OXFORD ECONOMICS

CASE STUDY

West Africa Food System Resilience Program

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1. PROJECT HIGHLIGHTS

Key Cross-Country Benefit	Key National Benefit
Stabilising food supply in the whole region of West Africa	***Increased food security on site and strengthening of local agri-cultural productivity***

2. QUICK FACTS

Categories	Project Details
Project Name	West Africa Food System Resilience Program
Project Description	To enhance food security in West Africa in the medium and long run, the project is dedicated to increasing resilience and adaption capacity towards climate change. It focuses on agricultural research and the implementation of management tools, for example digital ones, that increase the efficiency of crop harvesting.
Global Public Good (GPG) Theme	Global public health
Sub-Theme	Food systems
Sector	Agriculture and rural development

Disclaimer: We based the case study on the information cited and publicly available as of May 2023. The findings – especially concerning the GPG perspective – have been concluded to our best knowledge. The views expressed are the authors' assessments and do not necessarily reflect the project stakeholders' views. Any errors that remain are our responsibility.

Countries of Implementation	Burkina Faso, Mali, Niger, Togo, Chad, Ghana, Sierra Leone
Region	Sub-Saharan Africa
Income Category	Low-income economies, Lower-middle income economies
Implementation Period	2022-2026
Project Volume (planned)	US$ 716 million
Financial source (planned)	**IDA Credit**: US$ 150 million (first phase) + US$ 180 million (second phase) **IDA Grant**: US$ 180 million (first phase) + US$ 135 million (second phase) **Global Agriculture and Food Security Program (Trust Fund)**: US$ 24 million (first phase) **Kingdom of Netherlands Trust Fund (Dutch TF)**: US$ 22 million **Global Risk Financing Facility (GRiF)**: US$ 25 million
Instruments	Investment Project Financing
MDB Involved	World Bank
Implementing Partner	Economic Community of West African States (ECOWAS) West and Central African Council for Agricultural Research (CORAF) Permanent Interstate Committee for Drought Control in the Sahel (CILSS)
Link to detailed project information[1]	https://documents1.worldbank.org/curated/en/507061641830428029/pdf/Burkina-Faso-Mali-Niger-Togo-Chad-Ghana-Sierra-Leone-West-Africa-Food-System-Resilience-Program.pdf and https://documents1.worldbank.org/curated/en/524511659042558807/pdf/Western-and-Central-Africa-West-Africa-Food-System-Resilience-Program-FSRP.pdf

3. WHY THIS IS A BEST PRACTICE

- **Ambition:** The project aims at directly targeting about 4.35 million beneficiaries.[2] This corresponds to 25 percent of the food insecure people living in the targeted area, which testifies to a high level of

[1] Unless otherwise stated, the information used in this case study can be found in this source.

[2] World Bank (2022a): https://documents1.worldbank.org/curated/en/524511659042558807/pdf/Western-and-Central-Africa-West-Africa-Food-System-Resilience-Program-FSRP.pdf

ambition. Additionally, the project yields significant positive externalities, as its results can be applied to the whole region, not only the project countries themselves.

- **Sustainability:** One key feature of the FSRP is its focus on medium- to long-term resilience and adaptation to climate change instead of short-term subsidies or food provision. Following this approach, the project provides a framework within which knowledge generation and innovation can take place that can persist even after the immediate intervention is finished.
- **Scalability:** The project is scalable and can be extended further. As the dimension within the member countries is already ambitious, this extension could take place by including other countries. In fact, Nigeria, Cap Verde, and Senegal already express interest to become part of the project.
- **Transformability:** The project follows a transformative approach, as it aims at developing and transforming the West African agricultural procedures towards adaption and resilience towards climate change. By enabling people on the ground to conduct profitable agriculture, dependencies on third parties are reduced. Innovations in both the infrastructure and the endowment contribute to the transformative approach and allow for the dissemination of new technologies.

4. PROJECT INFORMATION

4.1 CHALLENGES OF GPG PROVISION IN THE COUNTRY CONTEXT

The region of West Africa is prone to recurring conflicts, climatic shocks, and political instability. A key challenge is securing basic needs, such as adequate nutrition and health standards. Food insecurity is both cause and result of conflicts, migration movements, and poor health conditions. It is exacerbated by insufficient integration into international markets and lacking trade opportunities. **According to estimates, the number of people that needed food assistance in West Africa rose to 27 million in 2021**.[3] There is a vicious circle between food insecurity and conflicts, as conflicts are often carried out in rural areas and impose negative effects on agriculture, for example through land or infrastructure destruction. Additionally, the restricted access to trading markets limits the possibilities for consumption smoothing and offsetting fluctuations in crop yields.

