinate a progressive layered approach for synergy across sectors and as **strengthened capacities** for absorption (of shocks), adaptation (to stresses) and transformation of farming/socio-ecological systems 4) a radical alternative to the conventional top-down, transfer of technology for scaling 5) an action-research dimension to document and systematize principles and best practices that rise above different institutional and policy contexts; 6) linking local level experience in building adaptive capacity for resilience to strategic communication and advocacy at the national level. This will be achieved by supporting civil society organizations and networks to engage in developing policy messages and using strategic opportunities to influence decision makers.

### c. How will your project be scalable and replicable at regional or global level? Be specific in terms of what assumptions you are making about achieving the impact?

The assumptions of AE+6 are 1) IF a **"proof of concept"** of AE+6 can developed showing it is an effective approach to strengthening resilience of resource-poor farmers living in risk prone dry lands, and; 2) IF the progressive sequencing and integration of elements generates synergy and lasting resilience outcomes, and; 3) IF evidence on how to rapidly intensify and accelerate the spread of AE+6 at low cost can be created and; 4) IF these experiences across 3 countries are documented and communicated to strategic actors and; 5) IF existing farmers and civil society organizations, members of AGIR, SAREL, SUN, CCAF platforms, and other allies apply the lessons of AE+6 experiences to improve their own practice and undertake joint advocacy; THEN, governments and donors will begin to shift their financial resources to support a better enabling environment for scaling out AE+6 to eventually reach the 12 million dry land farmers across the Sahel.

### d) What value for money will the project will deliver?

See Section 2.9.4 for the ways that AE+6 project ensures the efficiency and effectiveness of activities, and that the flow between of outcomes, outputs, activities and inputs are realistic, feasible and provide value.

## 2.4 Outcomes

### AE Scaling Out (District)

#### Farm Households

- 1) 2,000 farm households in 60 “scaling out<sup>18</sup>” villages (in three project areas) will select, test and adapt at least 2 improved agroecological farming techniques into their farming systems by October 2017

### AE+6 Deepening (District)

#### Integrating Equity and Women’s Empowerment into AE:

- 2) 360 women from the poorer/most vulnerable households in 18 “pilot villages<sup>19</sup>” across three project areas will gain access to and use productive resources (some combination of land, water, seed, credit, animals) to adopt agroecological farming techniques by October 2017

#### Integrating Nutrition into AE

- 3) 720 farm households in at least 18 pilot villages across three program areas will diversify their agriculture to grow more nutrient rich crops, vegetables, tree fruits and leaves, or animal products, and consume these products to diversify their diets by October 2017
- 4) 720 farm households in at least 18 pilot villages across three program areas will improve feeding practices for pregnant and lactating women, and for children under 5 by October 2017

#### Women’s Organization and Economic Empowerment

- 5) 900 women from 18 “pilot villages” will organize themselves into saving and credit groups, undertake regular savings, and manage their capital to provide members with loans for income generation/livelihood diversification by October 2017

#### Improved Local Governance for Resilience

- 6) Six “commune” governments will convene at least 2 local multi-stakeholder workshops to coordinate, plan and support resilience initiatives to spread/improve AE, natural resource management and disaster risk reduction measures by October 2017
- 7) 18 rural communities across three project areas will identify and undertake methods to strengthen village based risk reduction management strategies (i.e. seed banks, warrantage, climate information, habbanaye) focused on the needs of the poorer farm households by October 2017
- 8) In 18 communities, members of poorer households, and women, will participate in decision making, the design and application of resilience initiatives to benefit them by October 2017

### AE+6 Influencing and Advocacy (National and Regional Level)

- 9) Key national level actors and decision makers engaged in resilience initiative in Senegal, Mali and Burkina Faso, including selected government ministries and technical agencies (Rural Development, Agriculture, Natural Resources, Local Government, Nutrition) as well as donors, research agencies (ICRAF) and UN agencies engaged in AGIR, SAREL (USAID), SUN, CCAFS platforms (i.e. FAO), will have increased knowledge, and more favorable attitudes to Agroecology Plus 6 as a means to strengthen resilience for small scale farmers in the dry lands (by October 2017), leading to a potential shift in priorities.
- 10) Members of the existing social movement in support of Agroecology (national Peasant Farmer Organizations, Women’s Associations, national networks for “regreening”, international agencies supporting AE (OXFAM, CARE World Vision), in each of three countries, (as well as USAID supported resilience initiatives in Burkina Faso -SAREL and Senegal, will engage in at least one major communication and advocacy event designed influence key decision-makers, and foster a favorable environment for scaling lessons of AE+6 for resilience by October 2017.
- 11) Members of the Prolinnova network in West Africa (Senegal, Burkina Faso, Mali) and leaders of national farmer organizations will convene in Senegal by April 2016 to learn key lessons and principles of AE+6, make and apply action plans to scale up adoption in their own operations and networks.

The main assumption of the theory of change that links the causal relationships is that a strong evidence base, developed from grounded field experience, coupled with country specific stakeholder analysis, assessment of opportunities, strengthened relationships with allies and movements, and focused advocacy and communication strategies, will influence the policies, investments and practices of national level decision makers and foster a stronger enabling environment for AE+6.



## 2.5 Next Users and Use of Outputs

**a. Overview of End and Next Users:** The initial level of use of outputs will be at the district level by “end users” (i.e., 2,000 households in 60 “scaling” communities) leading to significant increase in adoption of “basic” AE. Other end users are those specified above in the 18 pilot villages for “deepening” of AE for enhanced resilience. This process will be led by AE+6 team members directly. However, there will be close coordination with other actors, including local government technical agencies, farmers and women’s associations and NGOs. This program experience direct with end users will generate a second level of outputs, the results of action research, to be used by “next users”. Annex 2 provides a stakeholder /network analysis mapping for this influencing. The configuration of networks, allies, and strategic opportunities will vary across countries. It is difficult to predict with confidence the likely outcomes from the outputs. The policy context often changes, shaped by multiple interacting forces. Generally, documentation and advocacy outputs will be designed to generate increased knowledge, supportive attitudes, practices and policies for scaling up AE+6 by the following key multi-actor initiatives.

- **AGIR or the Global Alliance for Resilience** is a regional effort formed to foster improved synergy, coherence and effectiveness in support of resilience initiatives in West African and Sahelian countries. Supported by national governments and donors, AGIR is a policy tool aimed at channelling efforts of regional and international stakeholders towards common objectives of a jointly defined regional roadmap. A key opportunity for influencing by AE+6, either directly or through alliances, is to contribute to the creation of operational frameworks for funding, implementation, and assessment of resilience initiatives.

- **CCAFS** is the CGIAR Research Program on Climate Change, Agriculture and Food Security. It addresses the challenge of climate change and declining food security on agricultural practices, policies and measures through strategic collaboration. It has established multi-actor learning platforms in Kaffrine (Senegal), Bla (Mali) and the Yatenga in Burkina Faso. Agrécol Afrique, in Senegal, is already engaged in the CCAFS platform in Kaffrine. AE+6 will deepen and expand its current engagement in all three countries.

- **SUN or “Scaling Up Nutrition”** is a multi-actor movement bringing together governments, civil society, the United Nations, donors, and researchers—in a collective effort to scale up nutrition, with a core focus on empowering women. SUN promotes nutrition sensitive agriculture to make nutritious food more accessible through support of small scale farming and resilience, including in Senegal, Mali and Burkina.

- **Prolinnova (PROmoting Local INNOVation)** is an international network specialized in enhancing that adaptive capacities of farmers by developing their own site-appropriate systems and institutions for food security, sustained livelihoods and natural resource management. The programme scales up farmer-based approaches developed in a participatory process that integrates IK and scientific knowledge.

**Food and Agriculture Organization (FAO);** The FAO supports “Climate Smart Agriculture” (CSA) and more recently has endorsed and supported the global Agroecology movement. AE+6 has started a collaborative relationship with the FAO, particularly in their training of team members in the “SHARP<sup>20</sup>” method.

### **b. Evidence of demand for the project outputs**

To address the on-going food and nutrition crisis in the Sahel<sup>21</sup>, national governments and donors such as the European Union, USAID see “resilience” as the way to reduce the chronic humanitarian case loads. This reflected generally by the AGIR process but more specifically in the interest in “Climate Smart Agriculture” “regreening” and “agricultural adaptation to climate change.” There is also deep interest by actors engaged in nutrition in more effectively harness agriculture for improved nutritional outcomes through diversified diets. There is a growing international movement in support of Agroecology as a way to address the right to food, most recently reflected in the FAO’s support for AE. The USAID supported SAREL program has established a community of practice on resilience, including AE. In summary, there is a high demand for grounded, well documented experiences in transforming social agroecosystems for resilience.

