

Agroecology Plus Six (AE+6)

Strengthening resilience of small scale farmers in the dry-lands of the Sahel



Collaboration with **PRO**moting Local **INNO**Vation 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

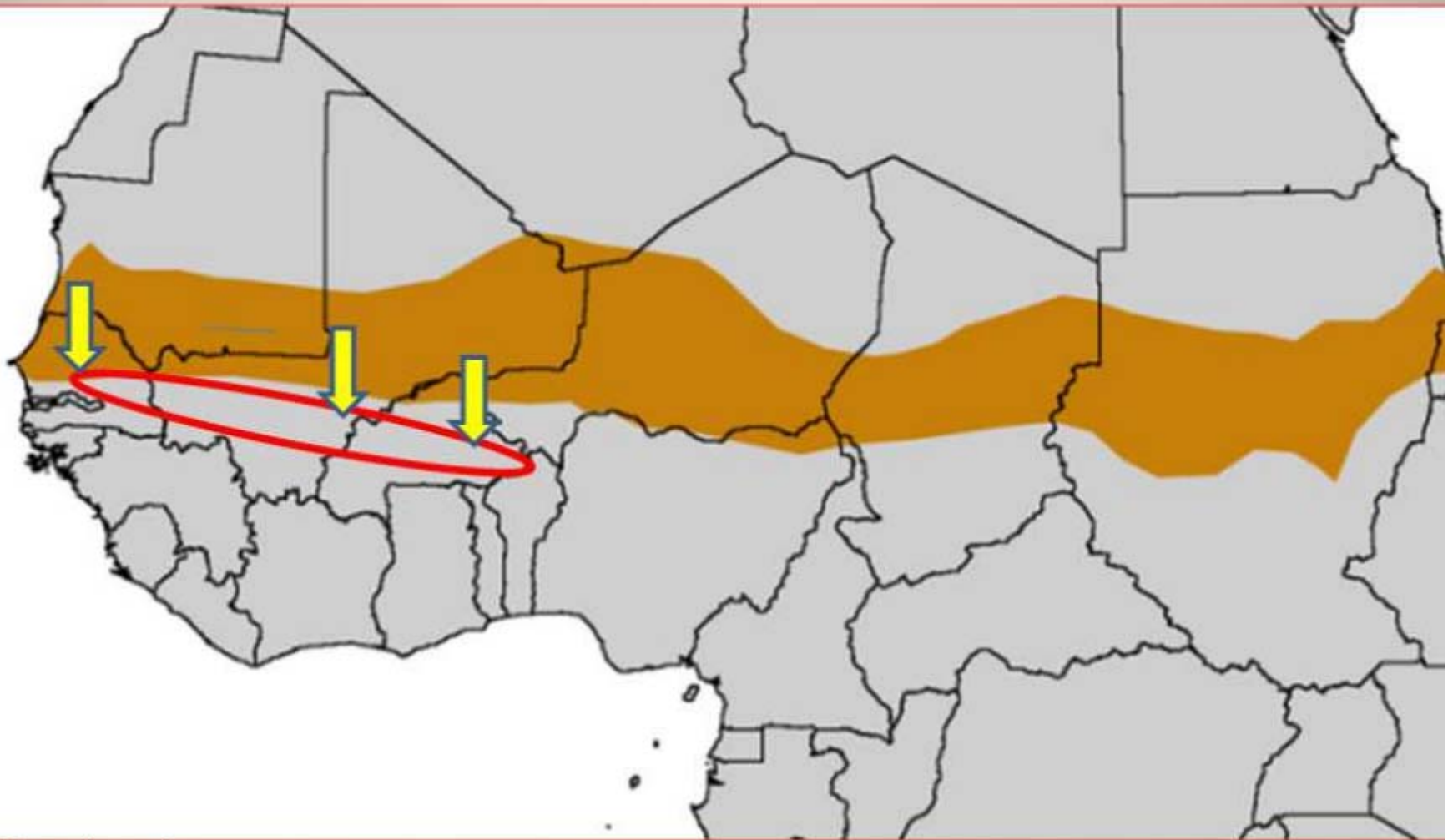
- risk prone, “dry land” semi arid areas where millet, sorghum and cowpeas are the main crops and rainfall varies between 500-700 mm.