4.2 INTERVENTION

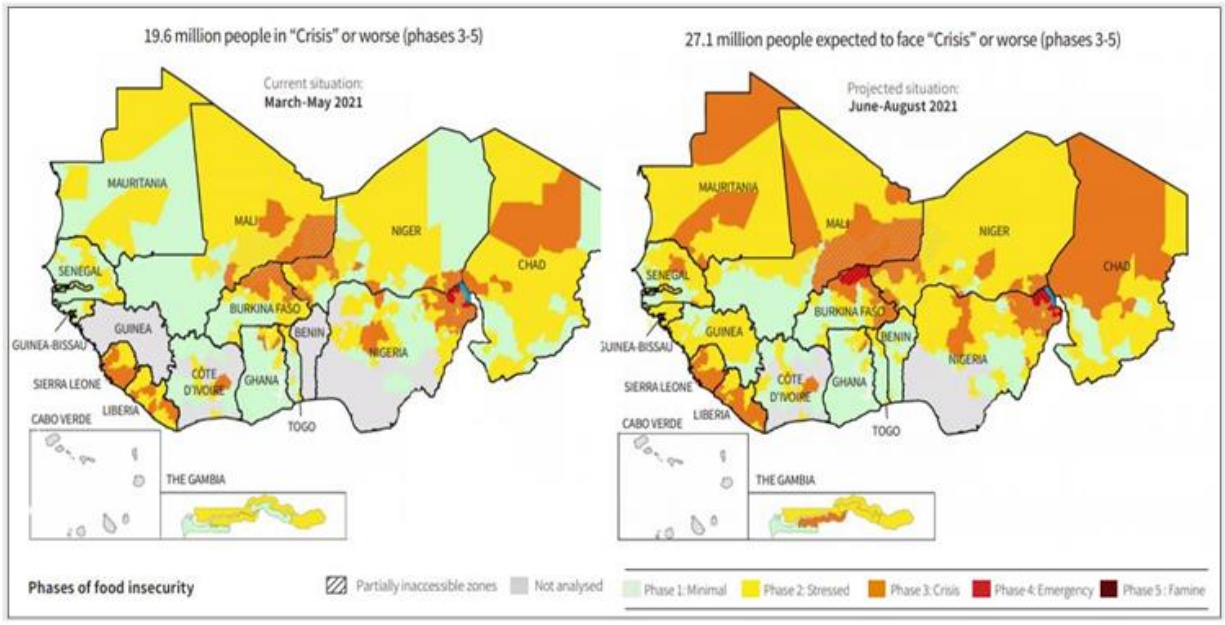
4.2.1 Project Design and Agents of Change

The **West Africa Food System Resilience Program (FSRP)** is dedicated to foster food security in the following seven West African countries: Burkina Faso, Mali, Niger, Togo, Chad, Ghana, and Sierra Leone. As the project tackles a challenge that is important for many, if not all, African countries, it follows an international approach to pool resources. It focuses on an **enhanced resilience and adaption capacity of the food production system towards climate shocks as well as efficiency increases in crop yields to meet the rising demand**. Additionally, it aims at boosting the promotion of agricultural knowledge and the spread of new technologies.

[3] World Bank (2021a): https://www.worldbank.org/en/news/press-release/2021/11/18/addressing-food-insecurity-and-boosting-the-resilience-of-food-systems-in-west-africa

Enabling agricultural activities is important, as agriculture has the potential to be an economically and socially stabilising factor in West Africa, accounting for about 29 percent of the region's GDP.[4]

FIGURE 1: SAHEL AND WEST AFRICA FOOD AND NUTRITION SITUATION



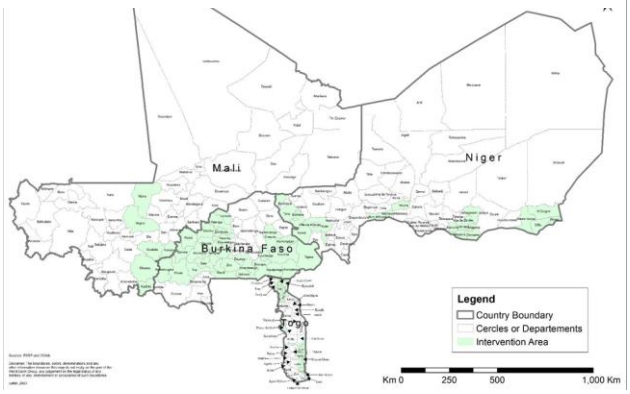
Source: World Bank (2021b)

