WFP
World Food Programme

SAVING LIVES
CHANGING LIVES

Resilient Food Systems in Western Africa

WFP Contribution to Food Systems Transformation in Western Africa

September 2023

Table of contents

Executive Summary

The transformation of food systems is high on the global agenda due to their potential to accelerate the achievement of Sustainable Development Goals by 2030. Food systems are complex as they engage multiple actors with varying and conflicting interests. They also involve many facets of socio-economic and environmental systems, asymmetric power dynamics and gender disparities. Food systems are among the largest emitters of carbon, but they sustain many aspects of human life. So, they can make or break the earth's carrying capacity. WFP has been one of the organizations that are championing the transformation of food systems to make them more resilient, inclusive, and healthy. In November 2022, WFP developed its global framework for food systems transformation which prioritizes five pathways including (1) protecting food systems and food consumption before, during, and immediately after crises, (2) restoring the natural resource base and supporting climate-resilient local food production, (3) linking production and value chain activities to food consumption, (4) influencing food environments and the consumption of healthy diets, and (5) supporting an enabling environment for resilient food systems.

This document shows how WFP's global framework for food systems transformation is adapted to the context of the Western Africa region. This region consists of 20 countries where WFP operates including the Sahel subregion (Mauritania, Burkina Faso, Mali, Niger, Chad, and Cabo Verde), the Gulf of Guinea (Cote d'Ivoire, Togo, Benin, Ghana, and Sao Tome and Principe), other coastal countries (Senegal, The Gambia, Guinea Bissau, Guinea Conakry, Sierra Leone, Liberia, Nigeria, and two countries in the Central Africa region (Cameroon and Central African Republic). Key issues that face food systems in this region include (1) conflicts that disrupt food supply systems, (2) economic shocks that make nutritious diet unaffordable, and (3) climate shocks that have been reducing production capacity due to desertification, droughts, and floods.

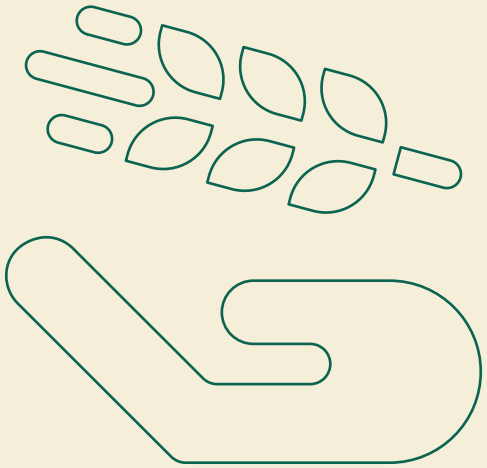
Food systems in Western Africa transcend four major agro-climate zones including parts of the Sahara, Sahel, Sudano-Guinean (Savannah), and Guineo-Congolian climate. These physical and climate conditions influence the type of food that more than 500 million consumers living in the region eat, how they grow it, and the process of preparation and disposal of that food. There are two distinct types of food systems in this region, including (1) Sahel food systems that depend on a few cereals crops (sorghum and millet) and livestock, and (2) coastal food systems with high food production capacity but facing competitiveness issues and hence dependent on imports facilitated by the presence of major seaports. The performance of food systems in this region has been suboptimal as about 10 percent of people in Western Africa depend on humanitarian assistance, more than 57 percent of people cannot afford a nutritious diet, and 1.8 million hectares of land are lost to degradation every year.

Viable entry points that WFP can use to contribute to the transformation of food systems in Western Africa include:

1. Integrated packages of institutional procurement, global commodity management facility, and the Africa Risk Capacity (macro insurance) and other micro insurance instruments to reduce risks for smallholder producers and connect them to markets.
2. Pairing cash-based transfers with the rehabilitation of degraded land and productivity-enhancing technologies to

increase food production, boost livelihoods, and build climate resilience.

3. Building the capacity of food processing companies to efficiently produce and responsibly market safe and nutritious food at affordable prices. This entails increased operational efficiency and linkages to primary production systems including smallholder farmers and herders as well as improved access to finance and technologies, reducing post-harvest losses, and supporting diversification of food production, transformation, and fortification capacities.
4. Strengthening governments' capacity to reinforce regulatory framework, fortification policies and national and regional quality infrastructure system, develop and implement food quality and safety policy dispensations that incentivize the production and consumption of safe and nutritious food.



The **innovative combination** of local food procurement initiatives, global commodity management facility, and the Africa Risk Capacity instruments used for sovereign (macro) insurance policy against disasters and crop failure as well as other micro-insurance instruments could unlock agricultural finance and de-risk investments in smallholder farmers and herders' food production systems. In addition to this combination that can support and incentivize the development of short and localized food supply chains, WFP can also leverage its cash-based transfers to support the supply side through the rehabilitation of degraded land to increase the production of food and fodder within rehabilitated watersheds as well as processing of animal products in the Sahel region and northern parts of the Gulf of Guinea countries. WFP's efficient food procurement and capacity in food quality and safety can help building systems that provide a reliable and remunerative outlet for smallholder farmers, reduce post-harvest losses, and make nutritious food affordable (through partnerships with food processing companies to produce safe and nutritious foods and support production systems). WFP's relationships and collaboration with governments, and the private sector including a network of food traders, small and medium-sized enterprises, processors, transporters, and retailers can be leveraged to advocate food policy reforms and implementation. The policy agenda that WFP can influence include the development and implementation of food quality and safety standards (including regional harmonization and mutual recognition), and the repurposing of subsidies and other public investments towards the production and consumption of safe and nutritious food.

This document provides WFP country offices in Western Africa with a framework for designing initiatives aiming to contribute to the transformation of food systems in each country and in the region. Each country and each regional initiative will have to develop a tailored implementation plan.

Overview

The United Nations World Food Programme (WFP) is the largest humanitarian assistance organization in the world. It provides food and cash assistance to protect and strengthen social production systems and enhance food production, processing, distribution, and consumption capacity before, during and after food crises resulting from various shocks and stressors. To fulfil its mission of saving lives and changing lives by ensuring that men, women, youth, children, and disadvantages groups have access to enough, safe, and nutritious food during emergencies and working with communities to improve nutrition and build resilience, WFP has embraced a food systems approach. Applying food systems lenses throughout its operations, WFP is prioritizing the resilience and inclusivity of food systems in the Western Africa region.

WFP envisions a resilient Western African region that is food and nutrition secure with increased opportunities for employment, income, and reduced poverty levels and less dependency on humanitarian aid and food imports.

The goal is to reduce the need for humanitarian assistance in target communities and improve the availability, accessibility, and affordability of safe and nutritious food in the region. This is accomplished for example by rehabilitating and restoring ecosystems for enhanced food production, localizing food procurement to provide market opportunity to smallholder farmers and reduce import dependency, strengthening the capacity of food processing actors to produce nutritious food products, upgrading food safety standards as well as soft and hard infrastructure that facilitate food handling and trade.

Public policies and investments are also an important ingredient for resilient, inclusive, and healthy food systems. WFP is working with public institutions and private sector companies to improve food quality assurance infrastructure including policies and regulations for the food industry. WFP is also involved in the efforts to improve the capacity of food systems actors and facilitators to implement food processing, fortification, quality and safety standards and access lucrative, predictable, and sustainable markets in addition to humanitarian and other institutions markets.

Moreover, increasing urbanization is creating opportunities to closely link rural food producers and urban consumers through food transportation, processing, and retail networks. However, pockets of insecurity, more frequent droughts and floods, economic shocks including debt distress, exchange rates pressure and weakening currencies, and high unemployment rates have all degraded the capacity and resilience of food systems in Western Africa and made nutritious diets unaffordable (see figure 1).

Figure 1: Government Debt, 2022; Youth unemployment rate, 2021; Exchange rates accessed on April 25, 2023

RBD | Economic risks in 2023

	Risk of debt distress	Government Debt *(% of GDP)*	Exchange rate *(% change year-on-year)*	Youth Employment Rate *(%)*
Sao Tome and Principe	In debt distress	58	3	**23**
Sierra Leone	High risk	**99**	**-44**	4
Ghana	High risk	**89**	**-38**	7
Gambia	High risk	**84**	-11	8
Guinea-Bissau	High risk	**80**	3	5
Central African Republic	High risk	51	3	11
Chad	High risk	50	3	2
Cameroon	High risk	46	3	7
Cabo Verde	Moderate risk	**127**	3	**31**
Senegal	Moderate risk	75	3	5
Togo	Moderate risk	68	3	10
Cote d'Ivoire	Moderate risk	57	3	4
Liberia	Moderate risk	55	-8	3
Burkina Faso	Moderate risk	54	3	9
Mali	Moderate risk	53	3	4
Benin	Moderate risk	52	3	4
Niger	Moderate risk	51	3	1
Guinea	Moderate risk	33	2	8
Mauritania	Moderate risk	No data	6	**22**
Nigeria	No data	38	-10	14

Source: ILO (Youth Unemployment); IMF (Debt); Trading Economics (Exchange rate); IMF's LIC DSA (Risk of debt distress)

Predominant Food Systems in Western Africa

There are five main food systems in Western Africa with interdependences and diverse category of people exposed to different and gendered vulnerabilities[1]: (1) agropastoralism-based food systems that supports the livelihoods of 17 to 25 million people, (2) mixed grains and legumes-based food systems with 32 million people, (3) fishery based-food systems sustaining the lives of 32 million people, (4) intercropping (tropical tree crops and food crops) – based food systems with 30 million farmers, (5) rice and horticulture-based food systems with 18 to 24 million people.

The above-mentioned food systems are expected to provide people with affordable nutritious diets, employment opportunities, increased income, pathways out of poverty and an ecosystem that has regenerative production capacity.

1 World Bank, 2021: https://aiccra.cgiar.org/publications/blueprint-strengthening-food-system-resilience-west-africa-regional-priority

Climate and Water

The effects of **climate change** impact are reducing the capacity of food systems to provide affordable, safe, and nutritious food, income and employment opportunities; and they are exacerbating land degradation in Western Africa. The frequency of droughts and floods has increased and the number of people who need humanitarian assistance is on the rise.

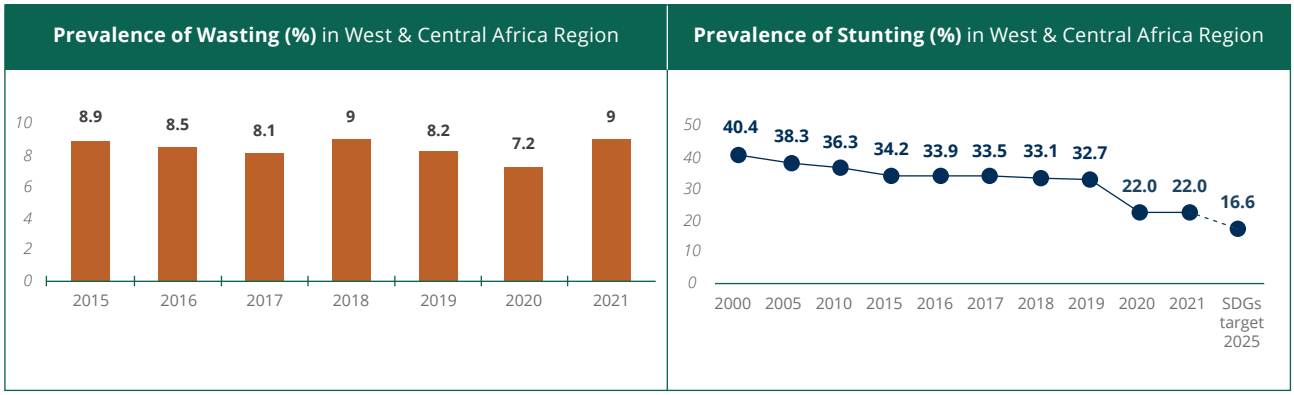
Ground water which is abundant in the Western Africa including the Sahel region presents an opportunity to enhance the food supply capacity of the region. Improving the availability of agricultural water through micro irrigation systems using groundwater with boreholes powered by solar energy can boost food production. Dams and wells can also enable pastoralist community to stabilize their economic activities and improve education opportunity for school-age children. In fact, water is considered to be one of the accelerators for development in the region.

Performance of Western Africa's Food Systems

The performance of food systems in Western Africa has been suboptimal. According to the Food and Agriculture Organization (FAO), more than 1.8 million hectares are lost to desertification, degradation, or salinization every year in the Sahel at the rate of 40 to 150 thousand hectares per country[2]. In Western Africa, it is estimated that 57 percent of households cannot afford a healthy diet; while 22 percent cannot afford an energy diet (WFP FNG results, 2023) due to limited availability of nutrient-dense foods, failure and breakdowns in food supply chains, weaknesses in economic access (linked to purchasing power), remoteness or limited physical access to food markets, and increased conflicts affecting the region.

At about 10 percent, the prevalence of wasting in children under five remains stubbornly high across the Western Africa region. The prevalence of stunted children also remains as high as 22 percent (see figure 2).

