PROMOTING THE RESILIENCE OF ECONOMIES IN SEMI-ARID AREAS IN BURKINA FASO

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LAST UPDATED: 09/2019
ACTIVITY AREA: Adaptation
FOCUS AREA: Preparing
COUNTRY: Burkina Faso
SECTORS INVOLVED: Agriculture
TIMEFRAME: 2014 - 2019

CASE SUMMARY:

‘Promoting the Resilience of Economies in Semi-arid Areas’ (PRISE for its English acronym) is a global, collaborative and applied research programme between multiple international partners and countries, including Burkina Faso. It is aimed at catalysing inclusive and resilient development in response to climate change in semi-arid lands. PRISE’s vision for climate resilience is one of economic and social development which at the same time eradicates poverty and maximises people’s capacity to adapt to climate change (PRESA, 2019). The programme consists of a consortium established under the Collaborative Research Initiative on Adaptation in Africa and Asia (IRCAA in French and CARIAA in English) (Ludi et al., 2018) and includes several international research groups from different sectors - principally climate migration, climate change and access to drinking water; tourism and climate change and economic opportunities and climate change. PRISE is particularly notable because it is driven by resilience needs expressed by stakeholders that have ultimately been integrated into national strategies to strengthen Burkina Faso’s planning documents.

Within the framework of PRISE, Burkina Faso has benefited from three research projects: P1, P3 and P7. P1 focuses on future migration. P3 is focused on the impacts of climate change on private actors in the cotton value chain. Finally, P7 centres on water governance in semi-arid lands. P7 specifically examined how agricultural communities in the Central Plateau of Burkina Faso – a semi-arid region of high food insecurity - manage water and land resources in the context of increasing climate variability (Newborne and Gansaonrê, 2017). P1, P3 and P7 act as interconnected and complementary projects within this broader research context. For example, on the issue of water resources, consequences from dam construction (e.g. sedimentation, reduced water flow) have resulted in increased migration, particularly to urban areas. If these migrants find jobs they have the opportunity to save money and return to their land to pursue other activities such as cotton development in support of traditional agropastoralism. Similarly, migration can promote remittances to finance and enhance cotton-growing activities.
The project was effective at driving stakeholder engagement, knowledge and innovation sharing, quality research, and policy development on the issues of climate change, agriculture, water resources, and socioeconomic development. The project demonstrated best practices that can be replicated and leveraged in other areas/sectors through strong stakeholder engagement and capacity building, actionable research for policy makers, and effective communication pathways.

BACKGROUND:

More than 1 billion people worldwide live in semi-arid areas and are increasingly under pressure from underdevelopment, difficult living conditions, high rates of poverty, and lack of access to markets, services, transport, energy and water infrastructure. Semi-arid lands are dry zones with more evaporation than precipitation and often subject to poverty, underdevelopment and climate risk (Peel et al., 2007). The Sahel region extends across West Africa to the south of the Sahara and is a typical hot semi-arid land. Its climatic characteristics are warm winters and hot summers, between 100 and 600 mm of annual precipitation and low relative humidity (Jobbins et al., 2016). Weak economic growth and underdevelopment lead the semi-arid populations to continuously rely on agriculture and pastoralism. These challenges are even more pronounced for women who ace formal and informal barriers to access and control resources as well as difficulties accessing government services and markets. Further, all of these existing issues are exacerbated by climate change which is expected to increase extreme rainfall events, decrease total rainfall and increase rainfall variability, temperature, and wind erosion in semi-arid areas (ibid).

As a Sahelian country, Burkina Faso is an example of this dynamic. Burkina Faso’s climate is already characterised by variable and low rainfall. This makes the country vulnerable to both droughts and floods, particularly in its northern region (Crawford et al., 2016). It is also already impacted by land degradation and limited water availability as a result of various human pressures and already existing climate variability. The country’s growing and largely rural, untrained working population will likely be facing water shortages, reduced agricultural yields, and higher deforestation rates as a result of rising temperatures and rainfall variability (ibid). Recognising the challenges that the country is facing as a result of climate change, the Government of Burkina Faso has developed its National Adaptation Plan (NAP) in 2015. The NAP identified four key sectors as particularly vulnerable to climate change: water, agriculture, livestock, and forestry (Ministry of Environment and Fishery Resources, 2015).