The overarching goal of the FSRP is to **reduce the number of people that suffer from food insecurity in West Africa**. The project design emphasises that the goal is not to provide short-term food subsidies, but that it is focused on public good provision, mainly agricultural research and knowledge accumulation. This knowledge accumulation gradually improves the way that local agriculture is conducted—both regarding the factor inputs and the procedures that are used. This structurally increases food security. The project follows a **Multiphase Programmatic Approach** (MPA) with two phases.[5] By dividing the large project into smaller sub-areas with clearly separated objectives and responsibilities, the efficiency and surveillance can be increased. The first phase comprises Burkina Faso, Mali, Niger, and Togo. Accordingly, the second phase targets Chad, Ghana, and Sierra Leone.

[4] World Bank (2022b): https://documents1.worldbank.org/curated/en/099530205232227941/pdf/P1781320bcd6760e09c0200e695e831677.pdf

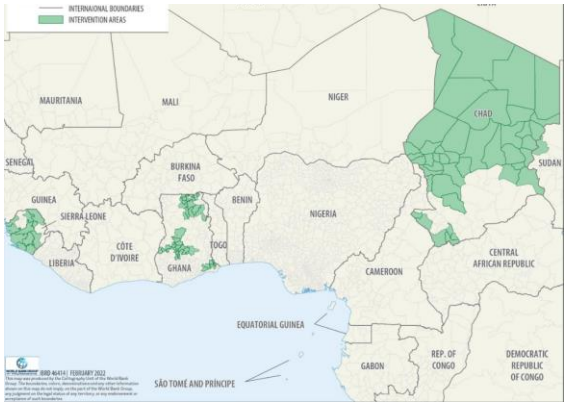
[5] The MPA is a specific framework by the World Bank that divides an extensive initiative in smaller phases that are associated with separate financing instruments for each. This can better adjust the financial measures to the particular goals in each phase and increases the traceability and evaluation possibilities.

FIGURE 2: INTERVENTION AREA PHASE 1



Source: World Bank (2021b)

FIGURE 3: INTERVENTION AREA PHASE 2



Source: World Bank (2022a)

The phases do not differ much in their basic procedures, objectives, and actors. For both phases, the **Program Development Objective (PDO)** is similar and boils down "to increase preparedness against food insecurity and improve the resilience of food systems in participating countries" [6]. Accordingly, the main area of intervention is enhancing the resilience and adaption capacity of agricultural production towards climate change. To achieve this goal, the project is divided in the following project components and sub-components:

FIGURE 4: COMPONENTS AND SUB-COMPONENTS OF FSRP

To increase preparedness against food insecurity and improve the resilience of food systems in participating countries				
C1: Digital Advisory Services for Agriculture and Food Crisis Prevention & Management	C2: Sustainability & Adaptive Capacity of the Food System's Productive Base	C3: Regional Food Market Integration & Trade	C4: Contingent Emergency Response Component	Programme Management
• C1.1: Upgrading Food Crisis Prevention & Monitoring Systems • C1.2: Strengthening Digital Hydromet and Agro-Advisory Services for Farmers	• C2.1: Consolidate Regional Agriculture Innovation System • C2.2.: Strengthen Regional Food Security through Integrated Landscape Management	• C3.1: Facilitate Trade Across Key Corridors and Consolidate Food Reserve System • C3.2: Support to Development of Strategic and Regional Value Chain		

Source: Oxford Economics based on World Bank (2021b)

[6] World Bank (2021b): https://documents1.worldbank.org/curated/en/507061641830428029/pdf/Burkina-Faso-Mali-Niger-Togo-Chad-Ghana-Sierra-Leone-West-Africa-Food-System-Resilience-Program.pdf

Each of the three implementing institutions (Economic Community of West African States (ECOWAS), West and Central African Council for Agricultural Research (CORAF), and Permanent Interstate Committee for Drought Control in the Sahel (CILSS)) is responsible for one of the three main components C1-C3:

- ECOWAS coordinates the trade facilitation and the integration into regional food markets.
- CORAF conducts research and development on climate-smart agriculture.
- CILSS develops risk management tools and supports farmers in the implementation of prevention systems.