### **c. Incentives and barriers for next users to actually use the solution.**

1) One set of **barriers to scaling up AE are institutional and political**. This is identified in various political economy analyses of agriculture in the Sahel.<sup>22</sup> Government and development agencies often fail to recognize that small holder farmers in ecologically fragile and risk prone areas require a different approach

to support innovation and spread of improved farming practices. This arises from a deep-rooted **perspective that increasing agricultural productivity requires the delivery of inputs** such as improved hybrid seeds, irrigation, fertilizer, mechanization, and agro-chemicals. Rapid ‘scaling up’ assumes pre-defined technical packages for homogenous farming populations living under the same conditions. Even many initiatives to scale out AE are influenced by this **“technology transfer” bias**, and do not adequately take in account farmers’ differing norms, attitudes, objectives and resource levels.<sup>23</sup> The challenge is to institutionalize a tailored “adaptive capacity” approach.<sup>24</sup>

2) A second set of barriers relates to the challenge **of development actors to explicitly meet the needs of often socially excluded groups such as women and the poorer farm households**. This requires adapting humanitarian tools and approaches for targeting assistance, and; developing differentiated approaches to meet the livelihood needs of more vulnerable groups to help them escape the debt-hunger trap. Many development actors tend to be “uncomfortable” with targeting the poorest in non-emergency situations, because of how it affects their relationships with interests in the wider community. Local socio-cultural attitudes within communities about the role of women reinforce this.

3) A final set of barriers relate to **the low level of institutional capacity for multi-disciplinary, integrated approaches and systems thinking** essential for promoting resilience and reversing the forces degrading social agro-ecosystems. For example the attitude (and training) of agricultural technical staff is not often open to “nutrition” or even to agroforestry.

#### **d. Describe capacity needed for users to understand and effectively apply the project outputs.**

AE is a knowledge intensive process, requiring innovative ways to mimic ecological processes for farming. Small scale farmers already have a base of traditional knowledge on which to build. However, technicians trained in conventional agronomy often do not. Aside from barriers cited above, the formal institutional capacity to scale up an integrated, gender equity, inclusive and nutrition sensitive AE approach for resilience of SES is low. This is why careful documentation, across three country contexts, of how to strengthen institutional capacity for promoting AE at different levels, and overcome barriers, is key.

#### **e) Communication and advocacy strategies to ensure outputs are used**

End Users: AE+6 will use of rural radio, local language videos, field visits, farmer to farmer exchanges, champion farmers, farmer field schools, inter-village sessions & volunteer farmers to scale out AE.

Next Users at the District Level: AE+6 will support local government and technical agencies to convene multi-actor planning workshops to design resilience initiatives, develop coordinated action plans, and establish mechanisms for joint learning and communication of experience. Local government officials will be taken on “caravans<sup>25</sup>” to see relevant programs elsewhere. Where possible, AE+6 members will engage in relevant multi-actor networks (i.e. the CCAFs platform in Kaffrine, Senegal) to learn from and contribute to joint assessment of work. Finally, AE+6, assisted by specialists of IED in Senegal, will hold “documentation workshops” to systematize lessons learned.

Next Users at the National Level: AE+6 will hold two regional documentation workshops, to deepen and synthesize processes, methods, results and impact across three countries, in the form of case studies. This documentation will be used to produce a series tailored communication products for different audiences, including practitioners, farmer organizations, international NGOs, government ministries, and other actors. AE+6 members will use their existing alliances and networks, including national farmers organizations, to convene national multi-actor workshops to address key themes, and present AE+6 experiences. These events will be covered by national media. AE+6 members, or direct allies, who are engaged in the AGIR, SUN, CCAFS, Prolinnova or other national platforms, will present the key findings during major meetings. Finally, AE+6 members will share key documents through social media, including on multiple websites.

**AE+6 recognizes that advocacy is most effective when carried out in alliances, coalitions and networks. All AE members are already engaged with civil society, particularly farmer organizations, and allies, that are part of the AE movement. These relationships will be deepened and expanded for AE+6 advocacy.**

## **2.6 Outputs**

### **Data Bases**

1. AE+6 has entered into a relationship with the FAO to use their SHARP methodology to assess resilience. All survey data collected using the SHARP application software will be uploaded to the FAO data base in Rome.

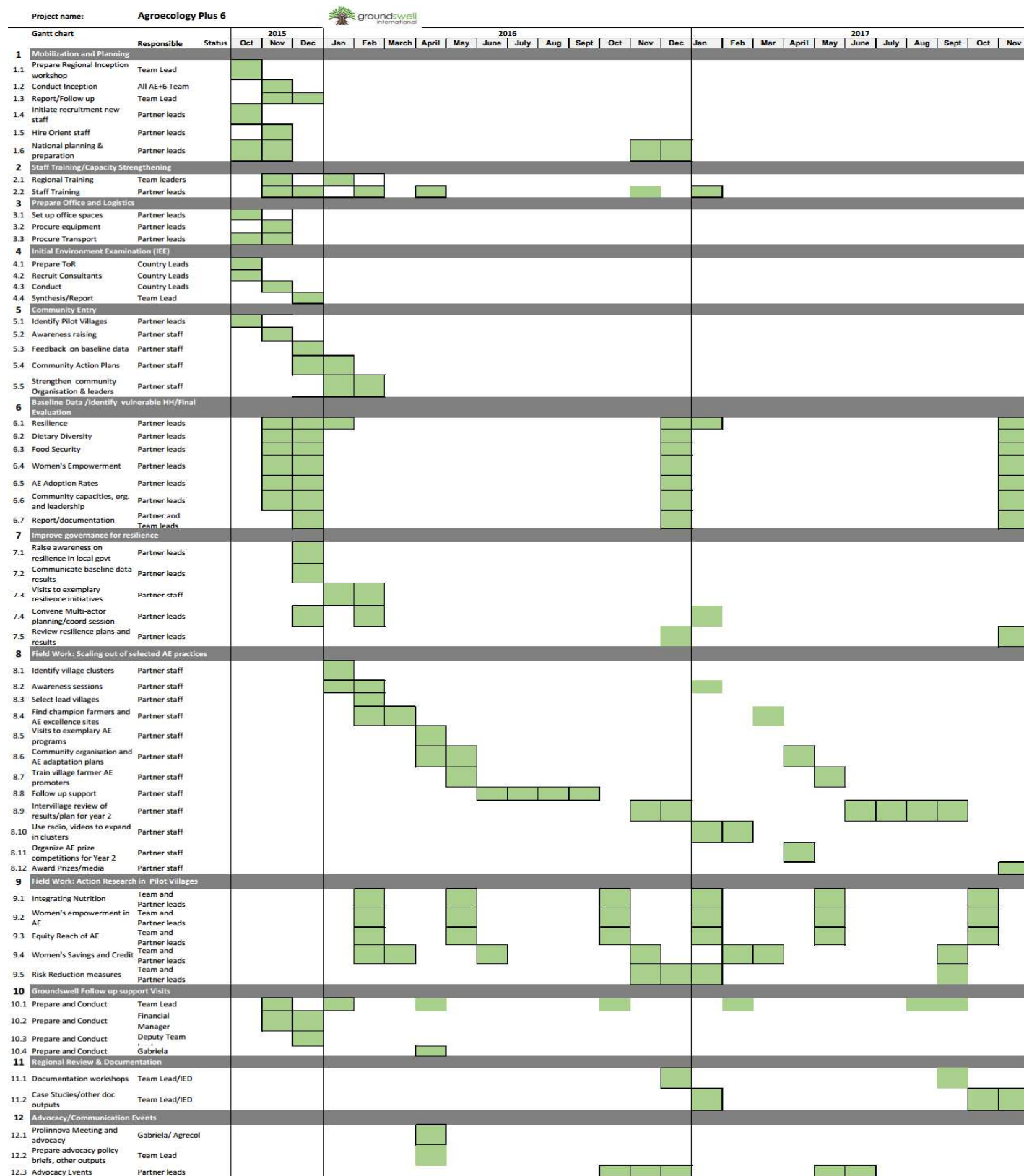
### **Publications (Practitioners)**

2. 3 Case Studies on AE+6's approach for resilience in dryland areas in Senegal, Burkina Faso and Mali
3. Report on process and results of integrating a gender dimension (women's empowerment in agriculture)
4. Report on process and results of harnessing agriculture for improved nutritional outcomes (diversity of diet)
5. Report on process and lessons learned in scaling out agroecology (synthesis of three country experiences)
6. Report on process and approach to identifying, targeting and supporting most vulnerable farm households in agroecology

### **Policy Briefs, News Articles, Radio Emissions, Videos**

7. Policy brief on use of SHARP methodology to diagnose and identify resilience priorities at a decentralized level
8. Policy Brief for SUN and other actors on key policy messages related to making agricultural development nutrition sensitive
9. Policy Brief for AGIR on decentralized process for diagnosis, design and coordination of a multi-actor process for resilience
10. Video on experience with scaling up of Agroecology in a drylands context
11. Media coverage of national level workshops related to AE+6 themes, lessons learned (end of project)

## 2.7 Time Line (Gantt Chart) and Work Plan





## 2.8 Questions and Methodologies

The key (research) questions that the AE+6 project will address are:

1. ***To what extent can the FAO's SHARP methodology for assessing resilience be used by ordinary field workers of local NGOs and farmer organizations and other practitioners, to undertake a comprehensive diagnosis and baseline*** that can be used for identifying priorities and program design? Method: Apply the SHARP methodology in three program areas and contexts. Compare results. Synthesize the lessons.
2. ***What are the most effective methods and approaches for rapid, low cost scaling of agroecology within dryland contexts in the Sahel*** (i.e. not just individual techniques, but a progressive, sequenced transition from traditional farming system to a more productive, sustainable and resilience social agro-ecosystem?) Method: Action Research. Identify existing good practice. Adapt and apply in 3 program sites. Assess and document the process, results, challenges, lessons learned.
3. ***What are the most effective methods, and practices for harnessing agriculture for improved nutritional outcomes, with a particular focus on diversification of diets, in the context of the drylands in the Sahel?*** Method: Farmer led Action Research. Identify existing good practice. Adapt and apply in 3 program sites. Use appropriate data collection tools to assess and document the results, challenges, and lessons learned. Use the Household Dietary Diversity Score (HDDS) and the Women's Diet Diversity Score (WDDS) to assess change.
4. ***What are the most effective methods, and practices for empowering women in agriculture to obtain access to productive resources (land, water, credit, extension services) in the context of the drylands in the Sahel?*** Method: Action Research. Identify existing good practice. Adapt and apply in 3 program sites. Use appropriate data collection tools to assess and document the results, challenges, and lessons learned. Use the Women's Empowerment in Agriculture Index (WEAI).
5. ***What are the most effective methods, and practices for ensuring the benefits of agroecology can reach the most vulnerable, (poorer) households in the context of the drylands in the Sahel?*** Method: Action Research. Identify existing good practice. Adapt and apply in 3 program sites. Use appropriate data collection tools to assess and document the results, challenges, and lessons learned. Use the Household Hunger Scale (HHS).
6. ***What are the limits and potentials for achieving synergies through an integrated approach to resilience addressing agroecology, gender change equity, nutrition and risk reduction, in the context of the drylands?*** What is the optimal sequence and layering of improved practices? Method: Action Research. Identify existing good practice. Adapt and apply in 3 program sites. Use appropriate data collection tools to assess and document the results, challenges, and lessons learned.

NOTE: The overarching causal linkage between outputs, outcomes and impact is based on the assumption that these questions are highly relevant to both policy makers and practitioners. If action research work produces credible evidence, and the lessons learned, methods and principles are effectively communicated this will influence the policies and practices of other actors, and contribute to scaling.

## 2.9 Measuring Progress towards Outcomes

### 2.9.1 Indicators

#### a. Resilience:

Use of the FAO's SHARP<sup>27</sup> methodology to holistically assess change in resilience: the **SHARP** methodology<sup>28</sup> emerged from a multi-step process led by the FAO that reviewed and analyzed twenty existing tools for resilience assessment by academics and practitioners.<sup>29</sup> SHARP uses 13 key resilience and sustainability indicators for transition of farming systems from traditional to agroecological farming within a SES.<sup>30</sup> Briefly, these include: diversity, increased livelihood options, improving biological processes, improving production and nutrition levels, reversing soil and water degradation, strengthened adaptive capacity at the household and community levels, levels of self-organization, and redundancy in the SES. The AE+6 partners and staff have already been trained by the FAO in the use of SHARP in Stage 2 of the GRC. Aside these core indicators, SHARP also addresses nutrition and gender, and can be tailored to assess and compare the resilience needs of specific groups, including women, and more vulnerable households.

#### b. Women's Empowerment in Agriculture:

The "Women's Empowerment in Agriculture Index" (WEAI), launched by IFPRI, Oxford Poverty and Human Development Initiative (OPHI), and USAID's Feed the Future in February 2012. It is the first comprehensive and standardized measure to directly capture women's empowerment and inclusion levels in the agricultural sector.

Figure 2: The Five Domains of Empowerment in the WEAI

Domain	Indicators	Weight
Production	Input in productive decisions	1/10
	Autonomy in production	1/10
Resources	Ownership of assets	1/15
	Purchase, sale, or transfer of assets	1/15
	Access to and decisions on credit	1/15
Income	Control over use of income	1/5
Leadership	Group member	1/10
	Speaking in public	1/10
Time	Workload	1/10
	Leisure	1/10

#### c. Food Security (Equity reach)

The Household Hunger Scale (HHS)—is a new, simple indicator supported by The Food and Nutrition Technical Assistance Project (FANTA). It is designed to measure the prevalence of household hunger in food-insecure areas. It involves a limited set of occurrence questions asking whether or not a specific condition associated with the experience of food insecurity ever occurred during the previous 4 weeks (30 days). The HHS is different from other household food insecurity indicators in that it has been specifically developed and validated for cross-cultural use. This means that with the HHS, the AE+6 initiative will not only be able to establish a baseline and assess how best to design and evaluate strategies, but the results will be comparable across the 3 program areas in Senegal, Mali and Burkina.

It is important to note that the HHS focuses on the food quantity dimension of food access and does not measure dietary quality. Additionally, because the HHS is a household level indicator, it does not capture data on food availability or food utilization. The intent is to use the HHS during or directly after the worst of the lean season, as this is when the greatest number of households is likely to be affected by food insecurity. However, these results will not distinguish those who are chronically food insecure from those who are only episodically food insecure during the lean season.

#### **d. Dietary Diversity (Improved Nutrition assessed by HDDS and the WDDS)**

Dietary diversity is a qualitative measure of food consumption that reflects household access to a variety of foods. It serves also as a proxy for nutrient adequacy of the diet of individuals. The dietary diversity questionnaire represents a rapid, user-friendly and easily administered low-cost assessment tool. Scoring and analysis of the information collected with the questionnaire is straightforward. The dietary diversity scores consist of a simple count of food groups that a household or an individual has consumed over the preceding 24 hours. The household dietary diversity score (HDDS) reflects the economic ability of a household to access a variety of foods. Studies show that an increase in dietary diversity is associated with socio-economic status and household food security.

The individual dietary diversity score aims to reflect nutrient adequacy. Studies in different age groups have shown that an increase in individual dietary diversity score is related to increased nutrient adequacy of the diet. According to FANTA, scores have been positively correlated with adequate micronutrient density of complementary foods for infants and young children. A recent (2010) research project has developed a Women's Dietary Diversity Score (WDDS) module which the AE+6 team will use.

#### **e. Other Indicators**

The monitoring and evaluation of the AE+6 initiative will be multi-dimensional and apply multiple methods, (including community based participatory monitoring) using visual indicators, because:

- some objectives relate to scaling out (accelerating the spread and adaptation of proven AE or re-greening related innovations across many villages in each agro-ecological area)
- other objectives relate to “deepening” in fewer villages (testing and developing innovations to diversify women's livelihoods, to improve nutrition, and to integrate gender and equity within AE)

For scaling, the Groundswell AE+6 resilience team will assess changes using “sentinel village sites” (a limited number of villages) representative of the wider scaling out effort. Data will be disaggregated by gender and household economy level. Below is a more comprehensive list of indicators that the AE+6 team will use to assess changes at the outcome level:

#### **Transition to an AE farming system**

- # and % of households adopting and applying new AE technologies,
- Changes in household asset ownership
- Self perceived coping/adaptive capacity
- % of households with access to positive risk reduction strategies

#### **Women's empowerment/strengthened or diversified livelihoods**

- Changes in the diversity and level of livelihoods
- Increase in assets or income
- Access to credit and productive resources
- Self perceived increase in confidence, participation in decision-making
- % of women with direct access to positive risk reduction strategies

#### **Improved nutrition**

- dietary diversity of pregnant and lactating women and children under 5 years
- % of children 6 to 23 months of age that received a minimum diversified diet
- % of mothers practicing appropriate care/feeding practices
- % of men/women with positive knowledge and attitudes about care/feeding practices

#### **Strengthened governance and institutions**

- Strengthened community based organizations, leadership and participation (women and men)
- Improved local government capacity to coordinate and support multi-actor, initiatives for resilience

- Improvements in local government structures, laws or programs for resilience (natural resource management, early warning/response, risk reduction)
- Strengthened capacity and initiatives of farmer organizations and allies for advocacy (national level)
- Strengthened capacity and initiatives by community based organizations for risk reduction

#### **f) Milestones**

AE+6 project, since it addresses households and communities engaged in agriculture, is obliged to follow the rhythm and pace of the agricultural season. In this perspective, AE+6 sets the following milestones:

January 30, 2016

- Inception workshop and a follow up staff capacity strengthening workshop organized and held
- New staff recruited, oriented, initial trained, given transport, office space and other equipment
- IEE evaluation, SHARP-Resilience, Dietary Diversity, Women's empowerment in agriculture, AE adoption rates, and community capacity assessments completed
- Villages for scaling out, and pilot villages for deepening identified; community entry completed
- Strategies for addressing nutrition, equity, women's empowerment refined based on engagement of consultants, learning from good practice of other agencies, and joint training

June 30, 2016

- Household Hunger scale index carried out in pilot villages during the peak of the lean season
- All AE+6 community awareness raising, exchange visits, organization, training work implemented before the rains begin
- Actions for improved local governance, including convening of multi-actor planning and coordination workshop completed

December 31, 2016

- All year 1 AE+6 fully implemented. Mid-term results evaluated including through inter-village learning sessions and with local government officials
- Regional meeting held to share and compare results, initiate documentation, learn main lessons, adapt and improve strategies for year 2.
- Coordination and support plans established for Year 2

June 30, 2017

- Household Hunger scale index carried out in pilot villages during the peak of the lean season
- All year 2 AE+6 community awareness raising, exchange visits, organization, training work implemented before the rains begin

November 2017

- Final Evaluation data collected
- Regional meeting held to share and compare results, initiate documentation, learn main lessons
- Case studies, reports, and advocacy outputs prepared
- Communication and advocacy events carried out

#### **2.9.2 Baselines**

The AE+6 team has obtained data from several baseline studies during Stage 2. One example is a comprehensive baseline survey undertaken by CCAFS in Kaffrine, Senegal. Another is a survey that indicates the level of adoption of AE innovations in Tominian region, disaggregated by household socio-economic levels. This existing baseline data from all three program areas has been useful for guiding the solution statement in Phase 2. However, AE+6 team will undertake a coordinated approach to establishing its own, adapted baseline data in each of the three program areas, focused on the specific outcomes and impact to be achieved, using the tools and indicators described above.