The country’s NAP built on the values adopted by the government under the National Adaptation Programme of Action (NAPA), which proved instrumental in assessing vulnerability and adaptive capacity to climate change and variability. NAPA priority measures include: (1) ensuring disaster risk reduction is a national and local priority with a strong institutional implementation base, (2) identifying, assessing and monitoring disaster risks and enhancing the early warning system, (3) use of knowledge, innovations and education to build a safe and resilient society at all levels, (4) reducing underlying risk factors, and (5) enhancing disaster preparedness for efficient response at all levels (Ministère de l’environnement et du cadre de vie, 2007).

PRISE has been initiated by an international collaboration in partnership with several African and Asian countries, is part of this vision and active in producing new knowledge and concrete advice on the link between climate change and development with a view to strengthening the resilience of various actors, including: Policy makers, private sector actors, public and private sector civil society organisations and local actors. The overall goal of the activities in Burkina Faso is to foster the emergence and development of equitable and climate-resilient economies in semi-arid areas through research and sustained leadership engagement amongst business, local and national government decision-makers, civil society and economic communities.
More specific objectives include:

1. Develop an evidence base on the impacts of climate change on key factors of economic growth in semi-arid areas;
2. Highlight the risks posed by extreme weather events and conditions, in particular droughts and floods, on economic growth in semi-arid zones;
3. Identify relevant policy mechanisms, investment and planning choices that are relevant and likely to promote climate-resilient inclusive growth and development in semi-arid areas;
4. Increase the influence of risk management initiatives and existing networks through a process of mobilisation and engagement of stakeholders;
5. Support the emergence of a critical mass of researchers oriented towards policy analysis focused on climate-resilient development, and engaged with key institutions in the South

In Burkina Faso, the PRISE project 7 on Water Governance reached eight villages located in the Ziga dam and reservoir area on the Nakambé River, while project 3 on the cotton value chain concerns semi-arid and arid areas where cotton is produced (see Figure 1). Project 1 looked more nationally at the issue of migration, particularly from semi-arid rural areas to more urban environments. In Burkina Faso, PRISE contributes to the implementation of the Nationally Determined Contribution (NDC) insofar as key stakeholders such as the Ministry of Environment involved in the development of the NDC are engaged and represented in PRISE by focal points. These stakeholders are working on several projects and programmes across the country, which makes it possible to feed their reflections elsewhere, particularly in the NDC initiatives. The results of the PRISE have been shared among several stakeholders and this feeds into country-level thinking for the development of strategic documents. Furthermore PRISE also supports key goals outlined in Burkina Faso’s NDC including: The promotion of sustainable land management, master plans for water management, the development of water reservoirs and the implementation of water-efficient irrigation techniques (Burkina Faso, 2015).

Figure 1: Mapping of activities and actors in the Burkinabe cotton value chain (Carabine and Simonet, 2018)
ACTIVITIES: PRISE has focused on a number of different activities including:

- **CONDUCTING RESEARCH ON THE LINK BETWEEN CLIMATE CHANGE AND DEVELOPMENT:** Given the potential magnitude of impacts and the current state of unknowns, a major activity of the PRISE project is to produce evidence-based knowledge on climate risks and their impacts on economic growth in Burkina Faso that will provide stakeholders and policy makers with a foundation for informed planning and decision making. Thus, for each theme selected, data were collected through a literature review, quantitative surveys and focus groups. For the research theme on water resources governance and migration in arid and semi-arid zones, a quantitative survey of 207 households was conducted in six villages using a detailed questionnaire. At the same time, eight focus groups were organised in four of the eight villages involved in the project. For the cotton value chain, more than 600 producers were surveyed in a few target areas.