4.35 million

citizens in the targeted regions are direct programme beneficiaries, 40% of which are female. This corresponds to 25% of the food insecure people living in the area.

Additionally, a Project Coordination Unit and a National Steering Committee are established at the national level and serve as local intermediaries with knowledge of country-specific conditions and requirements.

4.2.2 Expected Results

The project has only started in the autumn of 2022. Hence, no actual results can be reported yet. However, there do exist multiple indicators that can measure the success of the project. Those include, for example, the **programme beneficiaries (including the share of female beneficiaries), or the food system actors accessing hydro and agrometeorological advisory services**. The result indicators for each phase, the baseline performance, and the end target are displayed in Tables 1 and 2.

TABLE 1: RESULT INDICATORS FOR PHASE 1

Indicator	Baseline	End target
Programme beneficiaries (number and percentage of female beneficiaries)	0	2,300,000 (40%)
Reduction of food insecure people in programme targeted areas (percentage)	TBD	25%
Food system actors accessing hydro and agrometeorological advisory services (number and percentage of female beneficiaries)	0	500,000 (40%)
Producers adopting climate-smart agricultural (CSA) technologies and services (number and percentage of female beneficiaries) GPG	0	1,295,000 (40%)
Surface area under integrated landscape management practices (ha) GPG	0	102,300
Share of intra-regionally traded production in selected value chains (percentage)	20	30

Note: GPG highlights indicators that are particularly relevant from the GPG perspective.
Source: Oxford Economics based on World Bank (2021b)

TABLE 2: RESULT INDICATORS FOR PHASE 2

Indicator	Base-line	End target – per country			End target - total
		Chad	Ghana	Sierra Leone	
Programme beneficiaries (number and percentage of female beneficiaries)	0	600,000 (40%)	1,080,000 (40%)	365,000 (40%)	2,045,200 (40%)
Reduction of food insecure people in programme targeted areas (percentage) GPG	0	25	25	25	25
Food system actors accessing hydro and agrometeorological advisory services (number and percentage of female beneficiaries)	0	75,000 (40%)	211,200 (40%)	120,000 (40%)	406,200 (40%)
Producers adopting CSA technologies and services (number and percentage of female beneficiaries) GPG	0	80,000 (40%)	240,000 (40%)	160,000 (40%)	480,000 (40%)
Land area under integrated landscape management practices (ha) GPG	0	4,000	4,850	3,000	11,850
Intra-regionally traded production in selected value chains (percentage)	20	30	30	30	30

Note: GPG highlights indicators that are particularly relevant from the GPG perspective.
Source: Oxford Economics based on World Bank (2022a)

5. PROJECT IMPACT

5.1 NATIONAL BENEFITS

For the client countries, the Food System Resilience Program yields several benefits. The financial as well as infrastructural means help to build up a research and innovation network and environment, in which customised solutions for the challenge that the countries face—first and foremost, food security—are developed. **Ensuring food security is one of the main components to create a stable, peaceful, and healthy society**. Accordingly, the client countries have a strong interest in receiving support to pursue this endeavour. Moreover, they benefit in the following respects:

- As 40 percent of the direct beneficiaries are targeted to be women, the project contributes to **gender equality**. Women play a crucial role in the agricultural production in West Africa yet are subject to significant inequalities that impose negative effects both for social stability and economic productivity. By directly targeting women—e.g., by providing them with productive resources and sufficient input, both in terms of quantity and in terms of quality—those effects can be mitigated. Additional points of connection are targeted education and more opportunities to acquire own land.

- If research and development is conducted successfully, the resulting innovative goods and technologies can contribute significantly to **economic prosperity**, as those goods and technologies can be exported. Demand for resilient agricultural products is high in West Africa. Those entities that can develop those can become central economic players in their provision.