### 2.9.3 Logical Framework

Narrative Summary	Indicators	Data Sources	Assumptions
<b>Project Goal</b> <b>Increased resilience of chronically vulnerable farm families in ecologically fragile, risk prone, dryland agricultural livelihood zones in the Sahel to food and nutrition insecurity</b>			Other measures, such as Early Warning systems (EWS) early humanitarian response, health services social protection are also required for resilience
<b>Project Purpose/Impact</b>			
Progress toward transformed, more resilient social agroecosystems (SES) in the drylands of the Sahel characterized by strengthened capacities of rural households and communities to absorb and adapt to both stresses and shocks, and to achieve food and nutrition security.	SHARP uses 13 key resilience and sustainability indicators for to assess a SES. <sup>31</sup> These include: diversity, increased livelihood options, improving biological processes, improving production and nutrition levels, reversing soil and water degradation, strengthened adaptive capacity at the household and community levels, levels of self-organization, and “redundancy”.	FAO’s SHARP survey methodology, applied in “sentinel” villages to be reached by AE+6, (selected randomly) before and after the planned 2 year intervention	The AE+6 initiative cannot, by itself achieve lasting, optimal resilience. But the promotion and scaling of of AE, which is also sensitive to women’s empowerment, nutrition, equity issues, and to enhancing social capital, will, in 2 years, generate measurable results of progress.
<b>Outcomes</b>			
<b>Scaling of AE</b> Improved AE innovations are adopted	<ul style="list-style-type: none"> <li>No of new farm households</li> <li>No of improved AE techniques</li> <li>No. of new women farmers</li> <li>No of new villages</li> </ul>	Baseline data survey Monitoring (end of every growing season) Final evaluation	Proven AE practices such as agroforestry (FMNR), Zai planting pits, stone bunds on the contour, will interest communities and quickly spread if promoted effectively
<b>Women’s empowerment</b> Women gain improved access to productive resources for AE farming  Women engage in women’s savings and credit groups	<ul style="list-style-type: none"> <li>No of women farmers with improved access to land and credit</li> <li>New AE techniques adopted by women farmers</li> <li>No. of new women members</li> <li>No. of new savings&amp;credit groups</li> <li>Increase in group savings</li> <li>No of loans made to members</li> </ul>	Baseline data survey Monitoring (end of every growing season) Final evaluation Baseline survey Key informant interviews with women leaders after Year 1 and Year 2 in pilot areas	Existing experiences by CARE and others on enabling women to access land, can be adapted and spread; Women, including those from poor HH, will be willing to engage in savings and credit if supported
<b>Nutrition</b> Adoption of improved practices to diversify diets and for child feeding	<ul style="list-style-type: none"> <li>No of men and women farmers diversifying crops</li> <li>No of women with improved diet;</li> <li>No of children under 5 with improved diets/feeding</li> </ul>	Use of Individual Dietary Score (IDDS) methodology Monitor change in child feeding practices	Men and women farmers will, if provided nutrition education and support, modify their farming system for improved nutrition and diets
<b>Governance</b> Local governments at commune level support multi-actor coordinated resilience initiatives	<ul style="list-style-type: none"> <li>No. of communes engaged</li> <li>No and type of new or improved resilience (or risk reduction) initiatives undertaken</li> <li>No of multi-actor meetings for planning resilience convened</li> </ul>	Field reports Key informant interviews at project end	Elected commune officials, technicians, local NGOs, traditional and religious leaders will be willing to modify their procedures to target and support more vulnerable HH for resilience if given support
<b>Equity Reach</b> Poorer, more vulnerable households engaged in	<ul style="list-style-type: none"> <li>No of men and women of poorer households (in pilot villages) engaged in decision making and implementation of</li> </ul>	Monitoring by partner staff field officers	Relatively low cost innovations and strategies exist to enable poorer HH to build assets and

activities to increase assets, income for more resilient livelihoods	resilience activities suited to their specific needs		escape the hunger/debt trap
<b>Advocacy/Influencing</b> Key national level actors/ decision makers change their resilience policies and organizational practices influenced by the documentation and advocacy activities supported by AE+6	<ul style="list-style-type: none"> <li>Changes in organisational policies and practices related to resilience</li> <li>No and type of national level actors, including farmers organisations, networks, platforms, AE social movement members influenced by AE+6 work</li> </ul>	Key Informant interviews with key national level actors Reports on focused Advocacy events such as workshops, forum, media events.	-AE+6 will be able, in 2 years, to generate a compelling evidence base; The urgency of reducing humanitarian case loads, strengthening resilience, and adapting to climate will overcome barriers; AE+6 will be able to engage in alliances & networks for effective advocacy
<b>Outputs</b>			
Strategies for more effective, systematic approach to resilience for dryland farming systems tested and local adapted	<ul style="list-style-type: none"> <li>No of case studies and reports describing context, process, results, and lessons learned produced</li> </ul>	Existence of case studies and related reports	AE+6 staff will, if assisted by IED Afrique, generate good case studies  Two years will be sufficient for generating robust results
Communication and advocacy materials related to AE+6 action research results created	<ul style="list-style-type: none"> <li>No and type of communication and advocacy materials produced</li> <li>(See section 2.6)</li> </ul>	Existence of communication materials	Sufficient time will be available near the end of the project 2 years, to engage in advocacy and communication events
Awareness, knowledge and interest in AE, and in ways to scale and deepen AE, increased among multiple actors at local and national levels	<ul style="list-style-type: none"> <li>No and type of actors and engaged in AE+6 activities and events</li> <li>No and type of actors reached with advocacy/communication materials</li> </ul>	Key informant interview Workshop and event reports	It will be possible for AE+6 and/or our allies, to engage in national level resilience processes and to communicate key messages from our action learning work
AE committees, volunteer promoters and farmer champions identified and mobilized; inter-village learning process established	<ul style="list-style-type: none"> <li>No of AE committees and champions that are operational</li> <li>No of volunteer AE promoters trained and working and no. of inter-village learning sessions</li> </ul>	Monitoring reports of field work	Communities will be motivated and willing to engage in strengthened self organization for resilience in program areas if supported
Staff have improved knowledge and skills for promoting AE+6	<ul style="list-style-type: none"> <li>No of partner and collaborating agency staff trained and oriented</li> </ul>	Workshop and training reports	Staff will be interested and motivated to learn, expand their disciplinary boundaries
<b>Inputs/Activities:</b>			
<ul style="list-style-type: none"> <li>See activities Section 2.2</li> </ul>	<ul style="list-style-type: none"> <li>Budget Variance and Financial narrative on input use</li> </ul>	Quarterly activity reports	Budgeting of resources, of staff and time (work plan) is adequate to achieve outputs

#### 2.9.4 Value for Money Plan

The AE+6 team consulted with potential collaborating actors to co-develop the design of the interventions adapted to each country and program context. This is a key determinant of value for money, to **review the evidence base of already proven and apply locally adapted solutions**. Another issue to achieve value for money, that was part of the design, was to determine which activities across sectors, if integrated, **achieve optimal synergy** (the women's savings and credit, nutrition, gender and equity activities are an example), and to verify the assumptions of what innovations can be quickly taken to scale, and with which partners. In Stage 2, Groundswell's AE+6 team gave careful attention to these tasks, to ensure the flow of outcomes, outputs, activities and inputs are realistic, feasible and effective, and provide value.

To assess value for money, the team leader will put into place management guidelines to ensure efficiency and economy (mostly through quarterly budget variance analysis). Beyond these guidelines, the AE+6 team will use three important indicators to monitor value for money:

1. **Effectiveness:** Quantity and quality of benefits generated for the participating households, determined by the extent of adoption rates of new AE and linked practices, and the cost per household (particularly for scaling).
2. **Equity:** number of poorer/more vulnerable households in each pilot village engaged in and benefiting from AE+6 activities
3. **Learning and Adaptation of Strategies:** number and type of changes made after review of progress to determine what is working, and what improvements can be made.

A more systematic discussion about how AE+6 will address value for money follows:

**Adaptive management, innovation and continuous learning by doing:** Once the logical framework for AE+6 is fully developed, the Groundswell AE+6 team will invest strongly in “adaptive management”. This will entail regular (semi-annual) interdisciplinary regional team meetings. The AE+6 team will review process and results in each intervention area, assess the influence of contextual factors, within an action learning mode. The aim will be to assess the initial assumptions, learn lessons, and adjust the AE+6 strategies, particularly leading into Year 2. Comparative analysis of experience across three country contexts will contribute to continuous learning, improvement, and value for money. Peter Gubbels, the team leader, will lead this process.

**Economy:** The AE+6 initiative is designed not to require extensive procurement of external inputs. The AE approach substitutes agroecological knowledge and local labor for increasing farming system productivity, and resilience. The proposed women’s credit and savings initiative will also depend on mobilizing local capital, rather than external credit. The input costs will be local staff (who speak the local language and know the culture), regional consultants to support the nutrition and gender dimensions, and support to strengthen the inter-disciplinary capacity of staff and other actors. Groundswell will recruit highly qualified staff to ensure good coordination, rigorous financial management, and program oversight. For other inputs such transport (motorcycles for staff) Groundswell will upgrade and apply its procurement policy.