Figure 2: *UNICEF-WHO-The World Bank: Joint child malnutrition estimates – levels and trends – 2021 edition - UNICEF*



At the individual level, only 15 percent of children and 27 percent of women eat a well-balanced nutritious diet in Western Africa. Moreover, 42.5 million (approximately 10 percent of the population) depend on food aid in this region where post-harvest losses are as

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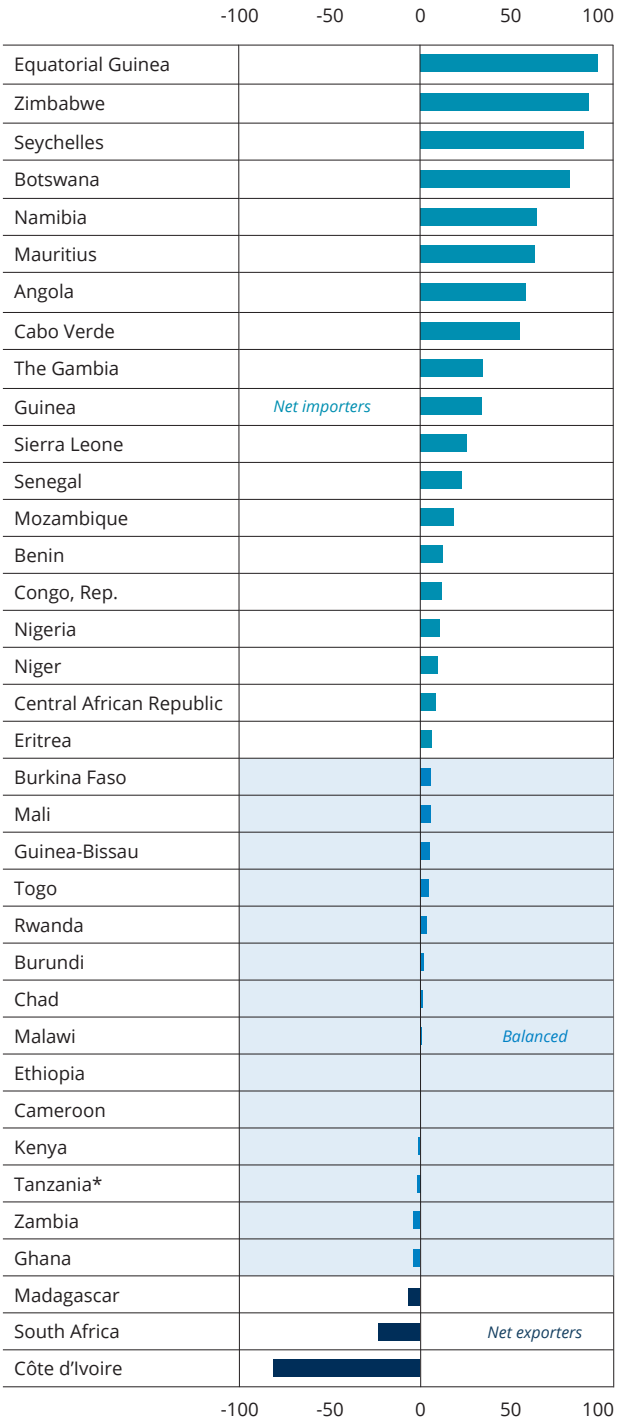
high as 10 million tons of cereals, equivalent to 50 percent of annual net food imports[3].

Table 1: *Food Import Dependency Ratio, 2020.*
Source: *IMF -* https://www.elibrary.imf.org/view/journals/087/2022/016/article-A001-en.xml#A001fig03



Women and in particular young people are significantly disadvantaged on the labour market and youth unemployment rate is hovering around 9.1 percent on average in the region; and the general poverty rate is more than 30 percent (at the USD 1.90 poverty line)[4].

This tepid performance of food systems in Western Africa calls for game-changing actions and investments that can enhance expected food systems' outcomes. Investing in food systems should prioritize the following outcome areas:

1. Economic livelihoods (income and employment),
2. Food and nutrition security (food diversity, quality and safety, availability, affordability, and access),
3. Environment (sustainability and biodiversity).

Enhancing the performance of food systems in Western Africa will entail dealing with and operating in the context of local and global shocks. Local shocks in Western Africa include armed conflicts in the Sahel and their ripple effects in the Gulf of Guinea, climate shocks and land degradation that reduce arable land available for food and fodder production, food supply chain disruptions due to insecurity and policy dispensations that prevent the flow of food products and services (export bans and lack of mutually recognized grade and standards, inefficient border procedures and checkpoints). Global shocks that affect Western Africa' food supply system include weakening purchasing power due to currency depreciation in countries that depend on food, fertilizer, and fuel imports and international sanctions and conflicts, as well as debt burden (high debt-to-GDP ratio) that limit access to the needed investment capital for food supply chains and support systems including hard and soft infrastructures[5]. Food trade restrictions and non-tariff barriers within the region may also affect the performance of Western Africa food system.

3 Cadre harmonise, 2023

4 https://blogs.worldbank.org/opendata/april-2022-global-poverty-update-world-bank

5 https://www.ifpri.org/blog/west-africa-faces-mixed-food-security-impacts-russia-ukraine-conflict

Key pain points that affect the resilience of food systems in Western Africa

1. Dependency on imports due to limited availability and high cost of locally produced food commodities: it is estimated that Western Africa region imports more than 22 million metric tons (MT) of cereals per year (see table 2).

Table 2: *ECOWAS Food Balance Sheet, 2022/2023.* ***Source:*** *AGRHYMET, 2023*

	Rice	Wheat	Other grains (millet, sorghum, maize, fonio)	Total
Supply/Availability	**17,164,732**	**995,202**	**48,792,639**	**66,952,573**
Gross production 2022/23	22,299,800	144,729	54,786,715	77,231,244
Available production	14,219,366	125,168	45,805,885	60,150,419
Opening stocks (as of 01/11/2022)	3,434,281	870,033	2,986,754	7,291,068
· On-farm stocks	105,814	77	537,806	643,697
· Other stocks	3,177,033	869,956	2,136,783	6,183,772
Requirements	**25,399,722**	**9,839,971**	**42,283,058**	**77,522,751**
Human consumption	21,974,718	9,031,934	39,136,508	70,143,160
Final stocks (as of 31/10/2023)	3,425,004	808,037	3,146,550	7,379,591
· On-farm stocks	2,938,398	770,685	3,028,202	6,737,285
· Other stocks	586,606	42,352	119,348	748,306
Gross Surplus/Deficit	- 8,234,990	- 8,844,769	6,509,581	- 10,570,178
Import/Export balance	**10,406,684**	**9,857,955**	**876,331**	**21,140,970**
Commercial imports (2022/23)	10,549,640	10,267,455	1,284,961	22,102,056
· Private traders	9,195,863	10,091,410	874,647	20,161,920
· Other imports	1,347,777	176,045	410,314	1,934,136
Food aid imports	6,000	-	-	6,000
Planned exports	142,956	409,500	408,630	961,086
Net Surplus/Deficit	2,171,694	1,013,185	7,385,912	10,570,791

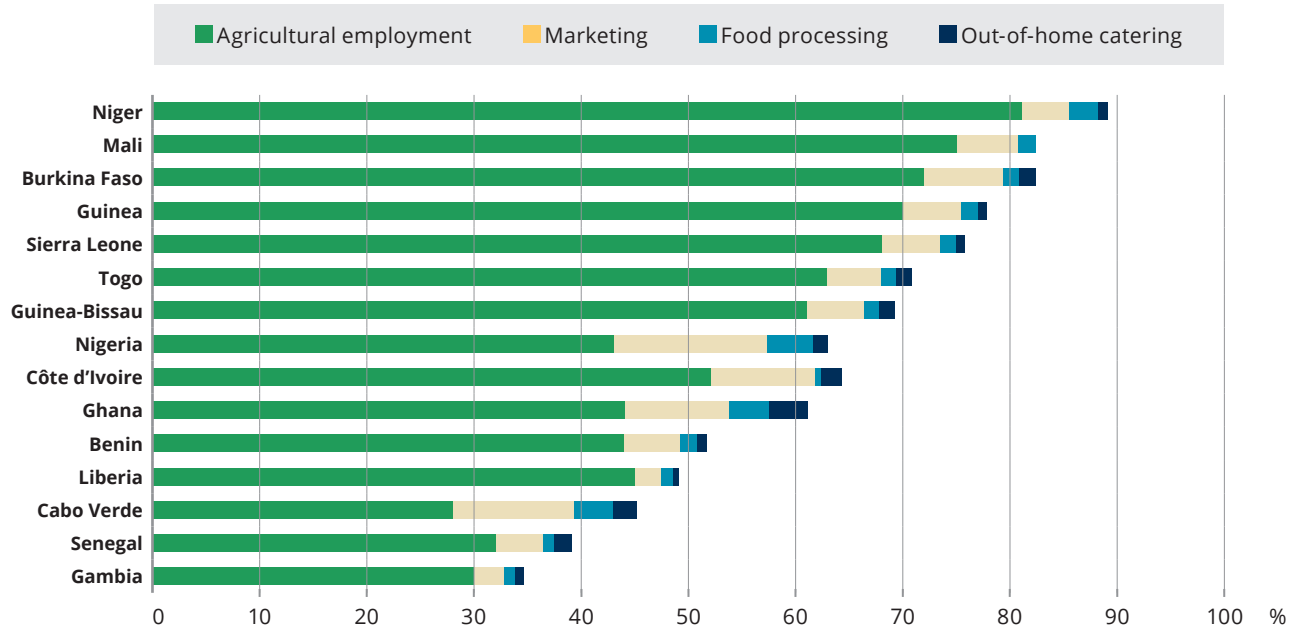
Low levels of production and high post-harvest losses also exacerbate the dependency on imports. In fact, cereal post-harvest losses in Western Africa are estimated to be 10 million MT, equivalent to about 50 percent of the total cereal imports. Before COVID-19, only Côte d'Ivoire and Ghana (among Western Africa countries) were net exporters of food commodities. The rest of the countries have always been net importers of food and the entire region is in a deficit situation. Limited mechanization and irrigation systems are also limiting factors in a region where groundwater and solar energy are abundantly available.

2. Insufficient hard and soft infrastructures: with a growing urban population, food supply chains in Western Africa rely on road and rail networks that link rural food producing hubs to consumption points in urban areas. In addition to road and railway networks, storage and food processing facilities, food quality assurance and information systems as well as price discovery mechanisms are crucial in getting food to market and providing adequate market signals to producers for production decision-making processes (what to grow, when to grow it, in what quantity, and at what cost).

3. Inadequate access to capital (agricultural finance) and improved technologies: West Africa's food economy represents USD 260 billion, i.e., 35 percent of West Africa Gross Domestic Product (GDP). It also accounts for 66 percent of the region's total employment. In fact, the share of women in agri-food employment is estimated at 70 percent in food trade, 80 percent in food processing and 90 percent in street food sales. However, financial flows to the agri-food sector in terms of lending and investments have been lower than expected given its contribution to the GDP and employment.

Figure 3: *Employment within food systems.* ***Source:*** *OECD, 2022*

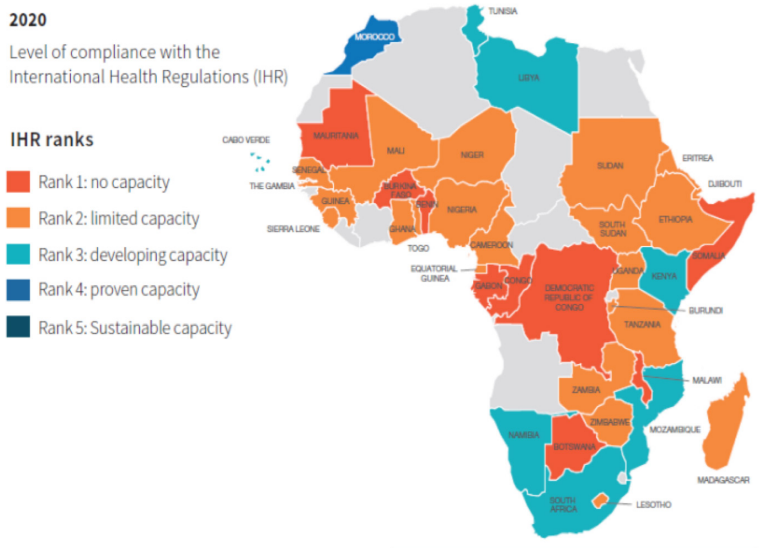
Contribution of the food economy in West Africa to total employment, 2018



Increased access to finance, mechanization, and digitization have the potential of attracting youth to the agri-food industry and reducing drudgery for women who dominate post-production activities.

4. Limited food processing capacity and breakdowns along key food value chains including suboptimal aggregation systems, tariffs, and non-tariff barriers: it is estimated that non-tariff barriers increase the price of final food products by 15 to 30 percent (OECD, 2022)[6]. Inefficiencies in food chains are also exacerbated by insufficient

Map 1: *Food Safety Capacity in Africa.* ***Source:*** *WHO, 2020*



Source: WHO (2020) and Jaffee et al., (2020); Map: © SWAC/OECD, adapted from Jaffee et al. (2020).

6 https://www.oecd-ilibrary.org/sites/e68c02a0-en/index.html?itemId=/content/component/e68c02a0-en#sect-105

investments in storage and processing facilities. As shown on the map (see map 1), most countries in Western Africa have limited or no capacity in terms of food safety. This situation is unacceptable in a region where the prevalence of stunting is estimated at 30.9 percent (higher than the global average of 22 percent)[7].

5. Degradation of ecosystems in the Sahel and coastal countries is also a major pain point that limits the performance of food systems in Western Africa. Agricultural and animal production capacity is constrained by limited availability and access to productive land. Frequent floods and droughts also exacerbate the loss of crops and the degeneration of productive capacities of the Western Africa region.