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)

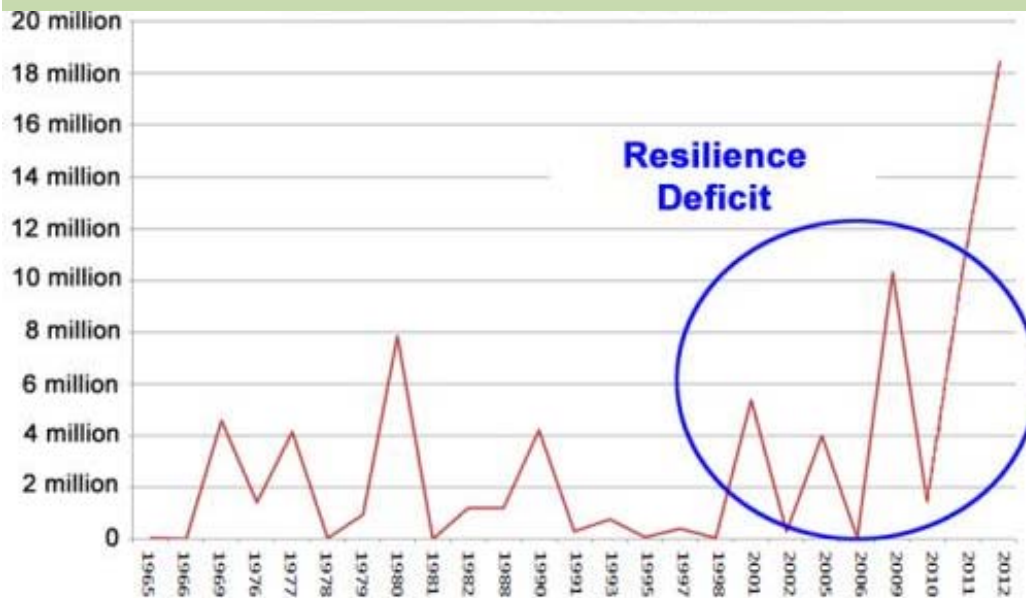
The AE+6 “dryland farming” target area

Estimated potential group: 12 million people



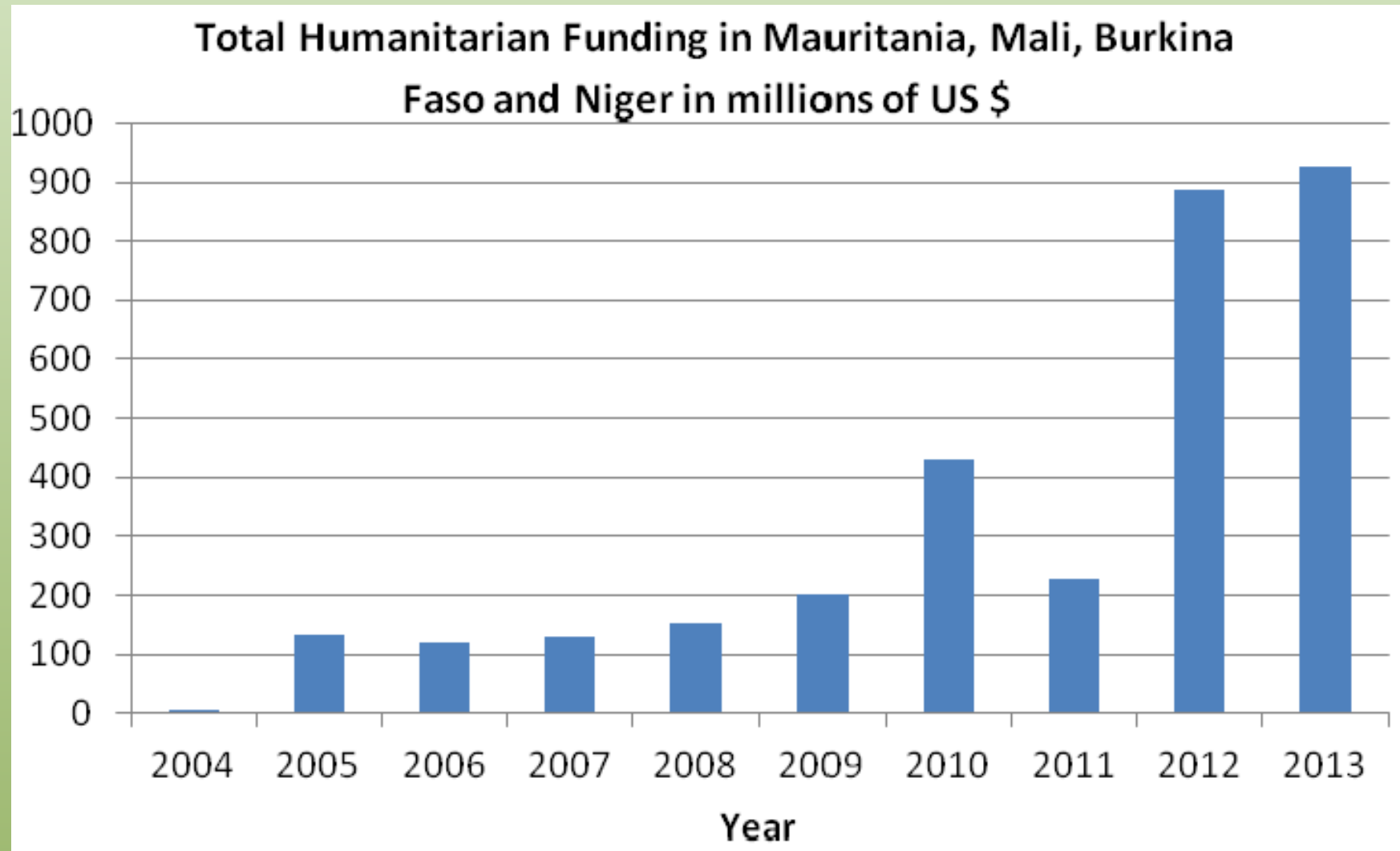
Sahel Context

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



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

A photograph showing a landscape of deforestation. The foreground and middle ground are filled with numerous tree stumps of varying sizes, indicating recent logging or clearing. The ground is dry and brown, with