- **THE ESTABLISHMENT OF STAKEHOLDER PLATFORMS:** These platforms provide a forum and opportunity for stakeholders to engage around the objectives and activities of the PRISE project and to facilitate knowledge transfer and intermediation as well as sustained engagement beyond initial project interventions. In February 2015 PRISE set up a national platform to facilitate dialogue and knowledge sharing, tools and lessons between researchers, civil society organisations, parliamentarians and local elected officials, and other members of the government for greater resilience to climate change. An example of this in action was the videoconference organised by Innovations, Environment, and Development Africa (IED) in April 2015 that brought together 29 participants from a variety of organisations and sectors including researchers (University of Ouagadougou, Institute of Environment and Agricultural Research (INERA), Senegalese institute of agricultural research (ISRA), civil society (COSEF, etc.), the private sector (Société d’Aménagement de la Petite Cote (SAPCO), state structures (Ministry of Environment, the National Electricity Company of Burkina Faso (SONABEL), etc.), technical and financial partners (Territorial Approach to Climate Change (TACC), Food and Agricultural Organisation (FAO)) and journalists (Le Soleil, etc.) to discuss key project research on climate change impacts on agriculture among other topics.

- **FOSTERING LEARNING AND STRENGTHENING OF CAPACITIES:** One of the specific objectives of PRISE is to support the emergence of a critical mass of actors, researchers and key institutions in the Global South interested in practices and policies for climate resilient development. To this end, a series of workshops and conferences were held:

  - A workshop to identify and map stakeholders in Burkina Faso was held in July 2014. This workshop enabled PRISE to: 1) identify the different stakeholder groups that could potentially participate in the national platform; 2) understand their motivations and interest in the project, as well as the potential impact that the project may have on them; 3) identify the most appropriate mechanisms for mobilising the different groups of actors; and 4) develop and maintain constructive bases for exchanges as well as trusting relationships with the actors.

  - In December 2014 and January 2015, IED Africa organised workshops to share results of the reviews. In total, more than 80 people were mobilised in Burkina Faso across a wide spectrum of actors in government, regional organisations, private sector, and civil society.

  - Three days of workshops were organised in November 2015. Over 100 participants took part in these workshops for sharing results of PRISE in Burkina Faso. For Burkina Faso’s research teams, it was mainly about: 1) presenting the preliminary study on urban-rural arbitration; 2) presenting the sub-projects on the impact of integrated water resource management, water governance, cotton value chains, and migration sub-projects.
A regional conference on ‘Climate change and resilience of territories: Lessons from West Africa’ was hosted in August and September 2018 and brought together more than 100 participants from West, East, Asia and Europe, including policy makers, researchers, producers, development practitioners.

**COLLABORATIVE MANAGEMENT AND DIRECT SUPPORT TO POLICIES:** A key facet of PRISE will be to continue leveraging scientific research, stakeholder engagement, knowledge sharing and capacity building developed through PRISE activities to drive meaningful policy development and change, particularly for climate adaptation.

**INSTITUTIONS INVOLVED:**
PRISE aims to work for resilient economies in the face of climate change in semi-arid areas in Africa and Asia, and to ensure that those benefits are shared equitably among all communities, especially the most vulnerable. The PRISE consortium is composed of five organisations: the Overseas Development Institute (ODI), United Kingdom (project lead); Grantham Research Institute for Climate Change and the Environment from the London School of Economics and Political Sciences (LSE) based in the United Kingdom; the Centre for Climate Change Studies (CCCS) at the University of Dar es Salaam in Tanzania; the Sustainable Development Policy Institute (SDPI) in Pakistan; Innovation, Environment, Development in Africa (IED Africa) in Senegal. The consortium collaborates with the following partners: the Regional Environmental Center for Central Asia, Tajikistan; Kenya Markets Trust, Kenya; the University of Ouagadougou in Burkina Faso; and the University of Central Asia, Kyrgyzstan.