6. Challenging regional food systems governance: the Economic Community of West African States (ECOWAS) is the main regional governance structure that coordinates regional efforts on agri-food systems. The Department of Economic Affairs and Agriculture has been active in rallying Member States around a common agenda for food and agriculture. This is done through its Directorate of Agriculture and Rural Development and specialized agencies such as Regional Agency for Agriculture and Food (RAAF) and other subregional entities such as Permanent Interstate Committee for Drought Control in the Sahel (CILSS). However, there are still many issues that have not yet been solved. The critical ones include the lack of harmonized and mutually recognized grades and standards for food-grade items and effective regional food reserve mechanisms for a region that is consistently facing food and nutrition insecurity. Only 9 countries out of 15 ECOWAS countries plus Chad and Mauritania hold food reserves as part of their emergency response plans. These include Togo, Niger, Chad, Mali, Cape Verde, Ghana, Mauritania, Nigeria, and Burkina Faso. Other countries, especially coastal countries, have no mechanisms in place that enable them to respond to food crises. Efforts to establish a regional food reserve mechanism are moving slowly under the auspices of ECOWAS and Réseau des Sociétés ou Offices chargés de la Gestion des Stocks nationaux de sécurité alimentaire au Sahel et en Afrique de l'Ouest (RESOGEST). As for the Central Africa region, WFP Regional Bureau for Western Africa (WFP RBD) covers the Central African Republic, Cameroon, and Chad that are members of the Economic Community of Central African States (ECCAS). This region has not made significant progress in the transformation of its food systems and WFP's engagement with ECCAS needs to step up further. Recent funding partnerships between the World Bank, the governments of Cameroon, Chad and the Central African Republic, and WFP to improve the resilience of communities (both refugee settlements and host communities) constitute a golden opportunity of an active engagement in subsequent efforts to transform food systems in the ECCAS region.

In sum, a set of obstacles to having healthy, inclusive, and resilient food systems in Western Africa are related to limited food supply capacity and weak governance mechanisms for food systems. These obstacles result in high cost of food due to limited food production infrastructure and limited value addition. Limited access to key services such as mechanization and digitization also constrains the capacity of food systems to provide nutritious diets to consumers in Western Africa in an affordable manner. Other limiting factors include the lack of access to credit due to rigid banking systems and overwhelmingly high interest rates, inadequate food quality and standards, and limited food trade across the region often due to tariffs and non-tariff barriers.

7 Global Nutrition Report | Country Nutrition Profiles - Global Nutrition Report

Investing in Western Africa's Food Systems: Key Considerations

Agroecological zones

The prioritization of investments should follow opportunities in the main agroecological zones and solvable structural issues as well as the maturity of agri-food systems. Countries in the Sahel may need investments in primary production systems that capitalize on the availability of groundwater and solar energy; while costal countries may need more investments in post-production systems to reduce post-harvest losses, extend the shelf life of food products, and efficient distribution and retail networks. However, some parts of the coastal countries especially the northern regions of the Gulf of Guinea countries, may need the same investments as the Sahel region due to physical and ecological similarities.

Food systems in Western Africa are characterized by their strong spatial heterogeneity and rapidly evolving context[8]. Western African counties transcend various agro-ecological zones including (see table 3):

1. arid with less than 70 days length of growing period (LGP),
2. semi-arid (70 - 180 days LGP),
3. subhumid (180 - 270 days LGP), and
4. humid (over 270 days LGP).

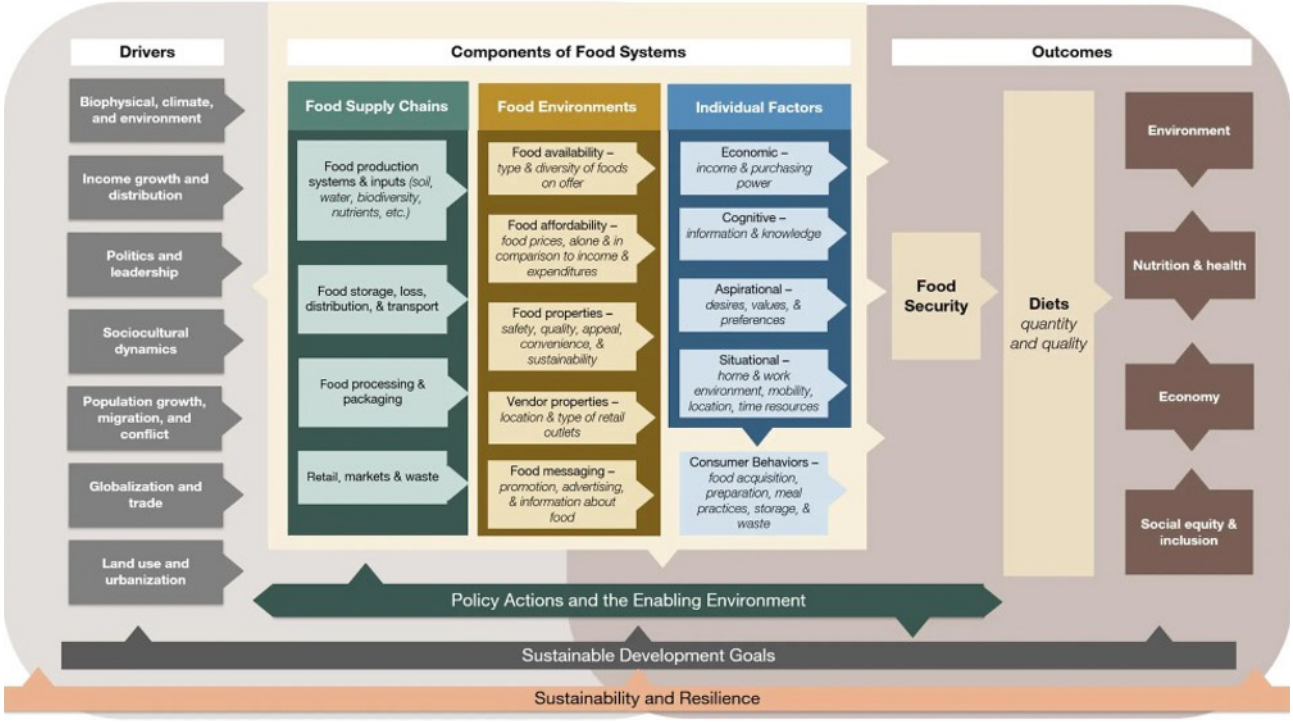
Table 3: *Main agro-ecological zones in Western Africa.*
Source: *FAO:* https://pure.iiasa.ac.at/id/eprint/13290/1/GAEZ_Model_Documentation.pdf

Agro-ecological Zones	Countries	Length of growing period (LGP)	Key food commodities
Arid & semi-arid	Mali, Niger, Chad, Mauritania, Burkina Faso, Cape Verde, parts of Senegal and Northern Nigeria	75 - 180 days	Livestock, millet, sorghum, cassava, maize
Sub-humid	Parts of Burkina Faso, Nigeria	180 - 270 days	Livestock, maize, rice
Humid	Ghana, Liberia, Sierra Leone, Nigeria, Cote d'Ivoire, Togo, Benin, Guinea, Cameroon, Central Africa Republic	270 - 365 days	Rice, maize, sorghum, tubers (cassava and yam), cowpea

Ecological zones determine the potential of agricultural primary production while the maturity of food systems reflects the state of other food supply subsystems such as food storage, distribution infrastructure and retail networks, processing and packaging, and food environments such as food quality and safety, economic and physical access to food, and consumer sophistication and choices (see figure 4).

8 https://www.oecd.org/swac/maps/Food-systems-Sahel-West-Africa-2021_EN.pdf

Figure 4: *Key components of food systems.* ***Source:*** *FSCI Framework — FSCI (foodcountdown.org)*



Structural issues and interaction between food systems in Western Africa

a. **Food systems in Sahel countries:** climate shocks and limited access to arable land and other key inputs such as water, low fertility levels, and seed adapted to the Sahelian agroecology. The fragility of the Sahelian food system is also exacerbated by active armed conflicts and limited types of crops. The predominance of sorghum and millet in the Sahelian diet requires special attention grain post-harvest management. Long dry period and heavy but short rains call for specific agropastoral land management practices and technologies.

b. **Food systems in coastal countries:** dependence on imports and limited competitiveness of food production, processing, and distribution systems. Dependence on long supply chains (affected by international shocks and stressors) has increased the cost of food and a healthy diet is no longer affordable. The large proportion of tubers, maize and rice in the food basket also requires special attention to post-harvest losses. Coastal countries are also characterized by north and south dichotomy with different demographic trends and other socio-economic traits.

c. **Transmission belt between Sahel and coast countries:** the interaction between these two food systems through migration and labour as well as demographic similarities lead to a set of issues and opportunities to transform their food systems within the Sudano-Guinean agroecology. Given that insecurity and land degradation which affect Sahelian countries have a ripple effect in coastal countries, it is important to protect coastal food systems and strengthen their capacity

to withstand shocks and stressors including climate change, conflict, and international shocks such as supply chain disruptions and rising food prices. Improved and efficient food trade along the main corridors linking production hubs (agropoles), access to capital (investment and working capital), and simplified trade regimes can improve food market functionality and solve glut and shortage conundrum.

Maturity of food systems in Western Africa

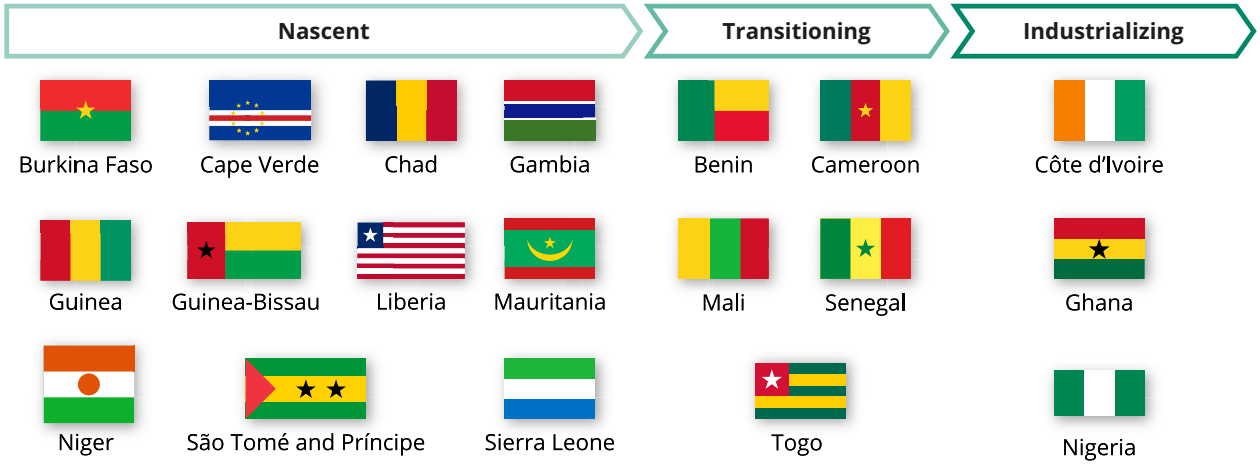
The maturing of food systems is assessed by using metrics that include food production capacity, value addition, diversification, and consumer sophistication levels. To simplify the classification, WFP Regional Bureau for Western Africa has subdivided food systems in three categories (see figure 5):

1. **Nascent:** food systems that depend on a few staple crops with large deficit food stock leading to an increasing dependency on food aid.
2. **Transitioning:** food systems that are transitioning from primary production to value addition.
3. **Industrializing:** food systems with surplus production and increasing private and public investments in post-production systems. Consumers in these food systems are achieving sufficient levels of sophistication as they start considering the nutritional value of the food they consume.

Agri-food system maturity is reflected in food production capacity, value addition, diversification, and consumer sophistication levels

Figure 5: *Maturity of Food Systems in Western Africa*

Stage of agri-food system maturity in Western African countries



Note: *This typology reflects the overall stages of food systems at national levels. Subnational geographic areas such as northern parts of coastal countries may be under different categories.*

The maturity of food systems determines the type of investments that are needed to strengthen and move them to the next stage of the maturity continuum. From 2017 to 2022, industrializing food systems (Nigeria, Ghana, and Cote d'Ivoire) attracted 71 percent of Foreign Direct Investments in greenfield projects while the other 12 countries in ECOWAS benefited from the remaining 29 percent (OECD, 2023).

Prioritized Food systems Transformation Pathways for Countries in each Maturity Stage

Industrializing stage: Western African countries whose food systems are industrializing have prioritized the following food systems transformation pathways:

1. Agro-industrial parks (agro-processing clusters) linked to agropoles (production clusters) to boost food production and add value to achieve food sovereignty and resilience of food supply chains. Investments in these areas are driven by the goal of reducing the dependency on food imports and avoiding the efforts of international food supply chain disruption,
2. Food safety standards and dietary guidelines: facilitating and enforcing the adoption of food quality and safety standards by food handlers including street vendors, processors, traders, and producers. This includes nutrition education and policy bundles that encourage the production and consumption of safe and nutritious foods supported by clear nutrition profiling with truthful labeling and food certification.

Transitioning stage: countries that are transitioning from food deficit are increasingly focusing on crop diversification while improving land and labour productivity. Key pathways that are generally being prioritized include:

1. Mechanization and digitization of food supply chains,
2. Increasing adoption of improved inputs and diversification away from staples,
3. Food processing and markets as a way of sustaining the demand that incentives increased production and reducing post-harvest losses.

Nascent stage: food systems in nascent stages are still struggling with food availability and common themes in their pathways to transformation include:

1. Agricultural intensification with a major focus on the adoption of improved seeds and fertilizer as well as good agronomic practices, and
2. Linking smallholder production systems to structured markets.

In July 2023, the Secretary General of the United Nations released a report dubbed "Making Food Systems Work for People and Planet: UN Food Systems Summit +2". The report stated that country pathways seemed to vary based on the level of income. Food systems transformation pathways in high-income countries focus on the promotion of healthy diet, while those of low-income countries focus on the reduction of hunger and malnutrition[9].

In January 2023, the African Union and the African Development Bank organized a summit in Dakar to increase investment in the

9 unfss2-secretary-general-report.pdf (unfoodsystemshub.org)

agricultural sector. Under the theme Feed Africa: Food Sovereignty and Resilience, the Dakar 2 summit provided African countries with an opportunity to present their delivery compacts with detailed investment plans for strategic agricultural value chains[10]. While these compacts focused on staple crops, most countries also developed food systems transformation pathways that are more comprehensive in scope and involving multiple stakeholders[11]. These pathways are grouped into the following 5 action tracks:

1. Ensure access to safe and nutritious food for all,
2. Shift to sustainable consumption patterns,
3. Boost nature-positive production,
4. Advance equitable livelihoods,
5. Build resilience to vulnerability, shocks, and stressors.