some dark, possibly charred, patches. In the background, there is a line of green trees and shrubs under a clear sky. The overall scene depicts a transition from a forested area to a barren, open field.

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

- IPCC, 2007: Climate Change 2007: **Synthesis Report**. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change
- 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

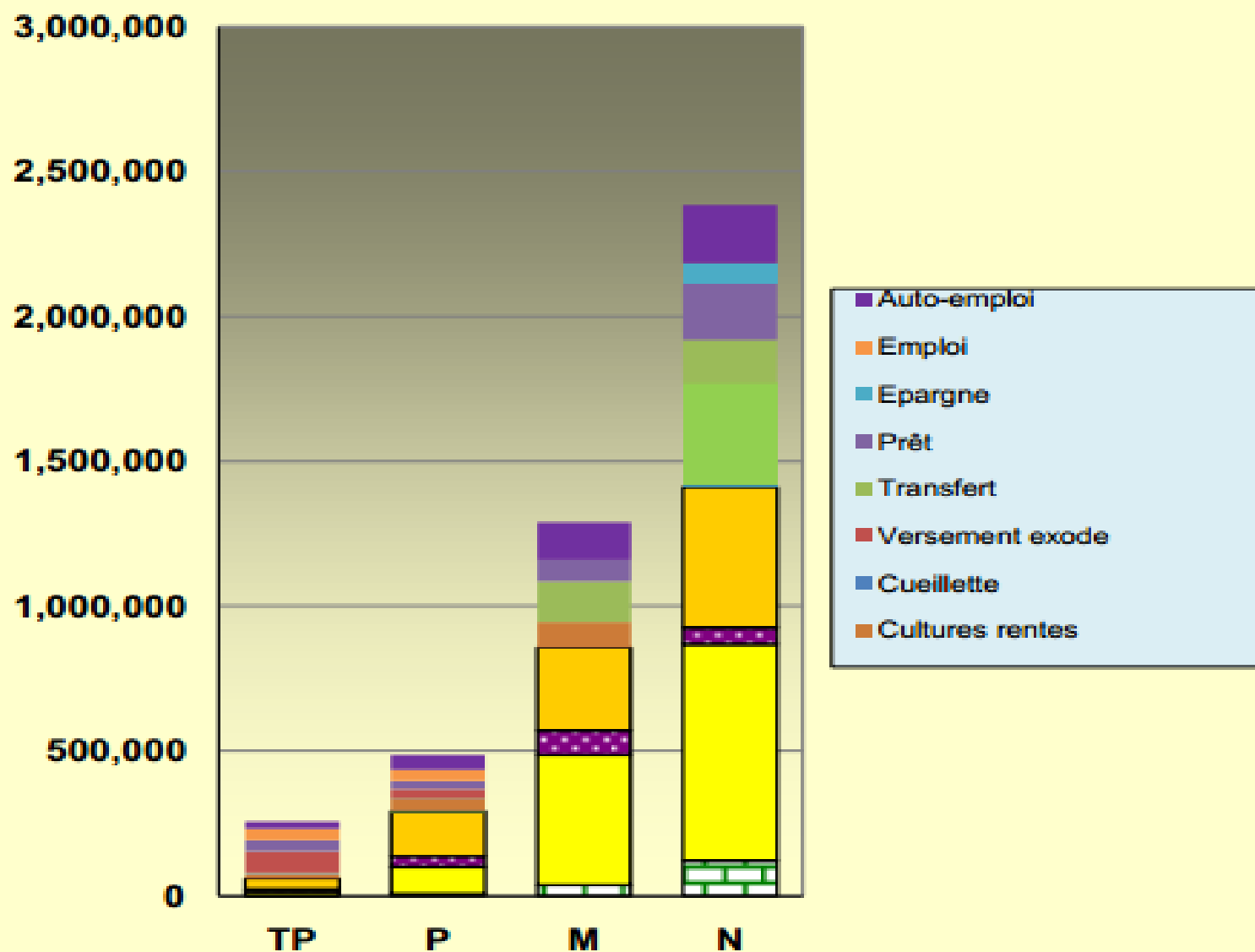
Fig. 2 : Prevalence of Stunting among children aged 6-59 months (2009 - 2013)



