Using Transformative Scenario Planning to think critically about the future of agriculture, natural resources and food security in Koutiala, Mali

AN OVERVIEW

ASSAR
Adaptation at Scale in Semi-Arid Regions

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In West Africa, ASSAR works in the semi-arid and dry sub-humid parts of Ghana and Mali — areas that are increasingly exposed to climatic extremes of droughts, floods and heavy rainfall. These changing conditions impact different people in different ways. For all living here, figuring out how to adapt to these uncertain circumstances is a challenging task that requires input from many different groups.

KEY POINTS

- In the Transformative Scenario Planning (TSP) process in Mali, a diverse set of stakeholders deliberated the factors that could trigger a positive impact on agriculture, natural resource and food security challenges in the Koutiala district.
- We identified access to agricultural land and access to water for irrigation as the main drivers of food and agricultural security, and used these drivers to build four scenarios for the future.
- We then used the scenarios to develop "Vision 2035" — a shared view of how the regional challenges can be improved — and identified key actions that could enhance rainwater management, soil fertility and access to better quality seeds.
- Ultimately, we learnt that by building relationships, working collaboratively, and developing cross-sectoral understanding, we can devise and implement adaptation plans that can transform agriculture and improve regional food security.

Transformative Scenario Planning in Mali

The district of Koutiala in Mali is facing many pressing climatic and non-climatic challenges for agriculture, natural resources and food security. These include: access to farm inputs, technology and equipment; security, regulatory policy and governance; erratic rainfall; high population growth; and the subsequent high pressure on natural resources.

To bring fresh thinking on how to tackle these challenges, we turned to TSP, a process developed by Reos Partners that brings together stakeholders from diverse and often conflicting perspectives and transforms their thinking around complex issues. In so doing, TSP helps people to imagine the ways that the future can be changed, and to identify the leverage points that can facilitate this change.

The focus of TSP is the development, dissemination and use of a set of four scenarios (structured narratives or stories) about what is possible. These scenarios provide a shared framework and language for strategic conversations within and across stakeholder groups about the situation they are part of, and what actions they can, must, and will take to address it. TSP thereby offers a way for social systems to get unstuck and to move forward.

Working with a diverse group of relevant stakeholders over two workshops in the second half of 2016, we used TSP to imagine what might happen to Koutiala's agriculture, natural resources and food security from now until the year 2035.

Here we provide an overview of our full TSP process.

Convening a team across the whole system

TSP workshops aim to construct a safe space where people can talk openly and honestly about complex issues in order to think differently about ways of working together. Our workshops brought together 27 stakeholders from Koutiala and Bamako, and were made up of: district officials; village leaders; NGO staff; public servants (extension officers, planning officers, forest agents and meteorological agents); farmers; researchers; and the media.

Participants were convened around the following key questions:

- What is the desired future for agriculture and food security in the district of Koutiala?
- What can and/or must the participants do individually and collectively to achieve the desired future?
- How can ASSAR's research help to achieve the desired future?

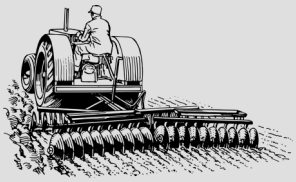
Identifying the main drivers of food and agricultural security

During the first TSP workshop (June 2016), we explored climatic and non-climatic challenges in the Koutiala district and collectively built stories of what the future (up to the year 2035) of agriculture and food security could look like. The participants identified many factors that could influence the development of agricultural activities (*see below*); However, they considered **access to agricultural land** and **access to water for irrigation** as the two key driving forces that are impacting, and will continue to impact, agriculture and food in the region.

Access to farm inputs

Security and governance

ACCESS TO AGRICULTURAL LAND



ACCESS TO WATER FOR IRRIGATION

Regulatory policy

Access to technologies

Constructing stories about what could happen

The two key driving forces were used as building blocks to develop four possible future scenarios for Koutiala until 2035. The four scenarios were built in an interactive, iterative way, and involved the use of drawings, the formulation of newspaper headlines, small group work and plenary feedback.

With locally-relevant names, the scenarios focused on various levels of access to agricultural land (poor versus good) and access to water for irrigation (poor versus good). They also considered the role of other likely internal and external influential factors — such as changing weather patterns, the use of natural resources, political decisions and agricultural development.