The analysis of all the proposed pathways for each country is accessible here: [National Pathways Analysis Dashboard | UN Food Systems Coordination Hub (unfoodsystemshub.org)]

In the Western Africa region, Nigeria, Ghana, Chad, Burkina Faso, and Togo have developed more themes for the 5 action tracks than other countries in the region (see map 2).

Map 2: *Themes in national food systems pathways*

10 https://www.afdb.org/en/dakar-2-summit-feed-africa-food-sovereignty-and-resilience/compacts

11 National Pathways Analysis Dashboard | UN Food Systems Coordination Hub (unfoodsystemshub.org)

Food Systems Transformation and WFP Contribution

Definition of food systems: food systems refer to the range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution (storage, wholesale, retail, and transportation), consumption and disposal of food products; linkages with parts the broader economic, societal, and natural environments in which food systems operates. As shown in figure 7, food systems include food supply system, environmental system, health system, and socio-economic system (FAO, 2014)[12].

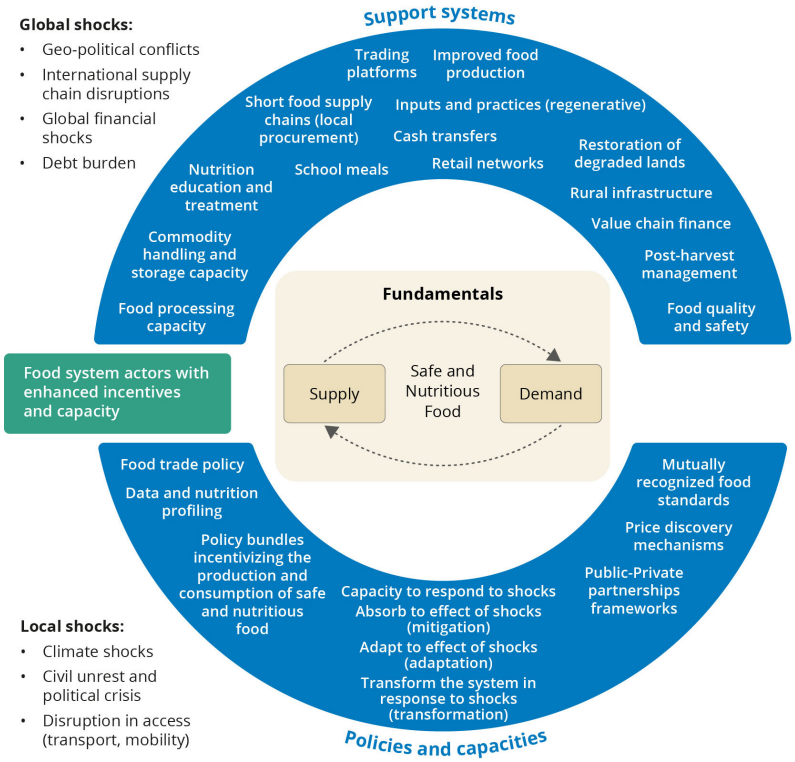
The transformation of food systems refers to fundamental changes in the types of available food products and services, the way food is produced, processed, transported, marketed, consumed, and disposed of. Food systems transformation efforts focus on making safe and nutritious food available, accessible, and affordable for everyone all the time within defined boundaries, promoting practices that lead to minimum or no harm to the environment and social cohesion during the production and post-production processes. The transformation of food systems also aims to create employment opportunities, increase income, and reduce poverty levels.

The framework below shows key areas that WFP and its partners will prioritize in their efforts to strengthen the supply and demand for safe and nutritious food (see figure 6). Most of these areas are also captured in the existing WFP Smallholder Agricultural Market Support (SAMS) performance areas[13]. Contributing to the goal of reducing the dependency on humanitarian assistance and food imports remains the north star that will guide WFP's efforts and its contribution to the transformation of food systems in the Western African region.

Figure 6:

Framework for WFP Contribution to the Transformation of Food Systems in Western Africa

(adapted from Market Systems Development Framework)



12 https://www.fao.org/3/ca2079en/CA2079EN.pdf

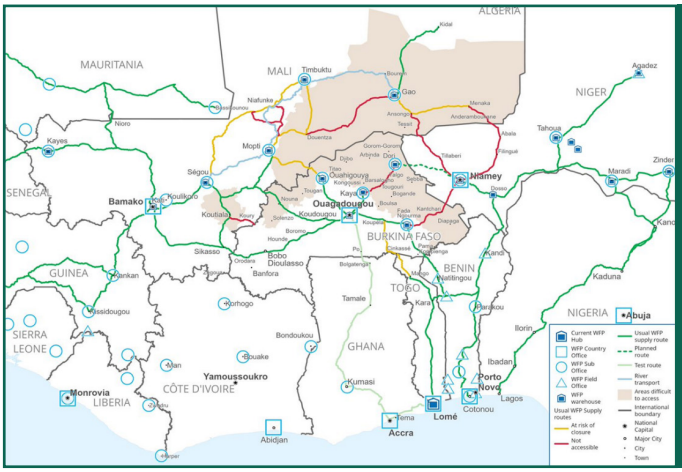
13 docs.wfp.org/api/documents/WFP-0000141322/download/

WFP Capabilities and Value Proposition for Western Africa

WFP is uniquely positioned to effectively contribute to the transformation of food systems in Western Africa. To fulfil its mission of ensuring that people affected by natural and human-made disasters have access to affordable and safe nutritious food, and become resilient to shocks and stressors, WFP developed capabilities that span the full spectrum of food value chains and food system support functions. These capabilities constitute leverage points that the Western Africa region can lean on as it seeks to transform its food systems.

WFP footprint in Western Africa is increasing along main and secondary food supply routes linking various logistic hubs, field offices, warehouses and trade corridors, rural and urban population centers as well as major cities in Western Africa (see map 3). WFP is also closely linked to local communities, local authorities, and private sector operators including food processors, traders, transporters, and retailers. WFP is currently operating seven logistical hubs and 190 warehouses along major food trade routes in Western Africa. WFP is also working with 523 transporters and dozens of companies that have food processing facilities in Nigeria, Ghana, Burkina Faso, Niger, Guinea, Central African Republic, Mauritania, and Mali. WFP is providing technical assistance to enable these companies to meet food quality and safety standards and develop and market nutritious food products.

Map 3: *WFP footprint in Western Africa*



- **7 logistical hubs (ports and inland)**
- **190 warehouses along major food trade routes in Western Africa**
- **523 transporters**
- **24 food processing companies**

This presence enables WFP to quickly respond to emergencies and support many communities to strengthen their resilience to various shocks and stressors.

Food and cash transfers: In Western Africa, WFP has been responding to emergencies using food assistance and cash-based transfer. It is estimated that WFP spends more than USD 600 million per year on average to provide relief support to families affected by natural and human-made disasters in Western Africa. This humanitarian demand can be leveraged to incentivize increased local production and value chain development for quality and nutritious food. Even though this demand is volatile and depends on hunger crises, WFP instruments such as the Global Commodity Management Facility (GCMF), and the Local and Regional Food Procurement Policy (LRFPP) consolidate the demand at scale and provide food traders, processors, transporters, and producers

a medium-term (3 to 5 years) visibility and guaranteed demand.

Logistical service provision: To respond to frequent food crises, governments, financial institutions, and other capital providers are increasing leveraging WFP logistical capabilities and expertise. WFP has been providing services to strategic grain reserves in Western Africa to ensure improved operating and planning capabilities of government-managed food reserves. Furthermore, when the fertilizer crisis hit, governments and other partners turned to WFP to strengthen last-mile delivery systems and ensure that farmers in rural and remote areas have access to fertilizer to enable them to plant on time. This makes a difference in areas where farmers have a short window of rainfall. WFP data infrastructure is used for accurate demand-driven planning for agricultural inputs, WFP is also providing supply chain optimization services for school feeding programs in countries such as Benin. School feeding programs are an important component of social protection systems and hold the potential to accelerate the transformation of food systems in Western Africa.

Blended finance and technical assistance to the food industry: WFP has been building the capacity of private sector companies to produce Special Nutritious Foods including lipid-based supplementary food, super cereals, and other fortified blended flour. WFP is supporting 24 food processing companies in 8 countries, including Ghana, Nigeria, Niger, Burkina Faso, Guinea, Mali, Mauritania. WFP provided these companies with minimal but catalytic investment that enabled them to crowd in other sources of capital including bank loans, private equity, and grants.

Building systems: WFP has also been working with national food safety systems to strengthen their planning and implementation capabilities. The support includes the development of food safety standards, installation of food laboratories and training of food technologists. Moreover, WFP has put in place the Africa Risk Capacity Replica that enables African governments to take a sovereign insurance policy against incidences of crop failure. WFP is also working with stakeholders to enable farmers and herders gain access to micro insurance for their crops and livestock.

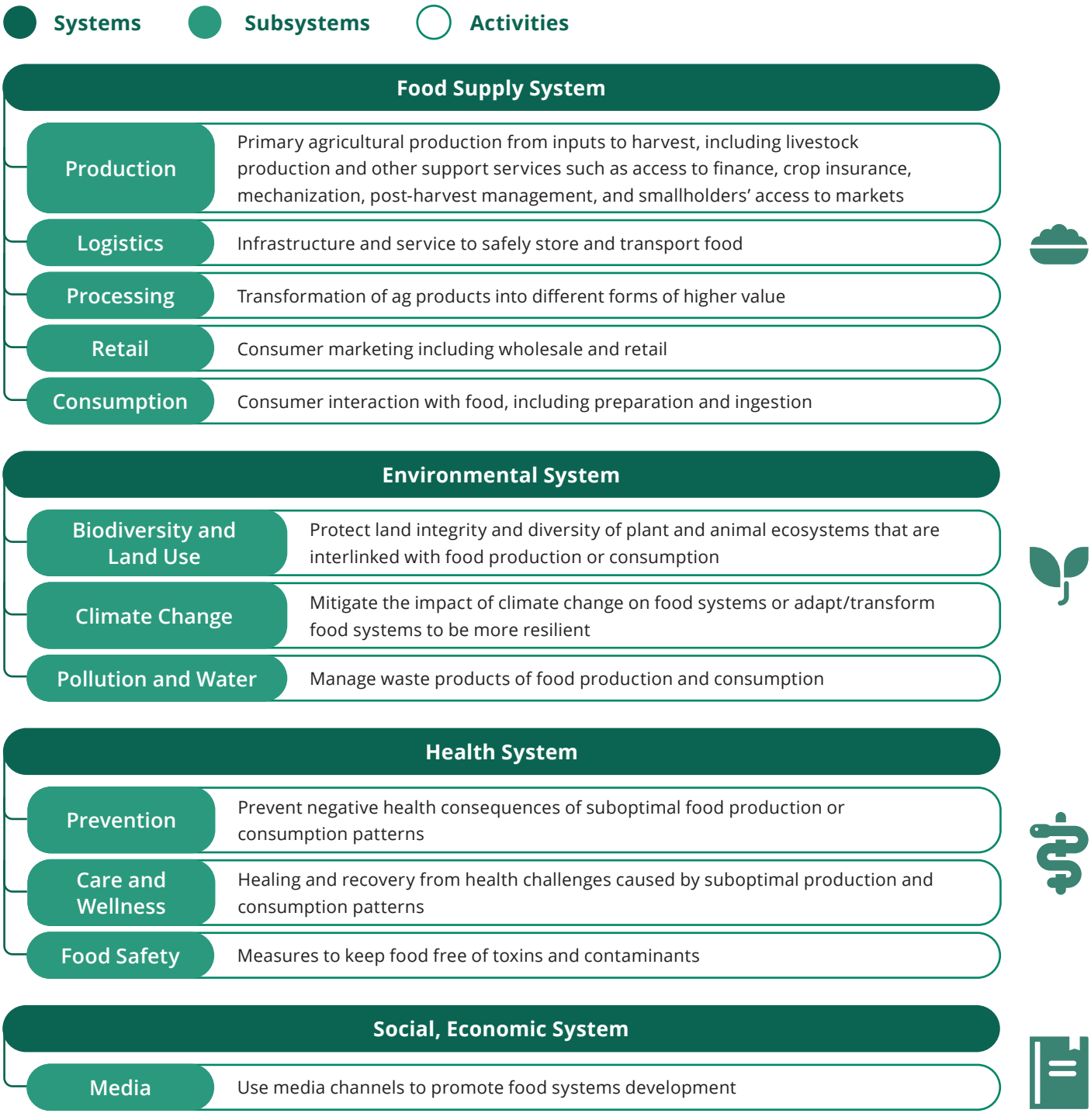
Market intelligence and evidence generation: WFP is strategically positioned to provide critical market-related information (price data, the fill nutrient gap, food balance sheets that include nutritious food commodities, and market functionality index). WFP collects and analyzes food price-related information in over 1,000 markets across Western Africa. This critical data is needed to accurately inform local and regional procurement strategies. WFP has a unique position to improve market intelligence through partnership as it is already collaborating with governments, regional organizations, research institutions, and academia as well as private sector companies who hold stocks and those engaged in food processing and distribution including retail networks.

Moreover, WFP's Research, Assessment, and Monitoring (RAM) team has developed capabilities to collect, analyze, and disseminate data on rainfall patterns and other analytics that enable governments, farming communities, and other actors to make informed decisions related to food and nutrition security. WFP well well-known analytical capabilities on resilience measurement and food security analysis are scalable and can be leveraged to develop metrics to measure the resilience of food systems.