Livelihoods: Household Economy Study

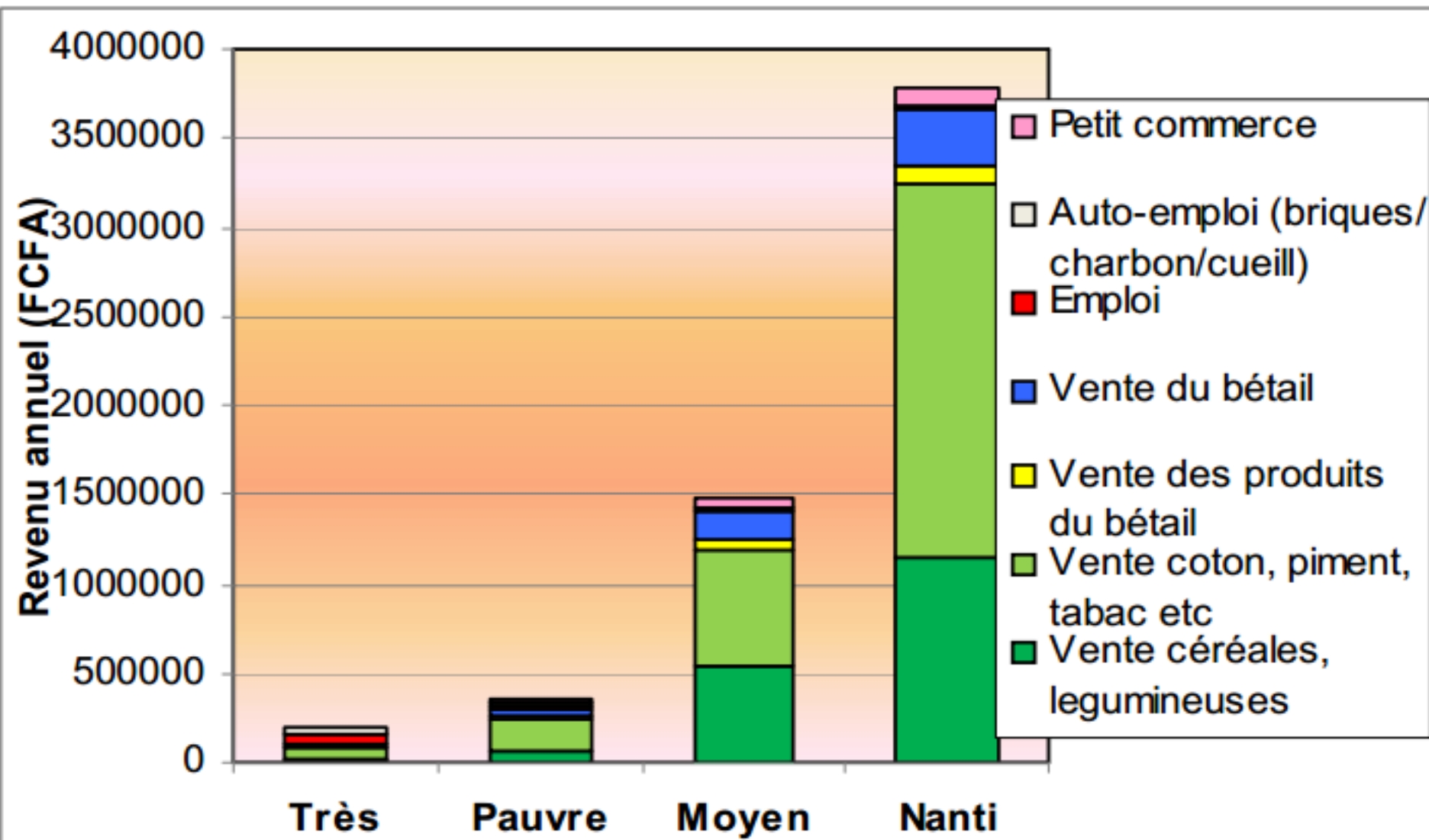
Kaya, Burkina Faso

Sources de Revenus



Livelihoods: Household