Agroecology Plus Six (AE+6)
Strengthening resilience of small scale farmers in the dry-lands of the Sahel

Collaboration with PROMoting Local INNOVAtion in ecologically oriented agriculture and NRM?
Basic Project Information

**Areas covered:** Sahel
- Kaffrine, Senegal
- Tominian, Mali
- Eastern Region Burkina Faso

**Resilience Team Partners**
- Groundswell International
- Agrécol Afrique, Senegal
- Sahel Eco, Mali
- ANSD Burkina Faso

**Agro-ecological Zone**
- risk prone, “dry land” semi arid areas where millet, sorghum and cowpeas are the main crops and rainfall varies between 500-700 mm.

**Target Groups**
- 12 million dryland farm families with focus on women
- Farmer organizations/NGOs
- Social movement for AE
- Local governments
- Government policies/ institutions addressing resilience (AGIR platform)
The AE+6 “dryland farming” target area
Estimated potential group: 12 million people
Sahel Context

No of people affected by food crisis in 6 Sahel countries from 1965 to 2011

The overarching driver of the Sahel crisis, is not a **food deficit** caused by drought, but a **resilience deficit caused by a failing agricultural dev. paradigm**
Humanitarian Aid has increased exponentially

Total Humanitarian Funding in Mauritania, Mali, Burkina Faso and Niger in millions of US $
**Root causes and drivers of the crisis**

Traditional farming practices can no longer sustain livelihoods because of:

- **declining soil fertility** (reduced fallow, pop. Increase)
- **climate change**

**Exacerbating factors:** Gender inequality, poor nutrition practices, *inadequate community capacity for adaptation*

**Underlying drivers:** Weak governance, marginalization, non-inclusive development policies, inappropriate technical advice, low capacity of small scale farmers to influence policies and institutions (including agricultural research) to meet their needs
Problems to be addressed

• An estimated 12 million small scale farmer have become chronically vulnerable to food and nutrition insecurity.

• A growing percentage of dry land farm households, (about 20% has become ultra poor)

• Even in good rainfall years, they adopt negative coping mechanisms, (debt, reducing daily meals, selling of assets).

• Chronic Malnutrition of children is at crisis levels

• Increasing dependence on humanitarian assistance Sahel OCHA plan = 1.8 billion USD to reach 20 million highly vulnerable people each year
As land becomes scarce and soil fertility collapses,
Field preparation in Gayeri, Komandjari, Burkina Faso

We cut them down, and we burned them.
How to help Peasant farmer develop « resilient » farming systems in face of climate change?
Sahel’s climate has become unpredictable

There is either not enough or too much rain. It often falls at the wrong time, delaying or shortening the growing season. Droughts and flash floods are both more frequent.

Most alarming are projections of a temperature rise of 3°C to 5°C above today’s already high temperatures by 2050. Crop output can plummet if temperatures rise above a tipping point.

With maize, for example, there is a 0.7% decline in crop production for each 24 hours exposure to a temperature above 29°C. One day of 39°C also causes a 7% decline in maize production.

Yields of sorghum, millet, and cassava are all also adversely affected by rising temperatures. By 2050, scientists predict a decrease in agricultural production of 13% in Burkina Faso, 25.9% in Mali and 44.7% in Senegal.

Sources
• Malcolm Potts et al. (2013) Crisis in the Sahel: Possible Solutions and the Consequences of Inaction  (Berkeley: OASIS Initiative) p.22
Niger: Chronic Malnutrition
National data

Fig. 2: Prevalence of Stunting among children aged 6-59 months (2009 - 2013)
Livelihoods: Household Economy Study
Kaya, Burkina Faso
Livelihoods: Household Economy Study Sikasso: Cercle de Yorosso. Mali
Livelihoods: Household Economy Study
Sikasso: Cercle de Yorosso. Mali

La production et l'utilisation de leur propre production de céréales et legumineuses (% des besoins énergétiques annuels / ménage)
Production et utilisation des céréales (mil, sorgho) et légumineuses (niébe)

% des besoins caloriques par ménage (2,100 kcal ppp)

Groupe socioéconomique

Source: Holt et al. (2009) Save the Children p.30
**What is Resilience?** Resilience is the ability of people, households, communities, countries, and systems to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.
What is the AE+6 approach?

Promote Agroecology as the foundation of resilience +

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 (focus on women)

3) Empowering women farmers to gain access to land, water, credit and appropriate training

4) harnessing AE to improve nutrition and diversify diets.

5) improve and diversify the livelihoods of women through savings and credit (strongly linked to improved nutrition),

6) support locally adapted disaster risk reduction measures in coordination with communities and local government
How will AE+6 create change?

• generate an evidence base “proof of concept” of agro-ecosystem transformative change through progressive sequencing and layering of AE and resilience practices.
• support vulnerable households and women farmers in 30 to 60 communities in each of 3 countries in coordination with local government, technical agencies, farmers’ organizations and NGOs.

AE+6 will create change by:

1) Enabling farm households to **test and adapt new AE/resilience practices**
2) **empowerment** for social and gender equity
3) **strengthening the institutional capacity** of local actors for multi-sectoral action
4) **developing “farmer to farmer” learning and exchange** for scaling AE;
5) **“action research”** in pilot villages to integrate gender, nutrition, risk reduction measures
6) **documenting lessons learned, processes**, and enabling factors
7) **“leveraging”** this learning through communications and advocacy work
8) **linkage with national and regional networks**, CoPs, national farmers organizations, food security and climate change platforms (CCAF/FAO), AGIR (resilience), SUN/REACH (nutrition) processes, **Prolinnova**
Shorter term objectives

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 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
Key Action Research questions

1. To what extent can the FAO’s SHARP methodology for assessing resilience be used to undertake a comprehensive diagnosis and baseline for identifying priorities and program design?

2. What are the most effective methods and approaches for rapid, low cost and effective scaling of agroecology (i.e. not individual techniques, but via adaptation of ecological principles for a transition from traditional to a resilient and sustainable farming system)

3. What are the most effective methods, and practices for harnessing agriculture for improved nutritional outcomes, with a particular focus on diversification of diets?

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)?

5. What are the most effective methods, and practices for ensuring equity agroecology/resilience reaches the most vulnerable (poorer) people?

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?
Vision of Success

a growing movement of small-scale farmers improving their own practices and working with allies to create an enabling environment to foster a massive transition by millions of farm households to productive, sustainable, resilient agro-ecosystems by promoting agroecology, that is equity, gender and nutrition sensitive, integrated with selected other resilience measures, operating in synergy = AE+ 6
In light of the Prolinnova Vision and Mission and that of Groundswell’s AE+6
Break into CP/or regional groups
Q1  Is this resilience (research) agenda relevant in your context? Which parts? Why?

Q2  What research results, methods, experiences do your CP members have relating to any of the key resilience themes (integrating scaling out, equity research, women’s empowerment in agriculture, nutrition-diversity of diet into AE?)

Q3  Would your CP be interested in integrating some of these AE related resilience themes into your existing networking, learning and initiatives

Q4  Would any PROLINNOVA/PROFEIS members from West Africa be interested in engaging in learning workshops and advocacy campaigns supporting key messages from the AE+6