Integrated offer: WFP brings unique value to governments and international financial institutions by offering integrated programs and services with a holistic approach. This means that interventions are cross-functional and consider both short-term and long-term solutions. This is critical when addressing the needs of the most vulnerable populations while

building resilient, sustainable, and efficient food systems. With robust operational expertise in programme design, supply chain, and engineering, WFP can provide direct support, technical assistance, or service provision to critical capacity gaps. WFP intervenes across the four components of food systems including (1) the food supply system, (2) the environmental system, (3) the health system with a special emphasis on nutrition and food safety, as well as (4) the socio-economic system focusing on social protection. WFP will make catalytic investments that improve the performance of all these 4 systems by crowding in public and private sector investments and ensuring that vulnerable groups including those facing food and nutrition insecurity as well as other social groups such as women and youth are positively impacted (see figure 7).

Figure 7: *Food systems and subsystems*



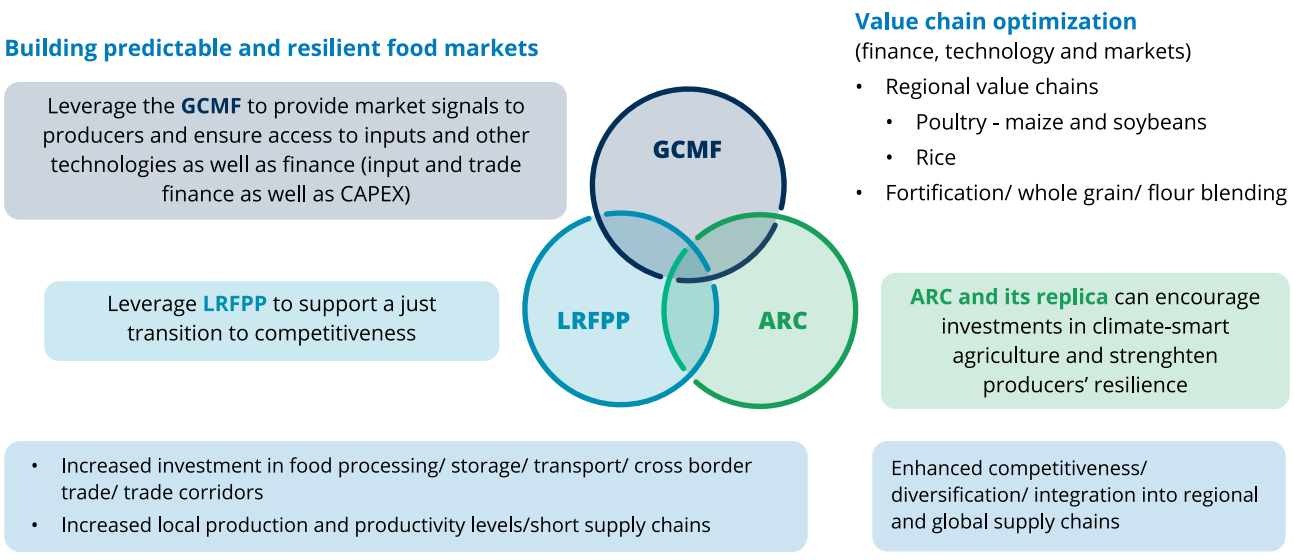
Education and Culture	Manage waste products of food production and consumption
Policy, Regulations, and Governance	Government instruments to create and enforce food systems norms/standards and incentives for a healthy food production and consumption, land tenure
Access and Affordability	Making nutritious food accessible and affordable, including social protection measures

A **creative combination** of investments can enable WFP to positively impact the above-described food systems and subsystems. Below is a sample of investment areas that can be combined to maximize WFP impact on food systems:

Local and Regional Food Procurement Policy (LRFPP): WFP has revised its food procurement policy to ensure that smallholder farmers and other food system actors that are adopting sustainable, regenerative, and inclusive practices can be incentivized to reach the scale that is required to transform food systems while becoming competitive vis-à-vis food imports. WFP has also put in place the Global Commodity Management Facility (GCMF) that makes working capital available for food procurement. This facility enables WFP and other humanitarian agencies to have access to food stocks whenever needs arise and reduces lead time. To safeguard upstream production systems, especially actors who are investing in climate-smart practices and technologies, WFP has been supporting the development and adoption of micro-insurance products. In addition, WFP in partnership with African governments and other development partners put in place the Africa Risk Capacity (ARC) which serves as a sovereign agricultural insurance scheme. ARC Replica is a sovereign mechanism that protects people hit by a natural disaster. Macro insurance instruments like ARC Replica can provide liquidity to governments and partners like WFP in the case of a drought so that affected people can receive assistance earlier (as early as two months after a failed harvest) than traditional lean season support. Receiving assistance earlier protects farmers as they can avoid negative coping mechanisms like selling productive assets, removing children from school, and and cutting down the number of meals.

A combination of these leverage points holds the power to effectively transform the way food is produced, marketed, and consumed (see figure 8).

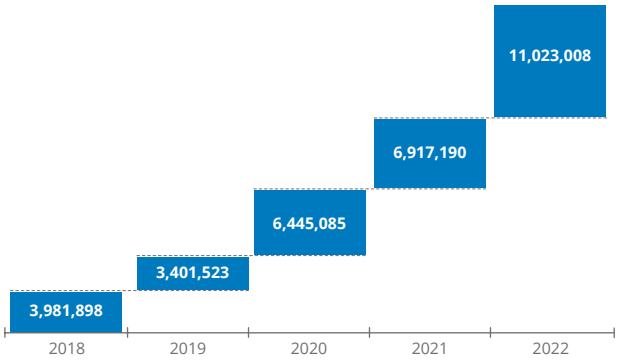
Figure 8: *Key WFP leverage points for the transformation of food systems*



Cash-Based Transfers (CBT) is an additional leverage point for an effective food systems transformation at scale. WFP has been using cash as a flexible modality that enables aid recipients to meet their basic needs. In Western Africa, more than 50 percent of the disposable income is spent on food. This modality can influence the food demand side, but its potential can only be achieved if it is combined with the food supply side (production systems) to ensure demand levels are sustained as production levels pick up. This can solve the equation and the conundrum of low consumer price versus high-farming income which depends on yield levels and market prices. WFP cash transfers supplement cash transfers from government-managed social protection systems to increase the scale and the reach for maximum impact on food systems.

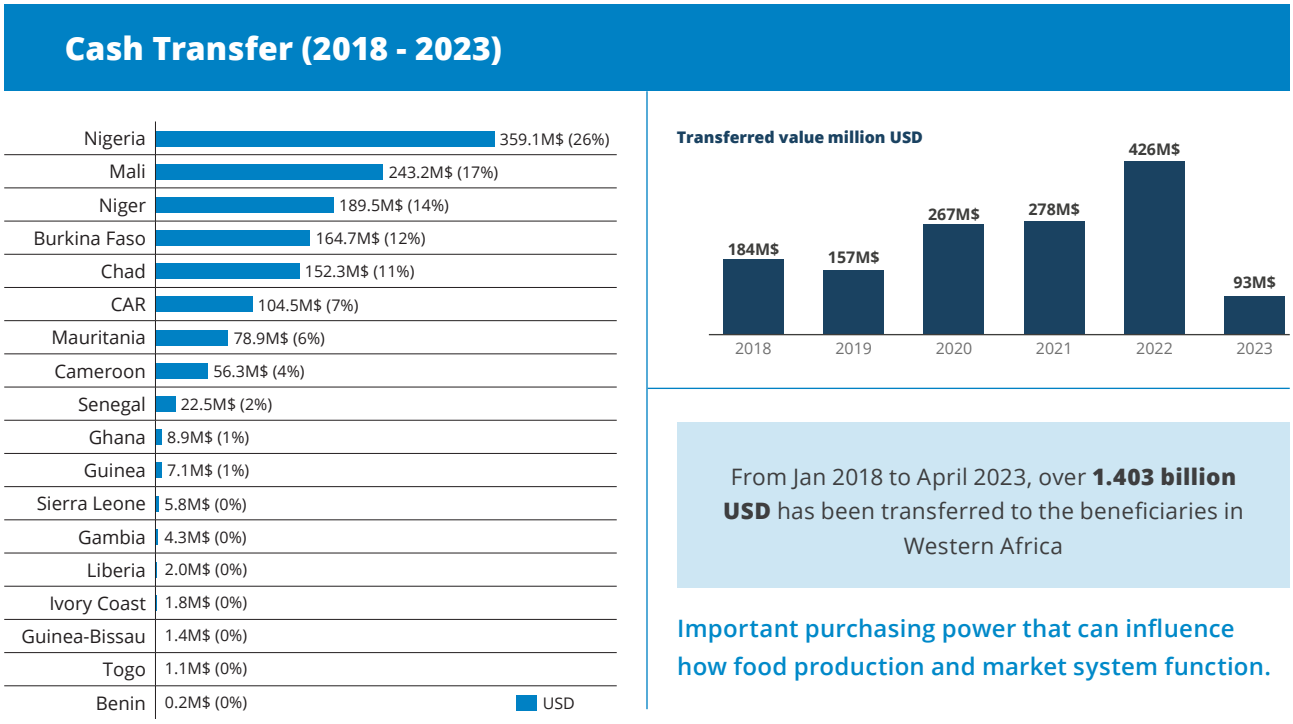
Between 2018 and 2022, WFP provided cash to an average of 6.4 million people a year in Western Africa (see figure 9).

Figure 9: *Beneficiaries of WFP cash transfers from 2018 to 2022*



The amount that was distributed to vulnerable people is estimated to be more than USD 262 million per year with the highest levels of cash transferred (USD 426 million) being realized in 2022 (see figure 10).

Figure 10: *WFP Cash Transfers: January 2018 to April 2023.* ***Source:*** *Cashboard (Extraction date: 20 April 2023).*



From Jan 2018 to April 2023, over **1.403 billion USD** has been transferred to the beneficiaries in Western Africa

Important purchasing power that can influence how food production and market system function.

Retail networks that participate in WFP cash-based transfers can also invest upstream to support production systems and ensure an uninterrupted supply for safe and nutritious food to institutional markets such as schools, strategic food reserves, and nutrition centers.

Other institutionalized customers such as refugee and Internally Displaced People (IDP) settlements, military barracks, prisons, and hospitals are also an important node in the safe and nutritious value chains.

Strategic engagement and strong convening role: with a global network of partners around the world, WFP has established strong relationships with various stakeholders, including governments, private sector, UN agencies, local NGOs, communities, and donors, ensuring better coordination and collaboration in project implementation.

WFP unique conditions: WFP benefits from special conditions for services related to humanitarian work, including procurement. It also ensures transparent and credible contracting, accountability, and insurance mechanisms.

WFP Strategy for the transformation of food systems in Western Africa

Globally, WFP has been protecting food systems before crises happen through its collaboration with governments and other actors to strengthen social protection systems. WFP has been using cash transfers where food markets function efficiently and food assistance where markets are not functioning. These efforts have enabled communities and families to adopt positive coping mechanisms that allowed them to keep their core resources and assets rather than selling them and keep their children in schools instead of deploying them for labour or early marriages due to lack of food and limited livelihoods. WFP has also continued to play its traditional role of providing food assistance during crises. Furthermore, WFP has been building the capacity of governments and other agencies to effectively transform food systems and make them more inclusive and resilient to multiple shocks and stressors and rebound quickly after crises.

Theory of change

IF ecosystems are rehabilitated and restored, AND surplus-producing areas are protected through sustainable practices and upgraded market systems for food crops and livestock products, AND institutional and delivery capacity is strengthened (government and private sector), THEN food systems will be transformed and function in a way that reduces the reliance on humanitarian assistance and food imports in Western Africa (see figure 11).

In Western African countries, WFP is pursuing a three-pronged strategy that contributes to the transformation of food systems.

1. **Ecosystem rehabilitation and restoration** with a major focus on degraded land using a watershed management approach. This pillar of the strategy uses cash-based transfers and food assistance to enable communities to develop assets that support and strengthen food production capacities. The type of assets that are created include micro irrigation systems, water dams and dikes that enable the production of food and fodder, half-moons, and agroforestry for the protection of fertile lowlands, school, and community gardens as well as fishponds. This pillar focuses on communities that have been experiencing hunger in a persistent manner. The goal is to **reduce their reliance**

on humanitarian assistance and build resilience against shocks and stressors. This pillar of the strategy will focus on Sahel and the northern parts of Gulf of Guinea and other coastal countries.

Sahel and northern parts of the Gulf of Guinea and other coast countries

Create value on rehabilitated sites especially lowlands: WFP has been implementing an integrated resilience programme in the Sahel since 2018. The programme has been rehabilitating degraded land and creating productive assets such as fishponds, dikes, agricultural water harvesting and other micro irrigation systems. Creating value on rehabilitated sites entails identifying sites that have become viable for medium to large scale production, organize groups of farmers or local Small and Medium-sized Enterprises (SMEs) and whenever possible, prioritize youth and women who can engage in the production of high value crops such as horticulture and rice. WFP school feeding programs and supply chains can mobilize food traders and processors by providing them with a long-term contract (and repeat transactions) whose conditionalities include providing production and post-harvest management support to producers (access to inputs, extension, and post-harvest technologies. Sites along the main water bodies (Niger River and Senegal River) as well as the Lake Chad basin should be among the priority areas for enhanced value creation. In addition, WFP can leverage the Great Green Wall initiative, especially its investment in "Fermes Agricoles Communautaires Intégrées (FACI)" to boost agricultural production in the Sahel.

Support value addition in pastoralist communities: WFP will mobilize investments in chilling plants and other milk and animal product processing in areas where school feeding programs are being implemented. Suppliers of milk, yogurt, and other animal products will be provided with long-term contracts that will enable them to support the maintenance and expansion of animal feed-producing sites (hay/animal fodder). Processing facilities in pastoralist communities can also leverage solar power grids that WFP installed to power water systems. These mini grids have excess capacity that can be utilized for other purposes including cold chains. In pastoralist communities, WFP asset creation initiatives will optimize the value of water ponds, rainwater harvesting systems, and solar energy systems by developing **milk** and **fodder value chains**.