**Efficiency:** The most important factor to ensure that inputs will generate the expected outputs is the quality of the technical, management and methodological support. This depends not only on good staff awareness raising and training activities, but also on the organizational development of partners and collaborating agencies to apply innovative scaling, gender, equity, nutrition dimensions of AE+6. The Groundswell team has highly experienced members who can do this well.

**Effectiveness:** Several factors ensure that AE+6’s planned outputs will generate the intended outcomes. First, in the current design stage, team members are identifying AE innovations already proven to be successful locally for strengthening resilience. With such evidence, and the use of farmer-to-farmer methods for adapting and scaling out these innovations in new program areas, Groundswell is confident to promote quick spread at low cost. Second, the Groundswell team plans to mobilize and leverage existing networks, platforms and local organizations that already have relationships with villages, to support the implementation of AE+6. With the coordination of local government, the aim is to develop innovative processes for multi-sectoral work to strengthen resilience. The aspect of AE+6 that presents the greater challenge for effectiveness is to strengthen national level advocacy for AE+6, including a voice at the AGIR level. This aims to foster an enabling environment, and improved governance, in support of AE+6. This will take time. Rigorous documentation and evidence of “proof of concept” through the SHARP methodology is the strategy.

**Equity:** The AE+6 initiative recognizes a trade-off between “efficiency” and equity. This is because AE+6 explicitly seeks to work in more remote, marginalized areas, and undertake a differentiated strategy to

meet the needs of not only the more food insecure/poorest households, but of women within these households. This is linked a strategy to address the practical gender needs of women, but contribute to strategic gender change to empower women farmers. This add to the overall cost (compared to working with better off households), and take longer to achieve.

## Section 3. Achieving the Resilience Challenge

### 3.1 Gender and Equity

**Gender inequality:** The most vulnerable people within farming communities in the Sahel are women and girls because of deep-rooted inequalities within the patriarchal culture that keep them in low social positions. Pervasive gender inequality is perpetuated through reduced access to productive assets and basic services (i.e., health, education, credit, and extension) early or forced marriage for girls, and a lack of participation in decision-making. Mali, for example ranks 141 out of 148 countries in the UNDP Gender Inequality Index.<sup>32</sup> Stresses and shocks add to the work burdens of women and girls, preventing them from using their specific skills and knowledge, and decreasing their capacity to adapt. This reinforces their vulnerability and gender inequality. Within agriculture, women face particular challenges in accessing productive resources (land, water, credit) and benefiting from specialized technical advisory services.

**Economic and social inequality:** Even in rural areas with high poverty levels, household economy assessment (HEA) studies across the Sahel indicate a huge gap in food security between relatively poorer households and better- off within the same communities. This leads to erosion of traditional solidarity systems, and fosters exploitive relations. For example, better-off households often make up less than 20% of the rural population, (compared to about 30% for the very poor), but possess 50% of the cultivated land, 65% of the sheep and goats, and often more than 75% of the cattle.<sup>33</sup> Many agricultural and resilience initiatives fail to address the differential livelihood needs of poorer rural families.

The AE+6 project is designed to explicitly address these equity challenges. The AE+6 team has experience in women's empowerment. A combination of strategies will be used. To give only one example, **nutrition will be used as a practical enabling entry point for gender-sensitive resilience programming.** A nutrition lens (i.e., asking who is most at risk of malnutrition and why) leads to activities such as helping women grow vegetables, or ensuring women's availability for child care. Through this, one can address power relations and increase women's access to productive resources, and promote measures to reduce their work load without having to address these directly.

A linked strategy will be to support women's organization and leadership through the creation of savings and credit groups. AE+6 will identify the poorest (most vulnerable) households in pilot villages in each program site, and provide specialized support to women in those households through adapted forms of "habbanaye" (a traditional solidarity mechanism to enable a poor family to increase its assets, but the focus will be either on poultry or small ruminants). Finally, AE+6 will closely track participation of the poorest households in training and adoption of AE practices, and provide additional training or support as needed. To enable poorest households to escape the hunger/debt trap which often exists, AE+6 will consider establishing "warrantage" or collective grain storage schemes.

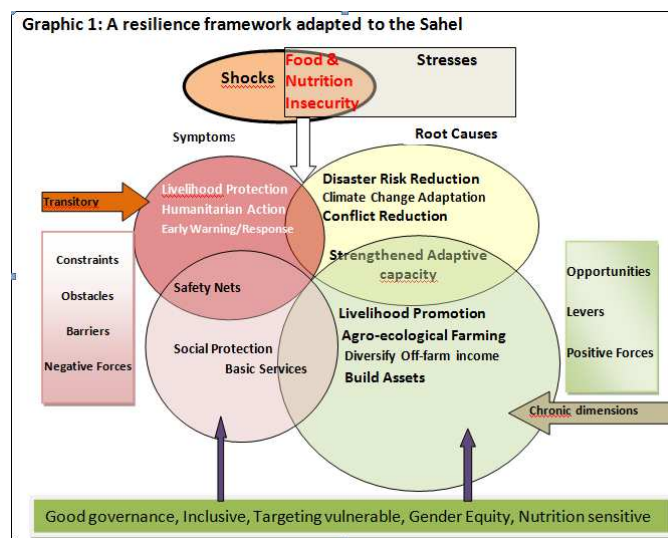
All relevant project data will be disaggregated by gender. Achieving lasting gender change will take more than two years, but baseline and monitoring data will be collected using the Women's Empowerment in Agriculture Index. AE+6 team members who are experienced in gender will provide backstopping. Partners have also identified local gender specialists to provide support not just for technical aspects, but for internal organizational development to overcome weaknesses in gender work.



### 3.2 Resilience

To bring about change, the first question is “**Resilience of what, to what, and for whom?**” For this initiative, the responses are as follows: “of what” is the resilience of the dry land agro-ecosystem in each context (including the natural resources, the people, and their livelihood strategies, often cited as a “socio-agro-ecological system” or **SES**); “to what” is chronic food and nutrition insecurity; “for whom” are the small scale farmers and their families living in the risk prone, ecologically fragile, dry land areas in the 3 selected program areas in the Sahel.

Graphic 1 outlines a resilience framework that guides AE+6 thinking and action. Adapted from several sources, including USAID, and the four pillars of the regional Global Alliance for Resilience Initiative (AGIR), it clearly shows that food and nutrition insecurity has both a “transitory” (related to shocks) and a “chronic” dimension (mostly related to stresses). Strengthening resilience requires coordinated, long term, multi-actor interventions, addressing both the symptoms and root causes of chronic vulnerability. This requires better integration of **humanitarian action** (early response, livelihood protection, safety nets and basic public services), and **development action** focused on livelihood promotion, risk reduction and strengthening adaptive capacity of vulnerable households. This framework indicates there is no “silver bullet” (i.e. a single sector technology), nor a market solution, for lasting improvement in resilience.



“**Agroecology<sup>34</sup> Plus Six**” project will contribute to this resilience framework by undertaking a progressive, layered, multi-sectoral intervention that addresses primarily the “livelihood promotion” and “risk reduction” circles, as well as the underlying drivers (governance, gender, equity, nutrition). Through the “plus six” ways to extend and deepen AE, this initiative will address many (but not all) of the interconnected causes described in the problem analysis. While AE also is not the full solution, the evidence indicates that resilience for dry land farmers is not possible without transforming farming through agroecology. AE is the “foundation” for increased sustainable food production, regenerating the natural resource base, adapting farming to climate change, and strengthening social capital.<sup>35</sup> The project’s assumption is that AE’s potential contribution to resilience can be greatly enhanced if integrated with 6 strategies that create synergy. This will be the focus of the action research.

Holistic change in resilience will be assessed using the FAO’s “SHARP” methodology. This is designed to enable smallholder farmer groups understand what resilience is, and to assess the governance, environmental, social and economic dimensions of resilience. SHARP uses 13 key resilience and sustainability indicators for transition of farming systems from traditional to agroecological farming within a SES.<sup>36</sup>

### 3.3 Sustainability

The main sources of evidence of “buy in” and continued momentum with a broad base of stakeholders for AE+6 lies at the rural community level, on the one hand, and the international level on the other. The remarkable spread across the Sahel of “Farmer managed natural regeneration” of trees, together with complementary soil and water conservation techniques prove that small scale farmers are often quick to adopt AE and “regreening” practices in a favorable enabling environment.

At the international level, scaling-up agroecology has become a central concern of many civil society organisations. La Via Campesina (LVC), the largest peasant movement worldwide, with 164 organisations across 79 countries is strongly advocating for it along with many other civil society actors including scores of non-governmental organizations (NGOs) in West Africa who have been promoting agroecological projects since the early 1980s. The United Nations Special Rapporteur on the Right to Food, Olivier De Schutter, the International Assessment of Agricultural Knowledge Science and Technology (IAASTD), the United Nations Environmental Programme (UNEP), the UN Conference on Trade and Development (UNCTAD), ICRAF, and most recently the FAO have further emphasized the need to spread agroecology. There is growing advocacy for fundamental paradigm shift towards climate resilient, multi-functional agriculture, based on agroecological science and practice.