**GOVERNMENT AGENCIES:** Ministry of Agriculture, Water and Fisheries Resources; Ministry of Economy and Finance; Ministry of Environment and Living and Ministry of Health; National Electricity Company of Burkina (SONABEL); National Water Council; National Office for Water and Sanitation (ONEA); General Directorate for Water Resources (DGRE); Nakambe Water Agency (AEN); Institute of Environment and Agricultural Research (INERA)

**IMPLEMENTATION PARTNERS:** Innovation Environment Development Africa (IED Africa)

**INTERNATIONAL PARTNERS:** Collaborative Research Initiative on Adaptation in Africa and Asia (IRCAAA); Department for International Development (DFID) of the United Kingdom; International Development Research Centre (IDRC) of Canada; Overseas Development Institute (ODI); United Nations Development Programme (UNDP)

**OTHER INSTITUTIONS:** University of Ouagadougou designated as PRESA Country Research Partner in Burkina Faso; National Institute of Statistics and Demography (INSD)

**COOPERATION WITH:** Government ministries and technical services, private sector actors, civil society organisations (including producers’ organisations, NGOs, etc.), the media, opinion leaders, research institutions and think tanks, local elected officials and representatives of local authorities, municipalities, subregional and regional (Permanent Interstate Committee for drought control in the Sahel (CILSS), Economic Community of West African States (ECOWAS), West-African Economic and Monetary Union (UEMOA), etc.) organisations and international partners.
FINANCE: Funding has been provided by the International Development Research Centre (IDRC) Canada and the Department for International Development (DFID) of the United Kingdom under the Collaborative Research Initiative on Adaptation in Africa and Asia (IRCAAA).

- **WATER GOVERNANCE FINANCING:** Canadian dollar (CAD) 116,710 (around USD 86,798) based on the conversion rate of CAD 1 = USD 0.74)

- **COTTON FINANCING:** CAD 120,986 (around USD 89,978)

- **MIGRATION FINANCING:** CAD 117,730 (around USD 87,557)

IMPACT OF ACTIVITIES: PRESA activities have resulted in several key impacts for climate adaptation planning, research, knowledge management, stakeholder engagement and the resilience of communities including:

- **ENHANCED COMMUNITY RESILIENCE:** One of the main strategies of PRISE is to influence decision-making in order to develop community resilience from 2020 to 2035. Through this, the ‘Country Summary Report’ for Burkina Faso was developed. Further, studies on resilience strategies and dynamics were carried out as part of PRISE, which made it possible to establish local agreements between users for resource sharing.

- **ANALYSIS OF THE LINKS BETWEEN CLIMATE CHANGE AND DEVELOPMENT:** In its first year, the project undertook an analysis of the links between climate and development at the macro and micro level of Burkina Faso’s semi-arid areas. In addition to the country reviews, a series of thematic reviews are available and present the links between climate risks and five themes of key research, namely: 1) climate risk management; 2) governance and financing of adaptation in semi-arid zones; 3) natural capital in semi-arid zones; 4) capital; and 5) markets and value chains in semi-arid areas.

- **PUBLICATION OF NUMEROUS KNOWLEDGE PRODUCTS ON THE ISSUES OF CLIMATE CHANGE, AGRICULTURE, WATER, AND MIGRATION IN BURKINA FASO’S SEMI-ARID LANDS:** In total 16 documents were produced, including among others: A review of the socioeconomic and political context for the environment in Burkina Faso; a study of the urban-rural water interface; water resources management; sustainable investment frameworks; an analysis of resilience strategies for local sustainable agriculture, and investment strategies for water resources; an analysis of the adaptation options of private actors in the cotton value chain in the context of climate change in Burkina Faso. All of these reports helped to establish a strong knowledge base for aiding policy development.