2. **Breadbasket strategy** focusing on **protecting surplus-producing areas** through good food production practices, post-harvest management, value optimization, and improved linkages with institutional and retail markets. WFP leverages its policy on Local and Regional Food Procurement to support countries to reduce food imports and strengthen local food supply chains. Beyond efficient food production, the goal of this pillar is to strengthen the resilience of local supply chains by providing strong market signals that reward sustainable production practices, adoption of climate-smart and nutritious crop varieties, and inclusive food origination models that benefit smallholder farmers, women, and youth. Proximity to food processing hubs would also support the production of fortified food with extended shelf life. This strategy will be more appropriate for coastal countries.

Coastal countries

Post-harvest management: WFP will work with manufacturers of post-harvest handling equipment to develop last-mile delivery systems that include SMEs who acquire technologies and provide farmers with post-harvest management services at a fee, financial institutions that will provide capital for the acquisition of post-harvest technologies, and producers linked to structured markets that pay a premium for

quality (WFP and other institutional markets) and enable the **transfer of post-harvest loss risks** from smallholder farmers and herders to agribusinesses that have higher post-harvest management capabilities.

WFP will also partner with large local and regional traders such AFEX-Nigeria that is using inclusive models that enable farmers to have access to inputs finance, storage facilities near their farms, and other post-harvest management services such as threshing and drying facilities, as well as advanced trading systems that also serve as price-discovery mechanisms. These mid-stream traders are an important node that links primary production to food processing. Our experience in installing solar panels to power water systems can also be leveraged to develop last-mile cold chain systems for perishables (example: https://www.coldhubs.com/). At national and regional levels, WFP will partner with the African Union to support Western African countries to develop national post-harvest management strategies. This can be implemented by the African Postharvest Losses Information System (APHLIS)) which is currently hosted by the Natural Resources Institute (https://www.nri.org/) at University of Greenwich.

Value addition and food processing capacity development: WFP will work with Partners in Food Solutions (**PFS**) (https://www.partnersinfoodsolutions.com/) and other service providers and partners such as the United Nations Industrial Development Organization (**UNIDO**) to to mobilize more than 100 African growing food processing companies and traders around WFP institutional market opportunities (estimated to be USD 300 million per year on average) and WFP annual cash injections of more than USD 320 million. Most supported food companies are in Nigeria, Cote d'Ivoire, and Ghana. Expanding market opportunities for these processing companies will lead to improved processing capacity utilization and hence, more job creation. However, the availability of raw materials may constitute a major barrier to this expansion. Access to raw materials will be improved through linkages to production areas including rehabilitated lands and breadbasket areas that are producing a surplus, and improved access to working capital. Price discovery mechanisms that allow actors to have visibility on price movement would also help in optimizing food delivery systems and reduce postharvest losses as postharvest risks are transferred from smallholder farmers with limited post-harvest management capacity to food companies with improved food handling capabilities.

Blended finance: Partnering with financial institutions such as the ECOWAS Bank for Investment and Development (EBID), the African Development Bank (AfDB), the International Finance Corporation (IFC), the Islamic Development Bank (IsDB), the UN Capital Development Fund (UNCDF), and the US Development Finance Corporation (DFC) as well as local financial institutions will also be important to ensure that food processing and trading companies have access to working capital that enables them to buy from producers including smallholder farmers as well as investment capital to acquire appropriate technologies and food handling infrastructure. Well-capitalized companies can also strengthen the governance of food supply chains by ensuring that all actors' incentives are aligned. They can also provide agricultural inputs and services directly to producers or through partnerships or a multi-stakeholder platform with actors investing in the upstream components of food value chains.

Example of Potiskum market and semi-arid areas of Yobe State in Nigeria:

The Potiskum market represents a huge potential as its trade volumes are almost 7,000 MT per week which represents a volume of 364,000 MT per year and reach almost 300,000 smallholder farmers. Traders in Potiskum and other markets would be instrumental in stimulating agricultural production by guaranteeing markets, providing inputs to farmers and other services such as agri-finance and post-harvest management through networks of input dealers and financial institutions and mechanization and post-harvest service providers. However, this marketplace must be rehabilitated and equipped with value-added equipment such as dryers, cleaners, and milling or processing machines. This can be done through a multi-stakeholder platform where WFP can partner with the local government, traders, AfDB, and UNIDO as well as an industry association of 10,000 traders operating in Potiskum market to develop blended finance mechanisms to rehabilitate Potiskum marketplace and upgrade it to a food-grade hub linked to food production areas and processing facilities. Land rehabilitation (with a major focus on micro-irrigation systems and other water harvesting technologies) in semi-arid areas surrounding this marketplace can contribute to increased trade volumes in Yobe State and beyond.

Upgrading large food markets such as Potiskum in Nigeria will also increase the availability of safe and food-grade raw materials for the food processing industry. Traders in these markets can become farmer-allied and ensure that farmers who supply them with food commodities have access to inputs and other services such as finance and mechanization.

Food fortification and flour blending:
WFP and its partners in the region will start with "low-hanging fruit" opportunities to improve the nutrition status of children, women, and men in coastal countries and beyond. These opportunities include biofortification, staple food fortification, complementary food, fortified flour blending, and local production of specialized nutritious foods (building on successful impact and catalytic investment in Premium Foods and Yedent in Ghana, and Nutri-K). This investment area can use the full package of WFP intervention in food quality management, procurement, and linkages to local smallholder farmers.

3. **Strengthening institutional and delivery capacity** for improved governance of food systems including land use optimization, value addition, food safety standards, food trade and private sector investment facilitation, as well as repurposing and redirecting subsidies and public investments towards the transformation of food systems for better jobs, income, nutrition status, and climate-smart ecosystems. This pillar focuses on building the capacity of governments to develop and implement food crisis response plans and effectively regulate and support the production and incentivize the consumption of safe and nutritious foods. WFP also strengthens the capacity of private sector companies to process and market nutritious foods in addition to supporting them to access affordable and sustainable finance through de-risking and guaranteed market opportunities. The Western Africa region faces chronic food and nutrition insecurity. Governments and development partners in the region have been rethinking their approach to fighting hunger and malnutrition. There is now a consensus that more investment is required to **build resilient food systems** and **reduce the need for humanitarian assistance** in the region. The main initiatives that are being

undertaken include (1) the development of regional food markets and strategic stocks, (2) food trade corridors, (3) and agropoles and agro-industrial parks. These three initiatives have attracted the attention of international and regional development banks such as AfDB, IsDB, EBID, World Bank (especially IFC) and other local financial institutions. Due to risks and high cost of sourcing and structuring deals, these financial institutions are open to blending finance where private capital is mixed with public and philanthropic sources of funding to lower the risks and maximize the benefits of these investments in an inclusive manner.

Regional initiatives

Agropoles/clusters/ and trade corridors: in addition to supporting the demand side (through supply chain/procurement and cash-based transfers), WFP will support countries and the region to increase food production levels and facilitate the flow of food through improved food trade. WFP will build on the achievements and investments that are being made in the framework of Africa Continental Free Trade Area (AfCFTA). WFP will partner with AfDB, IsDB, and ECOWAS Bank for Investment and Development (EBID), World Bank, IFC, Afreximbank, as well as host governments to design, build, and operate production clusters and trade corridors. WFP assets such as **GCMF** and **LRFPP** as well as its partnership with **ARC Replica** will be leveraged to achieve the required scale for profitability and shorten the payback period. WFP will deploy its digital marketplace and inventory tracking system to de-risk initial private and public sector investments in these agropoles and clusters that are being developed along key food trade corridors including Abidjan-Lagos and Dakar-Ndjamena (including WFP supply route of Niamey-Burkina Faso with an extension to Kano State in Nigeria).

Transitioning to sustainable energy in low-income countries is a priority not only to combat climate change but also to make labour mechanization more affordable and independent from hard currencies and global fuel prices. In Western Africa, countries such as Nigeria have developed an energy transition plan to meet the nation's energy needs and contribute to net zero targets[14]. WFP continues to strengthen its programs by integrating sustainable energy activities in its interventions through three main areas of focus: (1) energizing School Feeding (ESF), (2) productive uses of energy for smallholder farmer support, and (3) energy for the community and households, including displaced populations. WFP's experience in implementing diverse energy activities, such as solar-powered pumping systems for irrigation in the Sahel and improved cookstoves distribution in school canteens, can be leveraged to deliver wider energy interventions sustainably and at scale.

WFP aims to partner with the private sector and governments in Western Africa to improve access to clean cooking solutions and increase access to electricity for improved efficiency of agricultural processes (water pumping, electric food processing equipment and cold chain appliances) and diversifying livelihoods. This can be done through off-grid stand-alone solutions or mini-grids. Access to energy can strengthen production and post-production systems leading to improved access to safe and nutritious food.

Various projects are currently ongoing in the Western Africa region, and findings from these will inform potential adapted solutions that can be replicated at scale. WFP Guinea has started the implementation of an experimental project that integrates electric cooking, improved firewood stoves and refrigeration appliances in two schools to evaluate the potential impact of clean cooking solutions on school feeding programs. WFP Mauritania is starting a pilot for the introduction of Liquid Petroleum Gas (LPG)

14 https://energytransition.gov.ng/

for cooking in six schools supported by a School Feeding Program. Improved firewood stoves are also being implemented to reduce wood consumption and deforestation. WFP in The Gambia is implementing the Cooltainer4Women project, providing women associations in three fish landing sites access solar-powered cold storage units for appropriate preservation of fish products, and food loss reduction. WFP Niger has developed a country energy strategy to deliver market-based cooking and productive uses across emergencies and chronically food insecure settings (households, schools, and small-scale farmers). The country office has conducted an energy assessment to design evidence-based interventions.

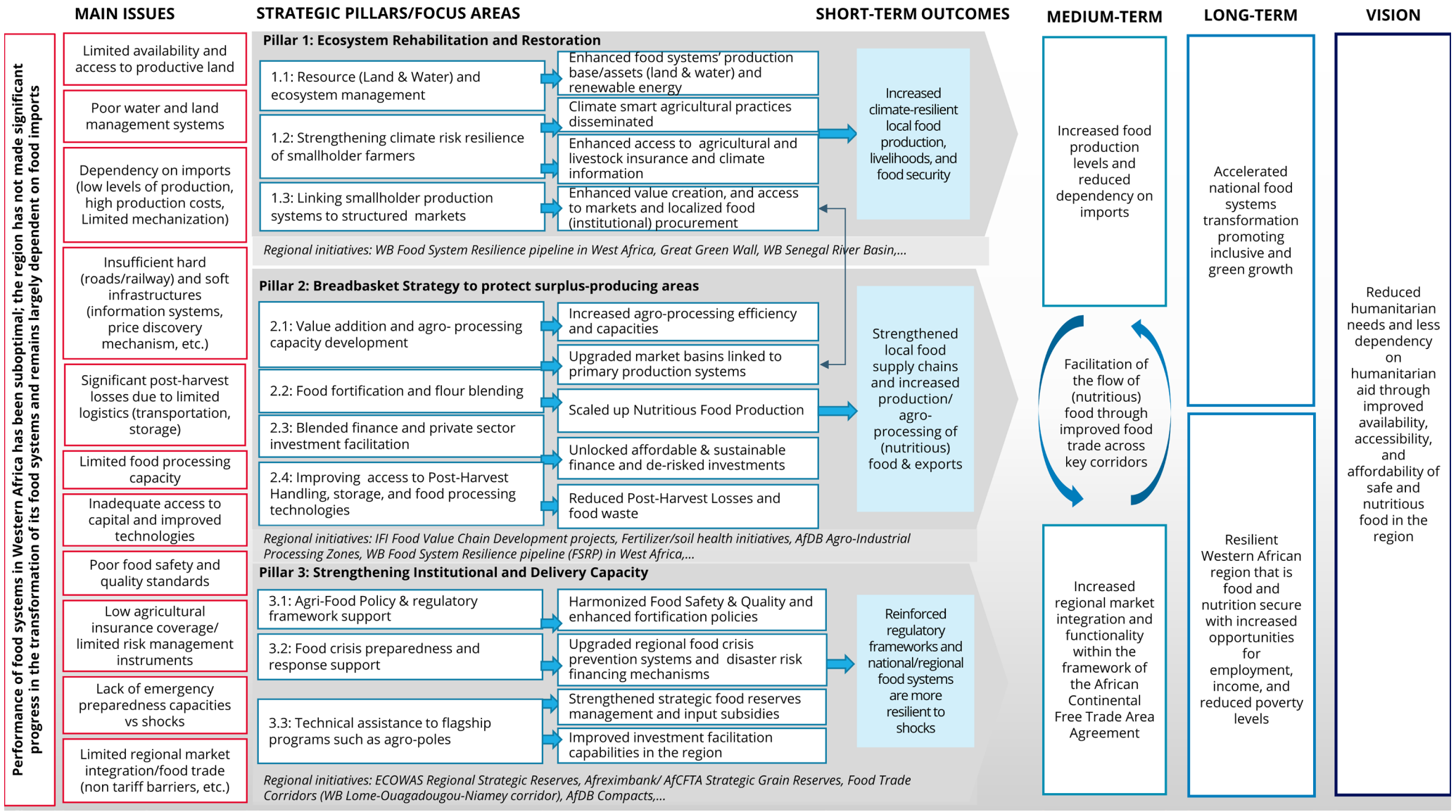
Regional Value Chains: countries in Western Africa have been experiencing a shift in eating habits. While the demand for sorghum and millet remains steady, urbanization and other socio-economic shifts have increased the demand for rice, maize, and poultry products. Government subsidies have also targeted these value chains. However, the Western Africa region's competitiveness is still low and increasing imports are having a debilitating effect on public finance. WFP has been working with the Republic of Korea to upgrade the rice value chain in Western Africa. WFP is also working with the Japan Cooperation Agency (JICA) to develop business models and partnerships that will increase access to mechanization and improved water management. WFP RBD is working in six countries (Cameroon, Ghana, Côte d'Ivoire, Nigeria, Senegal, The Gambia) to scale up rice fortification pathway and integration with school feeding programs.