5.2 CROSS-COUNTRY BENEFITS

Besides direct benefits for the participating countries, the West Africa Food System Resilience Program has various positive externality benefits to other countries, both in the realm of food security and regarding other global public goods (GPGs). Strengthening the agricultural productivity in the six project countries can **contribute to food security in other countries**, because possible supply surpluses can be exported to other countries. Related to this, it can **foster the access to free, fair, and open trade**, as the whole region benefits from low transaction costs and the dissemination of both products and technology. The research outcomes and insights on how to increase the adaptation capability and resilience of agriculture towards climate change can benefit many other countries that face similar challenges. The FSRP can contribute to the ongoing process of knowledge transfer. The project's component 3 is particularly targeted at trade relations regarding agricultural goods, hence directly contributing to the expansion of trade that follows appropriate standards and a fair level of regulations. Enhancing the food security further yields **positive externalities on the peace and security architecture on site**. Socio-economic prosperity and positive outlooks can mitigate domestic violence or migration movements. Considering that already today, agriculture accounts for about 29 percent of GDP in the region of West Africa, its potential as an economic and social stability factor in the region becomes clear.[7] Moreover, the project is expected to **generate positive externalities on the mitigation of GHG emissions**. A more efficient and balanced land management can reduce the emission of climate-damaging gases. Calculations of the World Bank quantify the mitigation potential over 15 years starting from the project implementation to 110,827 tCO_2-e in Burkina Faso, Mali, Niger, Togo[8] and, indeed, to 2,847,123 tCO_2-e in Chad, Ghana, and Sierra Leone.[9] Quantifying this mitigation potential in financial terms translates to a monetary benefit of between just under USD 300 million (assuming a social cost of carbon (SCC) of USD 100) and about USD 850 million (assuming a SSC of USD 300).[10] Assuming the SSC of USD 300—a widely used estimation—as well as assuming the project to reach the expected results, it is already economically viable when solely looking at the perspective of climate change. It is therefore expected to be highly profitable in terms of welfare and economic growth. It becomes clear that the project contributes to numerous GPGs at once. To account not only for the direct, but also for the indirect benefits that this project produces, a rigorous impact evaluation is being sought and should increase the project's transparency and credibility.

[7] World Bank (2022b): https://documents1.worldbank.org/curated/en/099530205232227941/pdf/P1781320bcd6760e09c0200e695e831677.pdf

[8] World Bank (2021b): https://documents1.worldbank.org/curated/en/507061641830428029/pdf/Burkina-Faso-Mali-Niger-Togo-Chad-Ghana-Sierra-Leone-West-Africa-Food-System-Resilience-Program.pdf

[9] World Bank (2022a): https://documents1.worldbank.org/curated/en/524511659042558807/pdf/Western-and-Central-Africa-West-Africa-Food-System-Resilience-Program-FSRP.pdf

[10] This numbers result from the following calculation: USD 100 * 2,847,123 tCO_2-e = USD 284,712,300 or USD 300 * 2,847,123 tCO_2-e = USD 854,136,900, respectively.

6. LESSONS FOR FUTURE GPG PROVISION

6.1 SUCCESS FACTORS

The West Africa Food System Resilience Program combines various success factors. First, the **cooperation between several countries and multiple implementing agencies** is the right framework to address such a major issue as food security. This international cooperation creates leeway both in terms of bundling of competences and in terms of financial opportunities: The beneficial conditions within the World Bank's **Regional Window Framework** and the additional grants that are available through this increase the scope for research that might quickly become economically profitable once the solutions are rolled out in the markets. Moreover, the member countries have a strong vested interest in participating in the project, as it yields **direct national benefit** in the form of increased food security. The fact that other countries also want to join and become members of the consortium shows that there is a demand for a coordinating and connecting activity.

6.2 HOW TO REPLICATE THE BEST PRACTICE

In addition to that, the following lessons can be learnt from the project and can be used to replicate the best practice project:

> *"Facilitating the trade of agricultural goods and inputs within and across national borders in West Africa is a key element to address food insecurity in the region" - (Ousmane Diagana, World Bank Vice-President for West and Central Africa)*

- Topics in which fundamental research is a public good and takes a central role, supplementing credits by grants is important to make it possible for the relevant actors to conduct research without economic pressure.
- Often, the barriers for comprehensive product or technology improvements do not occur during the implementation but come about because of missing innovation: In certain fields, it makes sense for international organisations—such as MDBs—to have a coordinating function in which they bundle competences and bring stakeholders together. This leverages financial and institutional potential for research and development activities.
- Coordination and cooperation of the multitude of stakeholders in different countries is the biggest challenge and critical for the success of this ambitious programme.
- West Africa is not the only region that needs to adapt to changing climatic conditions. The knowledge and research results that are generated in the West Africa Food System Resilience Program can be translated to other countries. Furthermore, the project structure and mechanisms themselves can be replicated well. In fact, the World Bank has already started a process in East Africa to start implementing a similar initiative to the FSRP. Hence, the project design features a high level of replicability.