- **STRENGTHENING AND INFLUENCING NATIONAL POLICIES AND LOCAL DEVELOPMENT PLANS:** With a view to operationalising the results of the research carried out, the investigations made it possible to align policy strategies with national development plans. As a result of this, it appears that the results obtained by the PRISE researchers make it possible to inform certain strategic objectives of Burkina Faso’s National Economic and Social Development Plan (PNDES). Adopted in 2016 as the national reference framework for development policy, the PNDES aims in its axis n° 3 to boost promising sectors for the economy and employment. The research projects developed under PRISE are closely related to some of the strategic objectives of this axis. Thus, PRISE researchers have come up with recommendations that show how to make the agricultural sector more productive and resilient to climate change while reducing its negative impacts on natural resources.

- **DISSEMINATION OF RESILIENCE MECHANISMS IN THE COTTON VALUE CHAIN:** PRISE outputs have helped producers to adapt to climate change by: 1) accelerating the adoption of Water and Soil Conservation (WSC) techniques; 2) creating a Climate Change Adaptation Fund similar to the Price Smoothing Fund; and 3) accelerating work to find/propose short-cycle seeds that are better adapted to the monthly climatic variations.
WHY IS IT GOOD PRACTICE:

- **STAKEHOLDER ENGAGEMENT:** The project was deliberate in its engagement of a variety of stakeholder groups from project inception to implementation. Indeed, the need for research on the different themes is expressed by the populations themselves and the stakeholders who together have identified the gaps and proposed the most relevant research likely to influence the resilience of communities. Workshops, platforms, newsletters, meetings, and other forums were established to facilitate stakeholder buy-in and communication of project results and opportunities, particularly the climate risks and links for specific economic sectors.

- **SCIENCE-BASED:** Comprehensive research on the linkages of climate change and rural development in semi-arid areas underpinned all project activities and was the driving force for stakeholder engagement and communication.

- **TECHNICAL FEASIBILITY:** The project activities significantly focused on peer-to-peer knowledge and innovation sharing, which facilitated the development of robust research and policy outcomes including reports on agriculture, water, climate, and migration in Burkina Faso and strengthening the strategic objectives of the National Economic and Social Development Plan of Burkina Faso (PNDES). The PNDES experts worked in synergy with the PRISE research teams to identify the main research axes and determine how to use the results to strengthen the PNDES in Burkina Faso (PRESA, 2019).

- **REPLICABILITY:** While the specific research findings were more focused on Burkina Faso, the project elements and research/stakeholder engagement approach are easily replicated to other areas. Indeed, this has already occurred under the PRISE umbrella, most notably in Senegal and Tajikistan which have also undertaken similar governance projects in semi-arid areas. There have also been exchange visits between researchers from Burkina Faso, Tanzania, Kenya and Pakistan and young researchers have been technically supported through research grants.

- **INNOVATION:** This is the first time in Burkina Faso that several categories of actors have come together to identify research gaps in semi-arid areas of Burkina Faso. Throughout the implementation phase, stakeholders from the research community, political institutions, NGOs, local populations and traditional chiefdom technically validated the research questions and methodology. These stakeholders helped to identify leads for field activities and facilitated access to primary data. Stakeholders were also involved in sharing field mid-term results.

- **SAFEGUARD:** Many of the project activities, particularly those dealing with access to water and land, have allowed women to develop resilience projects and measures where previously they were not able to

SUCCESS FACTORS:

- **ESTABLISHING FORUMS FOR EFFECTIVE STAKEHOLDER PARTICIPATION:** Developing open platforms for knowledge and innovation sharing amongst stakeholders significantly supported research collaboration and the development of an effective and representative knowledge base.

- **ENGAGEMENT AND DIRECT SUPPORT OF LOCAL RESEARCHERS:** The PRISE project included direct grants to researchers at major universities in Burkina Faso to support project activities and engage at major international events including COP 21 and larger conferences. This spurred more direct ownership of research outputs and fostered a collaborative research environment for stakeholders.
**COORDINATION WITH OTHER COUNTRIES AND RESEARCH PROJECTS:** Having the PRISE research in Burkina Faso in direct communication and coordination with broader PRISE research in other countries, particularly Senegal, allowed for broader knowledge and innovation sharing and greater impact for project research.