The implementation of the EU funded "Réponse à la Crise Alimentaire au Centre Sahel" (CRIALCES) project in Burkina Faso, Mali and Niger showed the relevance of a nutritious food system approach. This innovative hybrid approach enables WFP to respond to emergencies while catalyzing and development. Nutritional assistance coupled with the support for production and commercial market development for nutritious food products is relevant for the Western African context. It represents an opportunity to create and strengthen bridges between WFP units and the need to have a more integrated approach.

Furthermore, WFP is developing partnerships with the EBID, the International Fund for Agricultural Development (IFAD), the United Nations Development Programme (UNDP), and IsDB to mobilize a pool of lenders and partners to stimulate and de-risk investments in maize, soybean, and cassava value chains in Western Africa. The competitiveness of the poultry sector depends on the availability of poultry feed whose main ingredients are maize and soybeans. Upgrading these two value chains by facilitating access to improved inputs, mechanization, warehousing services, agricultural finance including investment and working capital, digitization, and improved trade policies will contribute to the competitiveness of the poultry sector.

Agri-food policy reform and implementation: WFP is perceived as a key player in all initiatives geared towards the enhancement of food and nutrition security in Western Africa. WFP can use this position to shape public policy and investments in the region. The starting point should be ECOWAS' initiative related to the regional food reserve. As noted earlier, only nine countries (Togo, Niger, Chad, Mali, Cape Verde, Ghana, Mauritania, Nigeria, and Burkina Faso) hold food reserves as part of their emergency response plans. Efforts to establish a regional food reserve have not gained traction yet. WFP could actively support ECOWAS to achieve this goal in an innovative way that combines physical stocks and other instruments such as cash (as part of the social protection systems). Moreover, leveraging GCMF capabilities can enable ECOWAS food reserves to go beyond cereals and complete the food basket with other

Figure 11: *Theory of Change*



sources of nutrients that offer a healthy diet to people affected by food and nutrition insecurity.

In addition to the regional food reserve, WFP should work with ECOWAS and member states to develop regional food grade and standards that are mutually recognized among member states other non-members (Chad and Mauritania) to facilitate food trade in the region. Furthermore, an evidence-based food trade policy dispensation should be developed and implemented to avoid food trade bans that are becoming common currency and default position whenever a food crisis hits the region. The repurposing of subsidies and other incentives towards the production and consumption of nutritious food would also contribute to the transformation of food systems in Western Africa where input subsidies and price stabilization policy instruments target a few cereals value chains such as rice and maize. An analysis of the effectiveness of such policies and their impact on food security would help advocacy efforts for policy reform.

To shore up investment mobilization efforts, WFP, through its strategic partnership teams will continue to engage the African Union and its special programs such as the New Partnership for Africa's Development (NEPAD), ECOWAS and its member states to advocate increased budgetary allocations to the Comprehensive African Agricultural Development Programme (CAADP) priorities[15]. WFP will also support investment facilitation efforts for the implementation of Food and Agriculture delivery Compacts that were negotiated during Dakar II Summit under the theme of Feed Africa: Food Sovereignty and Resilience[16]. WFP will also continue to support the refinement and implementation of food systems transformation pathways in Western Africa.

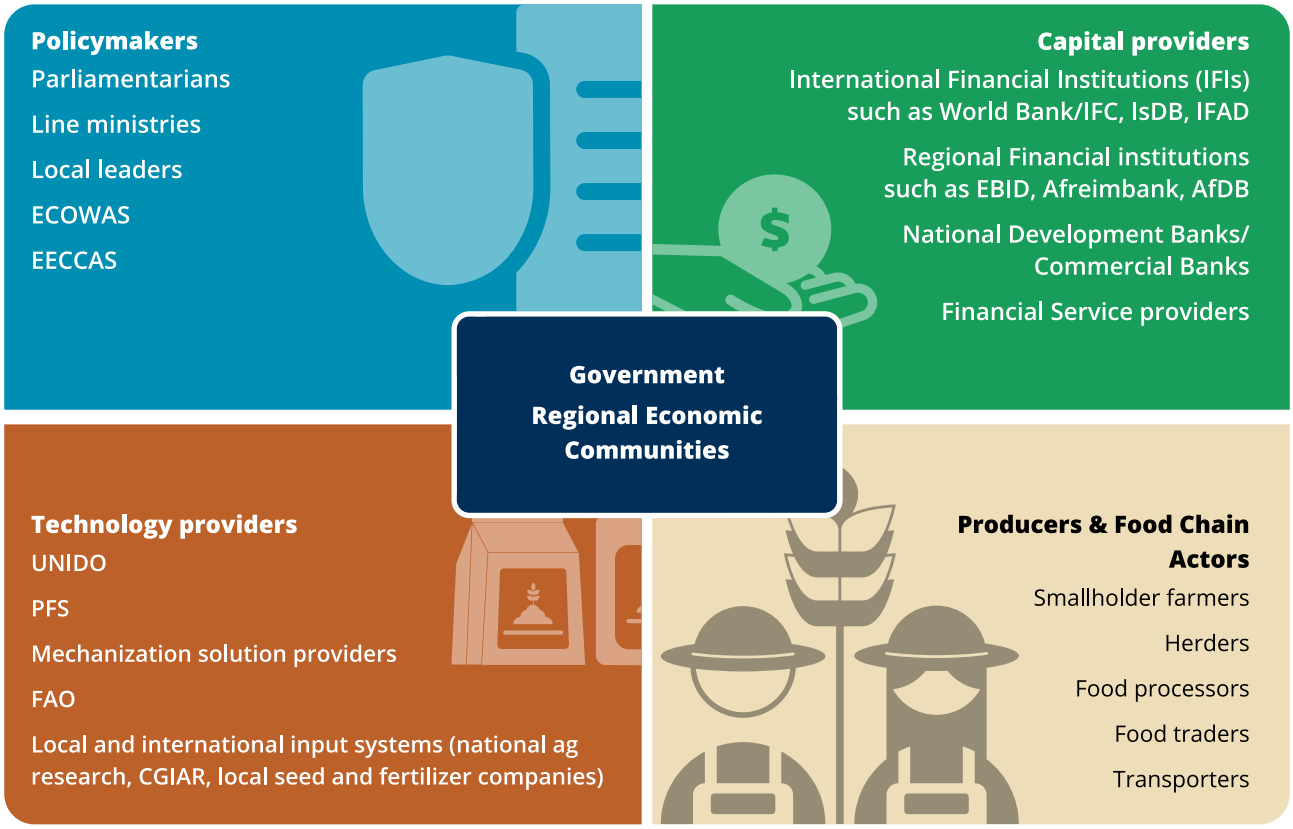
Partnerships for effective implementation

WFP has extensive networks in many Western African countries and will be a value-adding partner that complements other food systems' stakeholders with expertise and capabilities in the key components of food systems. These partners will include (1) policymakers, (2) providers of investment capital, (3) providers of technologies, (4) producers including smallholder farmers and herders. In some countries, governments have asked WFP to support the creation and management of multi-stakeholder platforms mobilization food systems' actors around the transformation agenda and national priorities (see figure 12).

15 Comprehensive African Agricultural Development Program

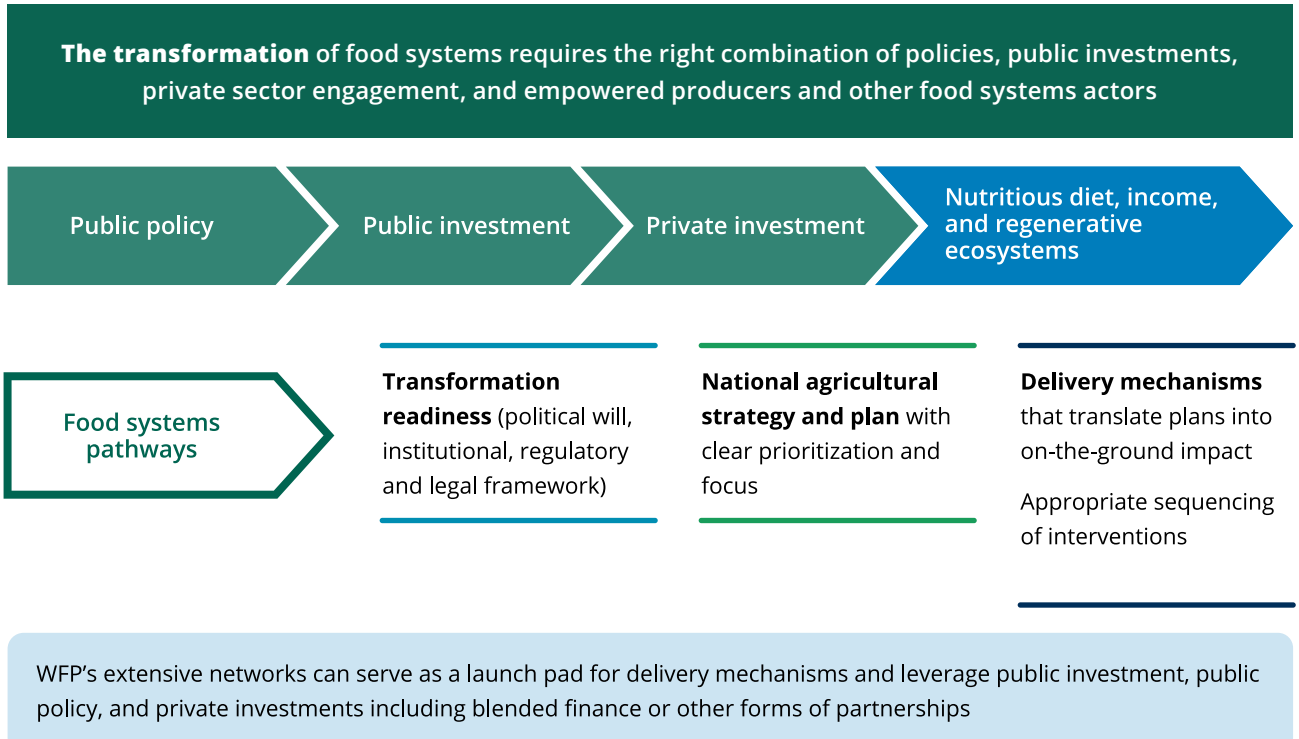
16 https://www.afdb.org/en/dakar-2-summit-feed-africa-food-sovereignty-and-resilience/compacts

Figure 12: *Partnership for an effective delivery*



Partnering with key stakeholders and food systems actors from various sectors will enable countries and the region to translate food system transformation pathways into policies, investment plans, and impactful investment programs and projects (see figure 13).

Figure 13: *Translating policies and plans into impact*



WFP's extensive networks can serve as a launch pad for delivery mechanisms and leverage public investment, public policy, and private investments including blended finance or other forms of partnerships

Enhanced Food Systems Governance

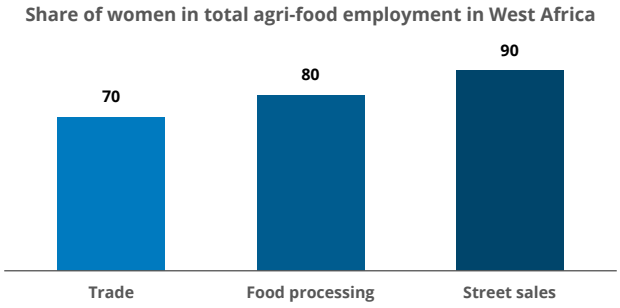
The implementation of the above-mentioned initiatives will follow a set of principles to ensure equity, sustainability, and scale. These principles will be reflected in the type of partnerships and governance structures that will be put in place to develop and implement food systems transformation initiatives.

1. **Integration of WFP portfolio:** applying food systems lenses across WFP portfolio of work will require a close integration of its programme, supply chains, and emergency response. Given their cross-cutting nature, food systems initiatives should be coordinated at level of the Deputy Regional Director in charge of the overall programme strategy and performance. At the County Office (CO) level, Country Directors or Deputy Country Directors will play the overall coordination to avoid strategic and operational silos. Key contributing units include supply chains (especially the operationalization of the Local and Regional Food Procurement Policy), school feeding, nutrition, emergency preparedness and response (especially its insurance initiatives, and lean season assistance), cash-based transfers, social protection, and resilience (especially, the value creation and optimization on the rehabilitates sites, upstream certification of agroforestry initiatives and other carbon sinks).

2. **Twin-track social protection system:** Governments in Western Africa use food and cash transfers as well as input subsidies to create safety nets for people facing food and nutrition insecurity as well as smallholder farmers whose competitiveness is still low. Some governments also buy sovereign insurance policies to cover crop failures. These efforts are supplemented by nonprofit organizations and UN agencies using the same government-led social protection systems and support mechanisms or other avenues that are aligned with government efforts. These two simultaneous interventions expand the reach and impact of social protection programs (WFP and UNICEF, 2023). However, the coordination and collaboration for effective targeting is still challenging and blanket distributions are common. Social protection assistance should also be used as a catalytic investment that incentivizes private sector investments in systems that would support or take over the role of social protection without becoming a burden on public finance in the long run (for example, investment in resilience-building assets such as agricultural water and land including micro irrigation systems).

3. **Women and youth empowerment:** women participate in food systems as producers, farmers, traders, food processors, wage workers, entrepreneurs, and as consumers. The extent of their participation varies depending on the gender norms influencing the labour force and labour markets. In fact, in West Africa, women dominate post-production activities (see figure 14).

Figure 14: *Women's employment in the off-farm agri-food sector.*
Source: *OECD, 2022: Africa's Development Dynamics 2022*



OECD (2023) estimates that, in West Africa, agri-food industries account for 66 percent of total employment, of which 68 percent

are in primary production and 32 percent in off-farm activities. The off-farm food sector employs 82 million West Africans and 68 percent of the region's food economy workers are women. Therefore, improved access to productive assets and resources including finance, technologies, and land can enable women and youth to profitably participate in agri-food systems.