As noted in section 2.5 c) above, major barriers constrain the degree of urgency and political willingness within governments, and by the private sector/market, for drastic change. Policies, extension services, and market signals, including heavy subsidies for fertilizer and external inputs, remain stacked against agroecology. Another major constraint is that agroecology is knowledge- and management-intensive, and needs to be adapted to specific contexts, making it challenging to take to scale in the conventional way. High labor requirements for some practices may prevent poorer and more marginal farmers from adoption. Insecure land tenure and lack of control over trees can also inhibit the spread of agroecology by discouraging farmers, particularly women, from adopting practices that require long-term investment in land and other assets.

The imperative of adapting agriculture to climate change, and reducing the high cost of humanitarian assistance to address the chronic food and nutrition crisis, ensures that interest and support for AE will be maintained in the Sahel. Advocates agree sustaining the momentum of support for AE requires consolidating the evidence base. AE+6 partners will enhance the sustainability of its work through its action research, and multi-dimensional analyses not just of crop yields, but also of non-commodity outputs, such as forage for livestock, organic manure, ecosystem services, women's empowerment and improved incomes, nutrition and resilience of farming households in the drylands.

## Section 4: Risk Management

### 4.1 Risk Matrix

Risk	Probability	Potential Impact on project	Management Strategy
Political instability	Medium in Burkina and Mali, low in Senegal	Transitional period in Burkina & elections could disrupt national-level policies and ability to do advocacy	Monitor national-level politics and policy processes to seek opportunities, particularly with regional AGIR <sup>37</sup> and existing platforms
Conflict and/or Insecurity by Jihadist insurgency	High in Mali, low in Burkina, low in Senegal	Prevent access to program areas; disrupt national development priorities and resources	Develop contingency planning and security protocols; ensure operations not dependent on expatriate leadership
Food and nutrition insecurity crisis becomes acute due to drought	Low to medium in program areas	Slow or inadequate national response may deepen food insecurity, lead to negative coping mechanisms and disrupt project activities	Develop strong relationships with local and national early warning systems; advocate for early response
Local (commune) governments not open to participatory processes and/or resilience focus in planning/budgeting	Low	Lack of support for resilience initiatives, gender and inclusive processes will undermine local coordination, sustainability and scaling of promising innovations	Undertake effective awareness raising, relationship building and influencing on resilience; engage other national-level leaders in exchange visits
Willingness/capacity of local actors to engage in progressive, integrated multisectoral AE+6	Low to medium	Low level of “ownership” of process, other priorities, lack of resources, and not being open to new ideas may inhibit change	Engage in highly collaborative consultation at each stage of program process; budget resources for engagement
Potential “quick win”, highly scalable options for strengthening resilience not available	Low	Lack of immediate enthusiasm and credibility at both community and local government level	Do intensive research for existing success stories; support farmer-to-farmer exchange visits to generate enthusiasm
Challenge to engage poorest households and to foster gender change for equity	Low to medium	Lack of resources, assets, debt or socio-cultural barriers prevent the most vulnerable households and women from improving resilience of their livelihoods	Raise awareness of staff, partners and communities; apply best practices to differentiate between resource levels and for gender equity
Challenge to strengthen coalitions and capacity for advocacy by civil society /farmer organizations, networks, alliances at national level	Medium	Differing perspectives and priorities and limited capacity in effective advocacy may inhibit amplification of marginalized farmers’ voices to influence AGIR and national policies for AE&6	Invest strongly in strengthening existing relationships with civil society organizations/allies, recognize existing advocacy platforms, but work to influence priorities, strengthen capacity
Local and national level policies and programs and dominant thinking about agriculture not favorable to AE+6	Medium to low, depending on issues. Medium for agroforestry. Laws sometime favorable but application poor.	Bylaws preventing community management of trees on fields, Green Revolution thinking and programs inhibit shifting in finance for scaling AE in marginal dry lands	*Policy change requires time, perseverance & seizing strategic moments; *build a solid evidence base “proof of concept” to leverage AGIR process ; *strategically leverage support from champions within policy circles

## 4.2 Social and Environmental Impact Assessment

**Environmental safeguards:** All agricultural practices have potential environmental impacts. Most of these are exacerbated in the ecologically fragile dry lands of the Sahel. To ensure environmental and social integrity, and the long-term sustainability and resilience of dry land farming systems, the AE+6 initiative has established safeguards designed to protect environmental resources, ecosystems and the health and livelihoods of smallholder farmers, to guide the intensive consultations with local actors. This consists of a “do-no-harm” checklist. It contains principles for sustainable project design aimed to reduce negative environmental impacts of potential interventions. This do-no-harm checklist includes preventing or avoiding: repeated monoculture; over-use of inorganic fertilizers that acidifies soil and pollutes water; deep tillage plowing; dependency on improved plant varieties that demand high levels of external inputs such as inorganic fertilizer, pesticides and herbicides; careless or negligent use of pesticides that leads to poisoning, particularly in dry-season gardens; over-abstraction of local groundwater or surface water from wetlands; land-clearing activities such as slash and burn that contribute to deforestation and biodiversity loss; increased livestock holdings (i.e. goats) without steps to prevent overgrazing, by increasing fodder availability. It is important to note that AE, by its nature, is designed to regenerate the natural resource base. The well documented spread of “Farmer managed natural regeneration” (FMNR) of trees in the Sahel, together with soils, water and biodiversity, is an example.

**Social and governance safeguards:** These include preventing marginalization of women and resource-poor farm households through non-participatory, socially non-differentiated and gender-blind activities. This may entail facilitating tenure or user rights over land and water, tailoring specialized access to advisory and support services (such as credit) and ensuring that women’s workloads do not increase and their ability to ensure childcare is not weakened. AE+6 will support bylaws and local/national governance in alignment with “do-no-harm” principles.

If awarded a full grant by the GRC, the AE+6 initiative will undertake the full IEE process as outlined in [http://www.usaid.gov/our\\_work/environment/compliance/22cfr216#216.6](http://www.usaid.gov/our_work/environment/compliance/22cfr216#216.6). It will describe the strategic vision and how principles to do no harm to local natural capital of land, water, flora/fauna, as well as to the people in the SES, will be integrated into the 2-year implementation plan, over baseline levels.



Gabriela Quiroga, although no longer representing an institution, will continue her services as an individual consultant. Her experience is Farmers Organizations; Rural Innovation; Women's Leadership/Gender; Facilitation of multi-stakeholders platforms.

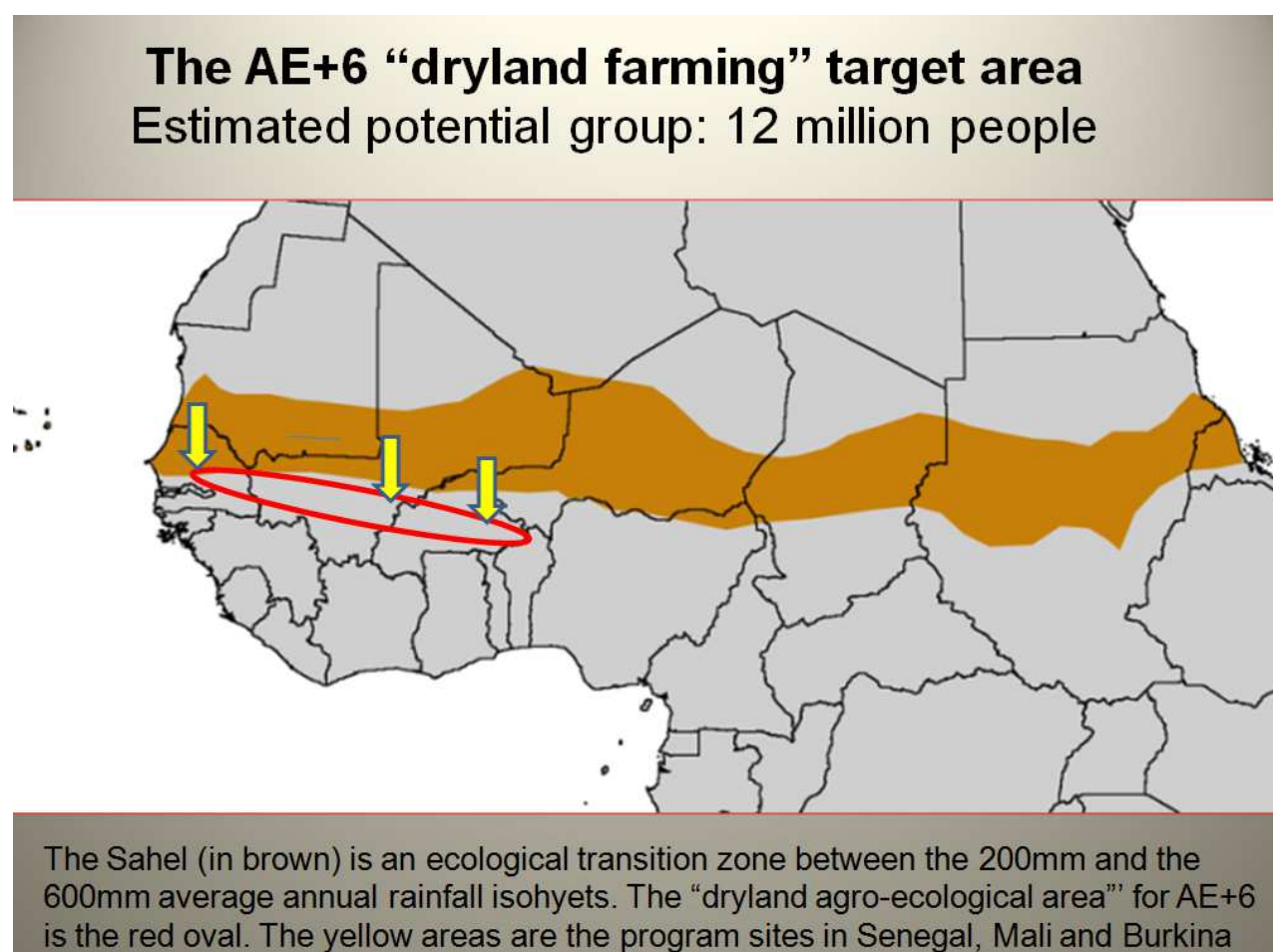
The AE+6 Resilience Team combines a diversity of experience across three countries with an common underlying integrated approach, a coherent set of principles, and a set of good practices for resilience. All resilience team members are based in the Sahel and have:

- extensive experience in supporting poor farmers in the drylands and their adaptive capacity
- worked at multiple levels (household, community,district, regional and national) in support of community resilience initiatives to reduce vulnerability and food insecurity
- are engaged extensive networks and alliances within their countries; have direct knowledge of their context, government policies, innovative programs and good practices in their areas of operation
- have strong connections with research organizations, decentralized government authorities (in their regions of work), advocacy initiatives, farmers organizations, and national movements or platforms
- have institutional credibility for organizing and facilitating multi-actor, and multi-sector processes for planning, design of resilience initiatives

### 6.3 CV and Commitment Letter for each new team member

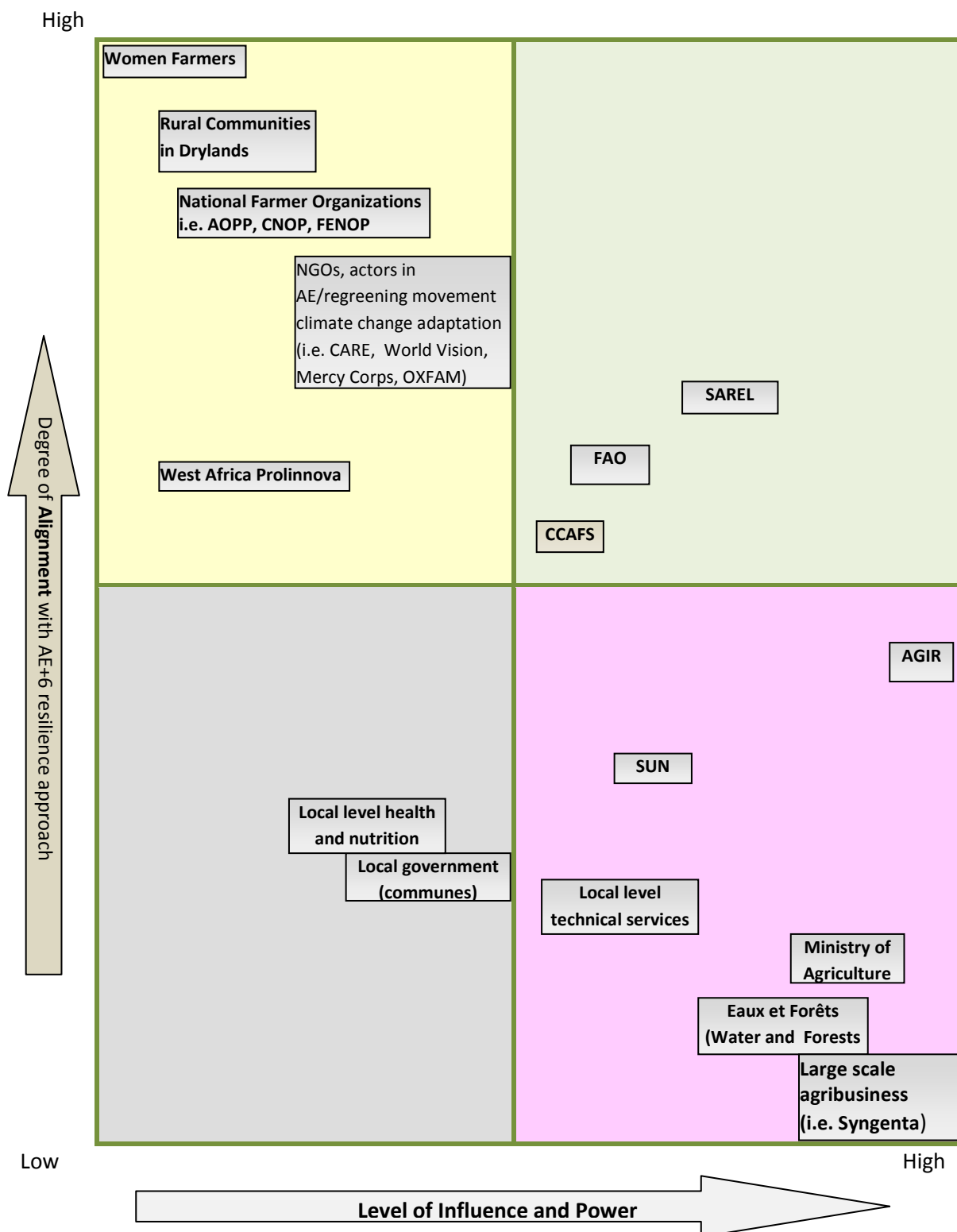
No new members are being added to the Resilience team (all the CVs and commitment letters remain valid.

#### Annex 1: Map of AE+6 Program areas (Dryland Agroecology)



## Annex 2: Stakeholder Analysis and Mapping: Alignment, Influence and Power Matrix

The AE+6 team have extensively discussed the key stakeholders, networks and platforms to influence. The configuration of actors, and the analysis of opportunities, however, varies considerably between countries. What follows is a “generic” stakeholder analysis, based reflecting mostly a typology of actor categories.



The advocacy/influencing strategy of AE+6 will be to strengthen allies, particularly those high in alignment, but low level of influence, to shift to the right (greater voice and influence), while at the same time, working with them to influence the more powerful actors to shift their priorities, policies and investments to be in closer alignment.

This initial analysis will be revised and deepened, together with allies, and be adapted to each country context. Other analytical tools (such as the Force Field analysis, and SWOT (Strengths-Weakness-opportunities-Strengths)) will be used when preparing the communications products and advocacy strategies and messages.

## References and Endnotes

<sup>1</sup> For this report, the Sahel refers to the 8 countries of the “Western Sahel” including Senegal, The Gambia, Guinea Bissau, Mauritania, Mali, Burkina Faso, Niger and Chad. The total population in 2014 is estimated at 86.8 million. Groundswell assumes that about 50% or 40 million) are small scale farmers living in more ecologically fragile drylands (i.e. not including farmers in more high potential agricultural zones, rice growing areas, and also excluding pastoralists, fisherfolk). Household Economy studies from across the Sahel suggest that 30% of small scale farmers are the most vulnerable to food and nutrition insecurity. So this produces this estimate of 12 million people.

<sup>2</sup> The FAO describes drylands as areas where the average rainfall is less than the potential moisture loss through evaporation and transpiration. An aridity index is used to classify drylands into hyperarid, arid, semi-arid and dry subhumid areas. This initiative will work primarily in the semi-arid and dry subhumid areas where millet, sorghum and cowpeas are the main crops and rainfall varies between 500 to 700 mm.

<sup>3</sup> May, John F., Guengant Jean-Pierre, Brooke, Thomas R. (2015) **Demographic Challenges of the Sahel**. Population Reference Bureau p.3 First published in ETVDES 4206 (2014): 19-30. The other countries of the Sahel are Sudan and Eritrea, although the northern parts of Cameroon and Nigeria also exhibit similar conditions and are included in OCHA’s Sahel Response Plan for 2015.

<sup>4</sup> IRIN (June 2008) Sahel : **Backgrounder on the Sahel, West Africa’s poorest region** [www.irinnews.org/report/78514/sahel-backgrounder-on-the-sahel](http://www.irinnews.org/report/78514/sahel-backgrounder-on-the-sahel); USAID Office of Food for Peace. Food Security Desk Review for Mali FY2015-FY2019. Estimates of the percentage of the population who are small scale farmers varies by country, but most indicate this group constitutes at least 50% to 60% of the total

<sup>5</sup> Eijkenaar, Jan (April 2015) **END OF MISSION REPORT – RESILIENCE & AGIR** op cit. p5

<sup>6</sup> This analysis was undertaken in each country (Mali, Senegal and Burkina) through extensive consultation with key actors (civil society, international NGOs, government) at the national and local levels. Details of all actors contacted are available on request.