Economy Study Sikasso: Cercle de Yorosso. Mali

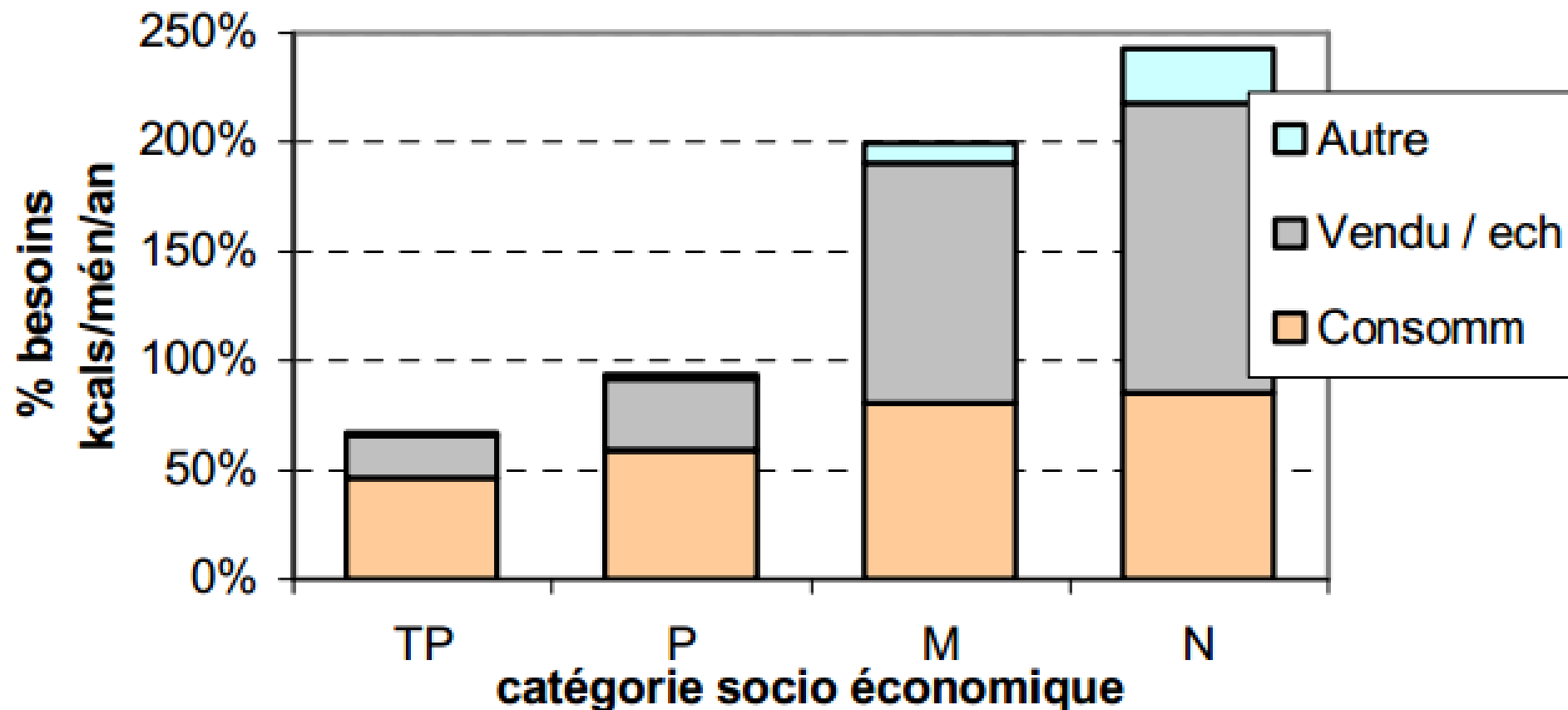
Sources de revenu pour chaque catégorie socio-économique.