MORE

ACCESS TO WATER FOR IRRIGATION

JIDUGU

Village avec une abondance d'eau

Village of abundant water

Poor access to land · Good access to water

The village has abundant water sources, but rapid urbanisation leads to increased conflict and competition for natural resources, especially agricultural land, and a decline in agricultural production. In response people promote fishery and vegetable production, which are less land demanding. Land reform becomes a priority for the local authorities.

HÈRÈBOUGOU

Village du bonheur

Village of happiness

Good access to land · Good access to water

The village enjoys a good supply of water and grazing land, and agriculture thrives with new developments and increased production. People are happy and healthy and have good food security.

LESS ← ACCESS TO AGRICULTURAL LAND

ACCESS TO AGRICULTURAL LAND → MORE

ACCESS TO WATER FOR IRRIGATION

GELEYA DUGU

Village en difficulté

Village in distress

Poor access to land · Poor access to water

The village has limited access to land and water. Land is sold at high prices, many small-scale farmers work on land they do not own, and crop farmers and livestock farmers fight over the same land. To curb the migration of youth to urban centres, local authorities try to promote work opportunities by creating conditions that enable industries and trade companies to establish businesses in the district.

ZAMBOUGOU JIKO GELEYA

Village en manque d'eau

Village in need of water

Good access to land · Poor access to water

The village has access to agricultural land and rainfall is abundant. However, the high number of cotton oil factories pollutes the rivers, reducing water availability and leading to great losses for small-scale crop farmers. Short-duration and less water-demanding crop varieties are increasingly used to produce food for the growing population in the district.

LESS

VISION 2035

During the second TSP workshop (December 2016), participants used these scenarios to develop a shared vision for the future and to delve deeper into what can and must be done to ensure regional food and agriculture security. Through the visioning exercises, the group prioritised major shared themes to create 'Vision 2035', and identified key actions that need to be implemented to achieve this vision.

Climate-Smart Water Infrastructure · **Education** · **Soil improvements** · **Improved seeds**

By 2035, strategic investments will target agriculture and natural resource conservation to ensure food security and improve household income in the Koutiala district. New, updated training sessions will allow communities to make better use of the scarce water resources and variable rainfall in the region. This will be combined with improved rainwater and soil management and the promotion of improved seeds.

Enablers of Vision 2035

- Availability of human resources, training centres, and extension services (makes it easy to convene people for discussions).
- Geographical location of Koutiala at the crossroad of several cities in Mali, and near to Burkina Faso and Côte d'Ivoire (will facilitate access to expertise and materials).
- Existence of banks and microfinancing opportunities.

Barriers to Vision 2035

- Misfit between the types of training provided and community needs.
- Uncoordinated interventions.
- Limited number of qualified technical staff.
- Deterioration of road infrastructure.
- Fragmentation of extended families.
- Limited outreach of microfinance organisations.

Acting to Transform the System

To get closer to realising Vision 2035, two workshop participants were nominated to coordinate the efforts for moving toward implementation. The immediate actions (listed below) will be informed by the research findings of ASSAR students during 2017.

	Managing rainwater and soil fertility	Improving the seed sector
Activities	• Develop partnerships • Train farmers on sustainable rainwater management • Pilot new techniques	• Diagnose the barriers to the adoption of improved seed
Influencing	• Create awareness • Strengthen interactions between national and local actors • Develop farmer skills • Create enabling environments	• Inform seed policy • Increase government allocation to the sector • Influence effective participation of local institutions
Outcomes	• Increased adoption of sustainable rainwater harvesting/use and soil fertility management practices • Increased crop yields • Increased household incomes	• Increased use of high quality seeds • Increased crop yields • Increased household incomes
Impacts	• More dry season farming opportunities • Improved food security	• Improved living conditions and wellbeing • Improved food security

ABOUT ASSAR

ASSAR uses insights from multiple-scale, interdisciplinary work to improve the understanding of the barriers, enablers and limits to effective, sustained and widespread climate change adaptation out to the 2030s. Working in seven countries in Africa and South Asia, ASSAR's regional teams research socio-ecological dynamics relating to livelihood transitions, and the access, use and management of land and water. One of four consortia under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), ASSAR generates new knowledge of climate change hotspots to influence policy and practice and to change the way researchers and practitioners interact.

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