<sup>7</sup> Agroecology is defined in a variety of ways by researchers and practitioners, and mostly recently is promoted by the FAO. Dr. Stephen Gliessman, in his book “Agroecology; the ecology of sustainable food systems,” (2015) defines agroecology as “the science of applying ecological concepts and principles to the design and management of sustainable food systems”. Others elaborate on this definition, promoting agroecology as a “whole-systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture and local food systems experience.” While the application of ecological principles and practices for sustainable production is a cornerstone of agroecology, many farmer-practitioners and thought leaders also emphasize the importance of agroecology as a social movement and, ultimately, a means of achieving the right to food. Cited in Scarborough, Gregory and Dr. Ernesto Mendez (March 2015) **Discussion Paper Building Resilient Food Systems Through Agroecological Principles and Practices**. Mercy Corps, p.7

<sup>8</sup> The results of soil and water conservation, agro-forestry, and other land and water management technologies in the Sahel have been well documented by many agencies and authors, but not always as “Agroecology”. One example is Winterbottom et al. (October 2013) Installment 4 of “**Creating a Sustainable Food Future**” **Improving Land And Water Management, A Working Paper** World Resources Institute Washington D.C. See also USAID (2014) INVESTING IN SUSTAINABLE AGRICULTURE <http://www.usaid.gov/what-we-do/agriculture-and-food-security/investing-in-sustainable-agriculture>

<sup>9</sup> -USAID (August 2014) Agricultural Adaptation to Climate Change In The Sahel: Profiles Of Agricultural Management Practices

<sup>10</sup> AE’s potential contribution to resilience can be greatly enhanced if integrated with 6 strategies that create synergy: 1) a scaling out strategy using methods that greatly differ from the conventional, top-down transfer of technology 2) equity: explicitly differentiating support to address needs of the poorest, most vulnerable households 3) changing gender relations to enable women farmers to gain access to land, water, credit 4) harnessing AE to improve nutrition and diversify diets. Beyond improving AE in these ways, Groundswell’s AE+6 team will also: 5) improve and diversify the livelihoods of women through savings and credit (strongly linked to improved nutrition), and 6) support locally adapted disaster risk reduction measures in coordination with communities and local government. This is the **AE+6 approach**.

<sup>11</sup> Groundswell's AE+6's team will work in 3 agro-ecological areas with similar livelihoods, rainfall, crops and conditions that characterize dry land farming in the Sahel. These include Kaffrine Region of Senegal, the Tominian Circle of Segou Region in Mali, and the Komondjari and Gourma provinces of Eastern Region of Burkina. Each has populations ranging from 150,000 to 300,000.

<sup>12</sup> The "farmer to farmer" approach to scaling has been used successfully in various countries and contexts. It greatly differs from conventional, top-down transfer of technology by external extension agents which remains the dominant approach by governments.

<sup>13</sup> **CCAFS** is the CGIAR Research Program on Climate Change, Agriculture and Food Security. It addresses the challenge of climate change and declining food security on agricultural practices, policies and measures through strategic collaboration. It has established multi-actor learning platforms in Kaffrine (Senegal), Bla (Mali) and the Yatenga in Burkina Faso. All are close to AE+6 proposed program sites.

<sup>14</sup> **AGIR** or the **Global Alliance for Resilience** has been formed to foster improved synergy, coherence and effectiveness in support of resilience initiatives in the 17 West African and Sahelian countries. It is under the political and technical leadership of ECOWAS, UEMOA and CILSS and is based on existing platforms and networks. Building on the "Zero Hunger" target within the next 20 years, AGIR is a policy tool aimed at channelling efforts of regional and international stakeholders towards a common results framework. A Regional Roadmap adopted in April 2013 specifies the objectives and main orientations of AGIR. Many countries have started defining "[National Resilience Priorities](#)", including operational frameworks for funding, implementation, monitoring and assessment of resilience.

<sup>15</sup> **SUN** or "**Scaling Up Nutrition**" is a multi-actor movement bringing together governments, civil society, the United Nations, donors, businesses and researchers—in a collective effort to persuade national leaders to improve, prioritize and effectively scale up nutrition, with a core focus on empowering women. SUN promotes nutrition sensitive agriculture to make nutritious food more accessible through support of small scale farming as a source of income for women and families. SUN also supports resilience as an approach for improved nutrition. The SUN initiative is present in Senegal, Mali and Burkina Faso

<sup>16</sup> **REACH** was established by the Food and Agricultural Organisation ([FAO](#)), the United Nations Children's Fund ([UNICEF](#)), the World Food Programme ([WFP](#)), the World Health Organization ([WHO](#)) and IFAD to *facilitate* the creation of country-led national coordination mechanisms to assist governments of countries with a high burden of child and maternal undernutrition to accelerate the scale-up of food and nutrition actions. It has a platform in Mali.

<sup>17</sup> **Prolinnova's** approach recognizes the dynamics of indigenous knowledge and enhancing capacities of farmers to adjust to change – to develop their own site-appropriate systems and institutions of resource management so as to gain food security, sustain their livelihoods and safeguard the environment. The essence of sustainability lies in the capacity to adapt. The programme builds on and scales up farmer-based approaches to development that start with discovering how farmers do informal experimentation to develop and test new ideas for better use of natural resources. Local ideas are further developed in a participatory process that integrates IK and scientific knowledge. Joint action and analysis lead to mutual learning.

<sup>18</sup> The "basic" AE process, with an initial "wave" of AE innovations will be rapidly promoted and spread out in these 60 villages

<sup>19</sup> The 18 pilot villages are those in which "deepening" of the basic AE approach will be done, through action research with a particular focus on nutrition, equity, women's empowerment and risk reduction measures.

<sup>20</sup> SHARP stands for Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists

<sup>21</sup> Gubbels, Peter (2014) **Changing Business as Usual: Assessing development policy and practice in the Sahel from a resilience lens**, unpublished report for CARE West Africa. p.8

<sup>22</sup> Watt, Robert (2012) **Adopt or adapt: the political economy of 'climate-smart agriculture' and technology adoption among small-holder farmers in Africa**. Institute of Development Studies, Brighton

<sup>23</sup> USAID (November 2014) Organizational Survey and Focus Groups on Adaptive Practices <http://community.eldis.org/.5c1fe9f0>

<sup>24</sup> USAID (October 2014) **A Tailored View Of Successful Adaptation To Climate Change African And Latin American Resilience To Climate Change** (ARCC) An alternative approach to agricultural development is based on farmer led experimentation, and farmer-to-farmer learning and progressive sequencing and layering of AE practices.

<sup>25</sup> Caravans are a way to directly influence policy makers and high level officials by taking them on a "caravan" or trek of several days to visit highly successful program experiences, and to engage in structured discussions with community and local leaders. It also involves arranging for positive media coverage at major stops.

<sup>26</sup> Their configuration and timing varies across the three countries for contextual reasons. Many of these tasks need to fit into the agricultural calendar, and into the rhythm and pace of community activities.

<sup>27</sup> SHARP stands for *Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists* (**SHARP**).

<sup>28</sup> Choptiany, J., et al. (April 2015) **Self Evaluation and Holistic Assessment of Climate Resilience of farmers and Pastoralists** FAO. Rome

<sup>29</sup> Groundswell International staff participated in this process during an international workshop in Burkina Faso (May 21-23, 2013) organized by FAO.



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<sup>30</sup> These 13 indicators include: diversity, increased livelihood options, improving biological processes, improving production and nutrition levels, reversing soil and water degradation, strengthened adaptive capacity at the household and community levels, levels of self-organization, and redundancy in the SES.

<sup>31</sup> These 13 indicators include: diversity, increased livelihood options, improving biological processes, improving production and nutrition levels, reversing soil and water degradation, strengthened adaptive capacity at the household and community levels, levels of self-organization, and redundancy in the SES.

<sup>32</sup> USAID (Feb 2015) Office of Food For Peace. Food Security Desk Review For Mali, FY2015–FY2019. In Mali, Only 39% of women aged 15–24 years are literate, compared to 56% of men. See also UNDP (2014) Gender Inequality Index (GII) <http://hdr.undp.org/en/content/gender-inequality-index-gii>.

<sup>33</sup> Gubbels, Peter (2014) **Changing Business as Usual: Assessing development policy and practice in the Sahel from a resilience lens**, unpublished report for CARE West Africa. p.8

<sup>34</sup> Agroecology is defined in a variety of ways by researchers and practitioners, and mostly recently is promoted by the FAO. Dr. Stephen Gliessman, in his book “Agroecology; the ecology of sustainable food systems,” (2015) defines agroecology as “the science of applying ecological concepts and principles to the design and management of sustainable food systems”. Others elaborate on this definition, promoting agroecology as a “whole-systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture and local food systems experience.” While the application of ecological principles and practices for sustainable production is a cornerstone of agroecology, many farmer-practitioners and thought leaders also emphasize the importance of agroecology as a social movement and, ultimately, a means of achieving the right to food. Cited in Scarborough, Gregory and Dr. Ernesto Mendez (March 2015) **Discussion Paper Building Resilient Food Systems Through Agroecological Principles and Practices**. Mercy Corps, p.7

<sup>35</sup> -USAID (August 2014) Agricultural Adaptation to Climate Change In The Sahel: Profiles Of Agricultural Management Practices The results of soil and water conservation, agro-forestry, and other land and water management technologies in the Sahel have been well documented by other agencies and authors, but not always as “Agroecology”. (see also Winterbottom, R below).

<sup>36</sup> These 13 indicators include: diversity, increased livelihood options, improving biological processes, improving production and nutrition levels, reversing soil and water degradation, strengthened adaptive capacity at the household and community levels, levels of self-organization, and redundancy in the SES.

<sup>37</sup> See endnote 32 for details.