**STRONG, CONSISTENT COMMUNICATION OF PROJECT RESULTS:** PRISE was very successful at engaging stakeholders, also thanks to the persistent communication materials developed and disseminated throughout the project including videos, newsletters, reports, etc.

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<th>OVERCOMING BARRIERS / CHALLENGES:</th>
<th>WHAT WERE THE MAIN BARRIERS / CHALLENGES TO DELIVERY?</th>
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<td>CAPACITY:</td>
<td>Language barriers existed between researchers and research users (communities). The documents were produced in French and English, while a large part of Burkina Faso’s population is illiterate. At the end of the project, there were no more financial resources to mobilise researchers.</td>
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<td>FINANCIAL:</td>
<td>It has proven difficult to obtain control of (water and land) resources, particularly with regards to restrictions on legal rights, access to finance, and resource management.</td>
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<td>INSTITUTIONAL:</td>
<td>Policy makers possessed a low level of initial capacity to understand and engage scientific research from the project. In addition, the timeline of researchers and scientific results is different from the political calendar of decision-makers.</td>
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<th>HOW WERE THESE BARRIERS / CHALLENGES OVERCOME?</th>
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<td>Translators were paid to support stakeholders during the workshops. In the field, there were also translators.</td>
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<td>To ensure the sustainability of research activities, the solution was to involve academics to continue the research instead of recruiting consultants.</td>
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<td>Through awareness-raising and capacity building, the project empowered populations and local authorities to exploit innovative financing opportunities such as special funds (Green Climate Fund; migratory cash transfers, etc.). Thus information on these funds has become more accessible. The establishment of local conventions has led to a better sharing of resources, thus avoiding conflicts between communities.</td>
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<td>Bridges have been established to create spaces for dialogue and exchange between researchers and decision-makers, which in the end have been complementarity thanks to the integrated approach proposed by PRISE. Consistent and frequent targeted messaging and forums for information sharing were established early on in the project which allowed for needed capacity and awareness building.</td>
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LESSONS LEARNED:

· **BUILD OWNERSHIP OF RESEARCH RESULTS:** Research on water governance, the cotton value chain and future migration in Burkina Faso in semi-arid areas has highlighted the resilience of households and the effects of a damaging climate phenomenon over time in an efficient manner. To achieve development objectives, relevant populations and stakeholders must take ownership of research results into account. Thus, policy briefs were shared with the population, allowing them to use the recommendations of PRISE directly.

· **CLEARLY DELINEATE COUNTRY LEVEL PROGRESS FROM OVERALL PROJECT PROGRESS:** Communication on project results and activities sometimes focused too much on whole project interactions which makes it difficult to distinguish progress/activities specific to individual countries like Burkina Faso. In order to build and sustain stakeholder and decision-maker buy-in in the individual countries, tailored communications, outputs, and workshops need to be developed in parallel. The project built more of this delineated reporting into communications as the project progressed. There was a major communication component that allowed decision-makers, donors and populations to be informed of the results. All PRISE activities were covered by the media and shared on social networks.

HOW TO REPLICATE THIS PRACTICE:

· **BUILD CAPACITIES FOR DEVELOPING, UNDERSTANDING, AND LEVERAGING THE CLIMATE KNOWLEDGE BASE:** The key action step for replication is to support the establishment of a strong knowledge base about climate science and the risks climate change holds for local contexts and specific sectors of the economy; and then build capacities of decision-makers to leverage that knowledge base for policy development.

· **FACILITATE REGULAR EXCHANGES BETWEEN STAKEHOLDERS AND BROADER RESEARCH EFFORTS IN THE SPACE:** The organisation of regular workshops and forums for exchange between researchers and policymakers enables more effective research outcomes for actionable policy.

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FURTHER KEY RESOURCES:


WEBSITES:

· ARIAA on PRISE: [https://www.cariaa.net/consortium/prise](https://www.cariaa.net/consortium/prise)
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