4. **Government ownership and private sector involvement** are quintessential for the transformation of food systems in Western Africa. Making food systems more inclusive and resilient at scale calls for a deployment of capital with different risk profiles and varying but mutually reinforcing incentives such as public good and profit. Public policy and public investments facilitate the performance of private capital in value creation, but the public sector is also indispensable for solving market failure and directing incentivizing investments in neglected areas and critical sectors where perceived and real risks are high. Public-Private dialogues and partnerships can create opportunities for smallholder farmers and herders to access inputs and markets through predictable and transparent out-grower schemes and other inclusive models that benefit from de-risking mechanisms for scalability and sustainability.

5. **Platforms for scale and integration of systems:** the provision of services within food systems has transitioned from being government-led to a complex web of actors including private, public, and nonprofit actors (ISF Advisors, 2021). Given the complexity of food systems and actors who may have divergent goals necessitating high tolerance levels of trade-offs, the governance of food systems should use the platform approach to align incentives, capabilities, and trade-offs. When this ecosystem of actors is coordinated and mobilized around the same vision and goals, it becomes a platform for delivering related and complementary services (Karuho, 2021). Platforms can be physical or digital, however, for actors to trust the systems and scale them up, the sequence should start by assuring that physical transactions are happening before maturing into the digital stage. In Western Africa, the enhanced food systems governance should bring key goods and services as well as food systems actors around platforms for efficiency and resilience. These goods and services include credit, payment systems, crop and livestock insurance, blended finance, transport services with visibility on backhauling opportunities, cold chains, last-mile delivery services for climate-smart input provision and output aggregation as well as mechanization services. Goods and services should be accompanied by business models that are inclusive of smallholder farmers, women, youth, and those that are facing hunger and other forms of food and nutrition insecurity.

Modelling and Scaling

Country Strategic Plans (CSP) will guide WFP country offices' investments in agri-food systems. However, key considerations for a full-blown investment in food systems transformation will depend on the following factors:

1. Demand from host governments and regional economic communities such as ECOWAS and ECCAS,
2. WFP capabilities in each country to quickly transition towards food systems programming (even in emergency settings),
3. Ability to demonstrate value-add to food systems transformation donors including International and Regional Financial Institutions, development banks, corporations, and other large agribusinesses, as well as bilateral and multilateral development partners.

Initial investments: internal funds such as the Changing Life Trust Fund (CLTF) or other relevant funds will also be important to kickstart food systems modelling under different contexts, generate evidence, and build business cases. Scalability through governments, private sector operators, and financial institutions will be a key criterion for selecting initiatives and countries. Initial investments will help develop innovative business models and mobilize stakeholders to implement these initiatives and pave ways to scalability and sustainability. Initial investments geared towards the transformation of food systems will generate lessons and evidence that WFP and its partners will use to ramp up similar investments in other countries and enable them to move along the food systems maturity continuum.

Scaling up: the scale-up phase can leverage WFP relationships with Afreximbank, the World Bank, IsDB, and other regional and International Financial Institutions (IFIs). The International Financial Institutions' action plan to address food insecurity demonstrate that IFIs capabilities can be leveraged to transform food systems at scale[17]. The action plan was jointly developed by the AfDB, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, IFAD, the International Monetary Fund, and the World Bank Group in May 2022. The plan prioritizes six goals including (1) supporting vulnerable people, (2) promoting open trade, (3) mitigating fertilizer shortages, (4) support food production, (5) investing in climate-resilient agriculture for the future, and (6) coordinating for maximum impact.

Some of the opportunities for partnership with International Financial Institutions and the private sector include:

- School feeding programs as one of the easiest ways for governments to help spur food systems transformation. These programs have to be truly home-grown, purchasing from local smallholder farmers and supporting local markets (e.g., school feeding programs are widely financed by IFIs e.g., World Bank in Sierra Leone, AfDB in Guinea-Bissau, potential partnering with IFAD in Burkina and Guinea-Bissau around Home Grown School Feeding (HGSF), ongoing discussions with the Governments of Benin, Gambia, and Senegal for IsDB financing through the IsDB/WFP Human Capital Development Initiative-HCDI). School feeding also offers an opportunity for impact investors to finance climate-smart school meals programs through blended finance

17 https://knowledge4policy.ec.europa.eu/publication/international-financial-institution-ifi-action-plan-address-food-insecurity_en

instruments such as the investment that is currently being negotiated in Senegal in the run-up to COP28. These investments present an opportunity to transform food systems by giving preference to regenerative agricultural practices that allow for the local sourcing of school meal ingredients, capacity building of SMEs to adopt climate-smart practices along supply chains, innovation to introduce climate-resilient and nutrient-dense foods into school gardens, and access to climate-smart technology.

- Improving local and regional value chains: WFP is engaged in discussions about the development of regional **cassava** and **rice** value chain projects financed by the Islamic Development Bank (WFP is supporting governments (Cote d'Ivoire for example) with the preparation of large-scale projects to improve local cassava and rice value chains, UNDP also approached WFP to conduct assessments and studies that could have a regional perspective). Along various agriculture value chains, WFP is similarly contributing to job creation through a 5-year, USD 45 million project funded by the Mastercard Foundation. The project aims to create 390,000 jobs in Ghana, Nigeria, and Senegal for young people, especially women. The World Bank has also launched its flagship programme known as Food System Resilience Programme (FSRP) with USD 645 million earmarked for West Africa (Burkina Faso, Mali, Niger, Togo, Chad, Ghana, and Sierra Leone)[18].

- Resilience is also one of the areas to which international and regional financial institutions and governments are committing resources. The World Bank has recently approved a concessional loan for the Government of Cameroon to strengthen the resilience of communities affected by conflict and climate-related shocks and stressors. WFP/Cameroon has been requested to be an implementing partner for this multi-year resilience programme. Similar partnerships are developing in other countries such as Ghana, Nigeria, Benin, and Cote d'Ivoire. Moreover, the GCF/IFAD-funded Africa Integrated Climate Risk Management Programme (AICRM) aims at building the resilience of smallholder farmers to climate change impacts in seven Sahelian Countries of the Great Green Wall (GGW). This is an important regional investment with a major contribution to WFP to implement a component related to climate insurance for smallholder farmers in Burkina Faso, Chad, Mali, Mauritania, Niger, Senegal, and The Gambia. The programme has a total investment envelope of over USD 143 million from IFAD, AfDB, ARC and the GCF. Of the USD 83 million in GCF funding, WFP will receive about USD 30 million to support microinsurance development in the seven countries.

18 https://www.worldbank.org/en/news/press-release/2022/07/29/world-bank-scales-up-its-financing-for-food-security-to-strengthen-the-resilience-of-food-systems-across-west-africa

Low Hanging Fruits

The following "Low hanging fruits" initiatives can immediately be redirected towards building inclusive and resilient food systems in Western Africa:

1. Expansion of CRIALCES. This programme is supporting food processing companies to produce nutritious foods for humanitarian and commercial or mass markets. The improved version of the programme design should ensure that supported processors are investing in inclusive origination models by ensuring that smallholder farmers in the supply chains have access to the technologies and inputs they need to supply high-quality raw materials. Food processing companies can exercise supply chain governance and create platforms where farmers, financial institutions, input providers, extension, and rural advisory services as well as traders can coordinate efforts to reduce transaction costs and increase transparency along supply chains.

2. Food fortification and flour blending efforts should continue to support food processing companies to produce safe and nutritious food and build the capacity of government institutions to develop and implement food safe and quality standards. This effort should go beyond the production of Special Nutritious Food (SNF) to also support flour processing, blending, and fortification as well as other products for mass consumption. The expansion of product range can create more value in a region whose export of primary food products was valued at USD 11.3 billion in 2021, while the value of processed food products that were exported the same year was estimated to be USD 3.8 billion only (AU/OECD, 2023).

3. Upgrading two to three market sheds or basins with linkages to production hubs. Example: Potiskum marketplace in Northern Nigeria with UNIDO, Local Government Authority (LGA) and federal government, traders, and financial institutions such as AfDB. These marketplaces are an important node of food supply chains that can be leveraged to create more value and assure food safety. In addition to being transit points, these places can be equipped with value-adding technologies such as dryers, cleaners, and processing machines, and certified warehousing facilities that can improve access to finance and reduce post-harvest losses.

4. Leverage WFP data for strategic partnership engagement with private sector and civil society organizations. WFP data can be leveraged to support government and private sector planning and targeting needy or viable areas. Government investment mobilization and facilitation departments can also use WFP data to advise and direct private sector investments and develop appropriate and tailored incentive schemes.

Measuring the performance of food systems in Western Africa

Guiding questions

To measure the performance of food systems at the Western African regional level, WFP will be guided by the extent to which the need for humanitarian assistance is decreasing. However, at the country level, each WFP country office will select indicators that are relevant to its context. The following guiding questions will help the development of indicators that are context specific.

Demand, supply, and affordability

- *What is the demand for nutritious food (changes in quantity and value overtime)?*
- *What is the supply of nutritious food (change in quantity and value overtime)?*
- *What are the trends of nutritious diet prices?*

Sustainability

- *Are food systems profitable throughout (competitiveness, incentive system, risk profile)?*
- *Do these food systems have broad benefit for the society (nutrition, employment, conflict sensitivity)?*
- *Do these food systems have positive or neutral impact on the natural environment?*
- *Are the net trade-offs and net opportunity cost positive or negative?*

Political economy

- *What are power dynamics and relations along the food supply system or food journey (who creates what value, who captures what value)?*
- *How are vulnerable groups accessing nutritious diet?*
- *What are the division of labour and benefits accruing to men and women involved in food systems activities?*
- *What is the proportion of nutritious foods covered by local production versus imports?*
- *What is the proportion of nutritious food produced and marketed by smallholder farmers and agri-food SMEs?*

Diversity and connectivity

- *How diverse are the sources of nutritious foods?*
- *How extensive and effective are networks (soft and hard infrastructure) connecting food systems actors and food chains (production, aggregation, processing, distribution systems including retail and informal markets, as well as consumption), support service providers, and policymakers including food safety and quality regulating institutions?*

Policy dispensations

- *How are laws, regulations, and public investments (including subsidy programs) encouraging or discouraging the production of safe and nutritious food, adoption of climate-smart technologies, and creation of employment whining agri-food systems?*

Delivery capacity

- *What is the capacity of institutions whose mandates contribute to building inclusive, competitive, and resilient food systems? How strong are their coordination mechanisms?*
- *How strong are agri-food companies (access to markets, finance, technology, product development, R&D)?*
- *Are there operational multistakeholder platforms (physical and digital) that facilitate policy dialogues and investments in resilient food systems?*

Indicators

Global indictors on the performance of food systems are accessible here: Food Systems Dashboard. Operationally, the 50 indicators proposed by Food Security Countdown Indicator (FSCI) initiative is a starting point in the process of developing a common and comprehensive approach to assessing food systems transformation[19]. These indicators are organized around five themes including (1) diets, nutrition, and health, (2) environment, natural resources, and production, (3) livelihoods, poverty, and equity, (4) governance, and (5) resilience and sustainability (AASR, 2023)[20]. In addition, the following WFP default indicators are still useful and can be repurposed and refine to measure the progression and transformation of food systems in Western Africa.

Smallholder productivity and sales

- Average percentage of smallholder post-harvest losses at the storage stage.
- Percentage of smallholder farmers reporting increased production of nutritious crops.
- Farmgate price and retail price comparison.
- Price transmission in inputs and output markets.

Nutrition

- Proportion of households that cannot afford the lowest-cost nutritious diet.
- Prevalence of stunting, underweight and wasting.
- Percentage increase in production of high-quality and nutrition-dense foods.

Food security and essential needs

- Livelihood coping strategies for food security.
- Livelihood coping strategies for essential needs.
- Economic capacity to meet essential needs.

At meso and macro levels, ECOWAS Agricultural Policy (ECOWAP) indicators can be used to foster strong alignment between WFP support and ECOWAS strategic initiatives. Based on data availability, the following groups of indicators can be used: (i) Resilience to Climate Variability; (ii) Intra-African Trade in Agriculture Commodities and Services; (iii) Eradicating Poverty through Agriculture and (iv) Ending Hunger. Specific indicators can include:

- Food import dependency ratio.
- Reduction rate of poverty headcount ratio, at national poverty line (% of population).
- Percentage of youth that is engaged in new job opportunities in agriculture value chains.
- Proportion of rural women that are empowered in agriculture.
- Domestic Food Price Volatility Index.
- Percentage of farm, pastoral, and fisher households that are resilient to climate and weather-related shocks.
- Proportion of population that is covered by social assistance, social protection, social insurance, and labour programs.

19 https://www.foodcountdown.org/framework

20 https://agra.org/publications/africa-agriculture-status-report-aasr/

Final note

This document has provided a framework that WFP country offices in Western Africa can use to design and implement initiatives aiming to contribute to the transformation of food systems in each country and in the region. Each country and each regional initiative will develop a tailored implementation plan. The implementation plan will also include an **evidence generation** framework that will enable countries to monitor the progression of food systems along the system maturity continuum. Furthermore, the plan will include **partnership mapping** for key actors including finance and technology holders, market institutions, producers, policymakers, and multi-stakeholder platforms. The mapping exercise will also include taking stock of all initiatives and programs that WFP is implementing in different components of food systems. This **inventory** will enable WFP food systems team and task force to design a systemic approach that links these initiatives to create and support systems development at scale. Understanding what other key partners such as the Rome-Based Agencies (RBAs), other UN agencies, international and regional financial institutions as well as large local and regional agribusinesses and multinationals would contribute to the creation of **multi-stakeholder platforms** that aim to transform food systems in Western Africa.

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