Livelihoods: Household Economy Study

Sikasso: Cercle de Yorosso. Mali

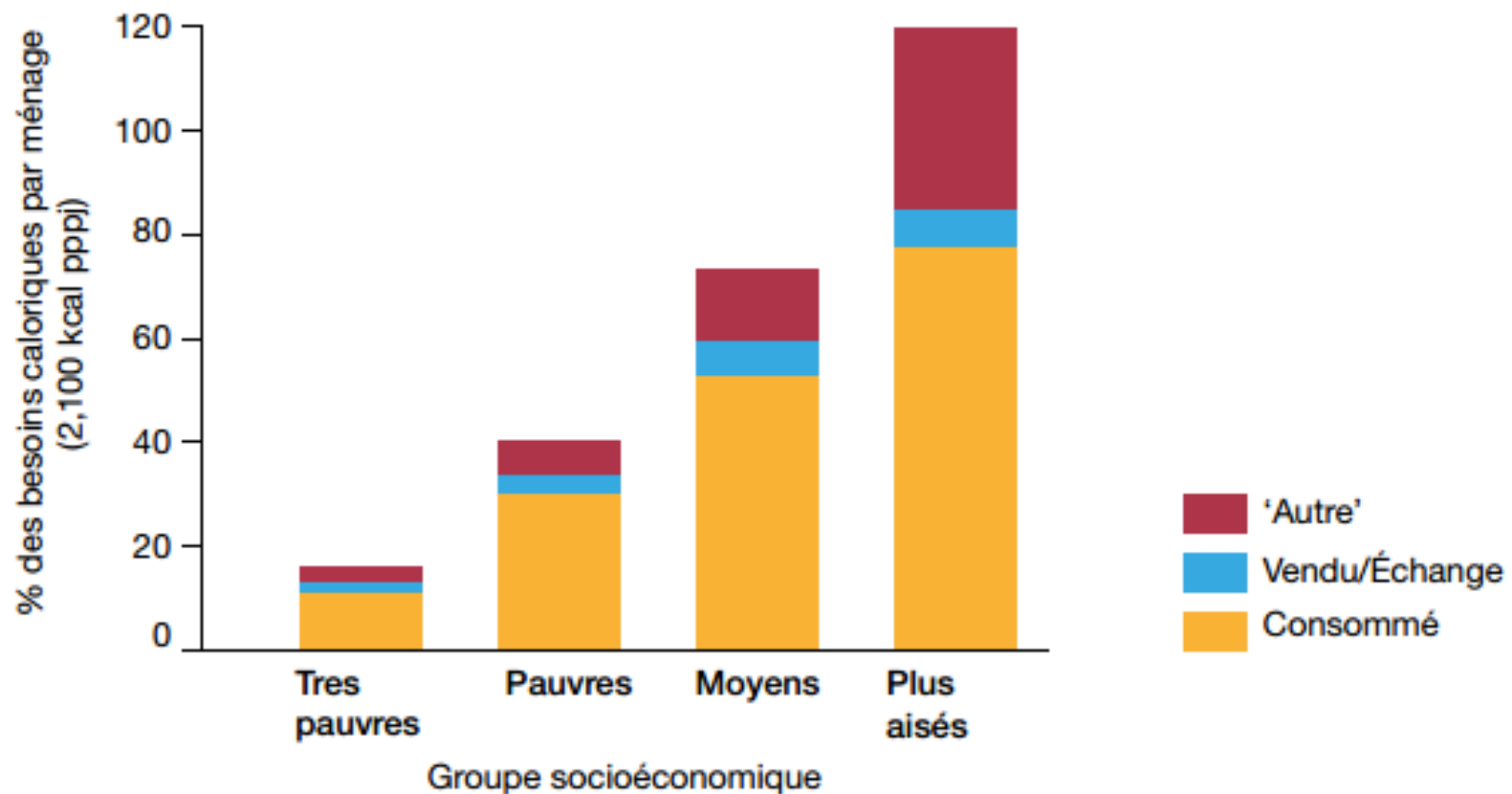
**La production et l'utilisation de leur propre production
de céréales et légumineuses**
(% des besoins énergétiques annuels / ménage)



Household Economy Study

Tessaoua, Maradi, Niger

Production et utilisation des céréales (mil, sorgho) et légumineuses (niébe)



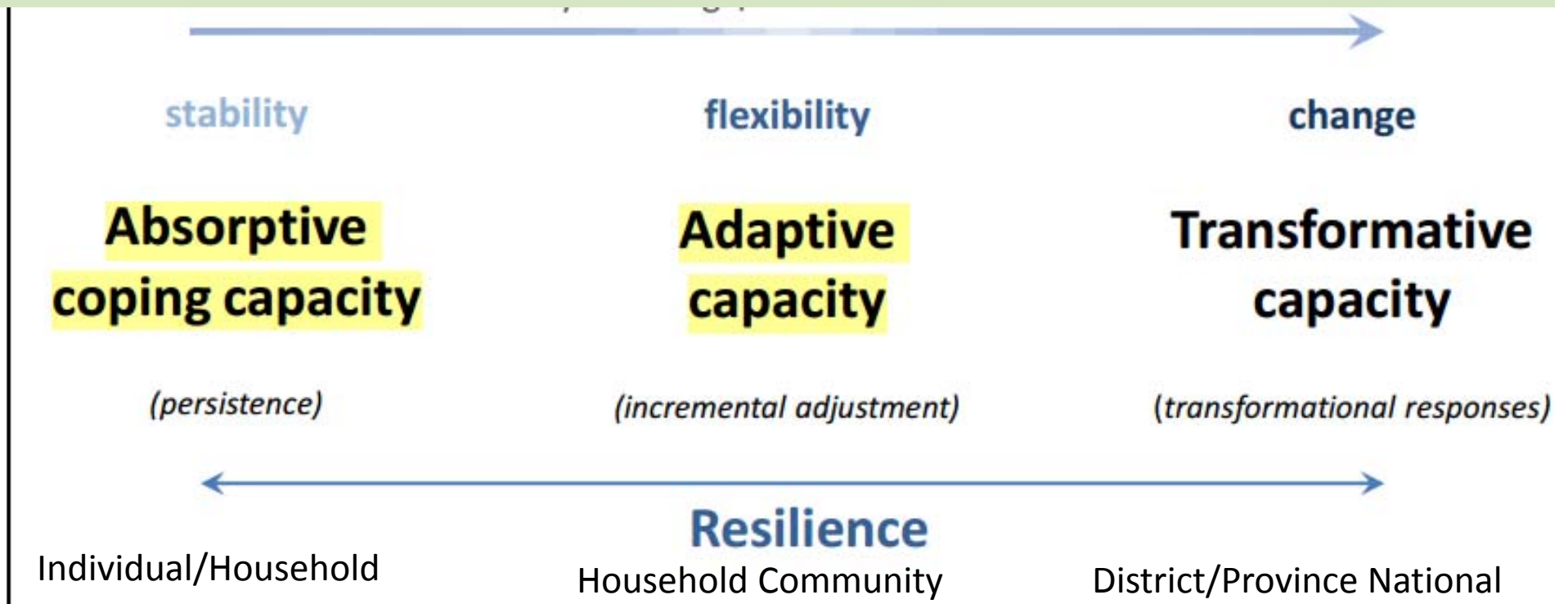
Source: Holt et al. (2009) Save the Children p.30

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

Figure 2 The effect of shocks and stresses on development pathways depending on different levels of resilience



Intensity of Change in support of community resilience



Source: Béné et al. 2012.

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





About Prolinnova

PRoMoting Local INNOVation in ecologically oriented agriculture and NRM

VISION: A world where women and men farmers play decisive roles in agricultural research and development for sustainable livelihoods

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