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MAPS & FACTS

FOOD SYSTEM TRANSFORMATIONS

IN THE SAHEL AND WEST AFRICA

Implications for people and policies

SAHEL AND
WEST AFRICA

Club
Secretariat

 **OECD**
BETTER POLICIES FOR BETTER LIVES

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Food systems are central to our lives, our well-being and our societies. This is particularly true in the Sahel and West Africa, where the majority of the population makes its living from food-related activities. While food production is growing strongly, the share of people exposed to food and nutrition insecurity is high and increasing. Poverty levels are among the highest in the world, yet food prices – at comparable income levels – are also among the highest. How can these paradoxes be explained, including the fact that food systems are threatened by deteriorating environmental resources and yet, they fail to safeguard them?

Clearly, human settlement dynamics, driven by exceptionally fast population growth, have a major impact on food systems. In recent decades, the centre of gravity of the region's food system has shifted to cities and towns. Urban food demand and markets have become the largest commercial opportunities for the region's producers. This is driving a « quiet revolution » in food value chains, stimulating processing, marketing, profitability and productivity. At the same time, traditional subsistence farming practices and communities are being marginalised.

By transforming so rapidly, food systems generate their own imbalances. The need to reduce these imbalances - demographic, socio-cultural, political, infrastructural and technological, and environmental - must be placed at the centre of food system strategies. The resulting policy choices will present synergies and trade-offs. Addressing these challenges will involve considering technical aspects, making judgement calls and engaging in political debate. Developing a shared understanding of the facts and evidence among stakeholders is necessary to promote inclusive, agile and transparent policy processes. The Sahel and West Africa Club Secretariat intends to strengthen the contribution of its programmes to shaping sustainable food systems.



Laurent Bossard

Director, SWAC/OECD Secretariat

FOOD SYSTEMS & THE SDGs

HEALTHY DIETS, HEALTHY PLANET

Sustainable food systems are critical in delivering progress on all 17 Sustainable Development Goals. From ending poverty and hunger to responding to climate change and sustaining our natural resources, food systems lie at the core of the United Nations 2030 Agenda for Sustainable Development. The Food Systems Summit in 2021 underlines the growing urgency and need for new approaches and bold actions to shape healthier, more sustainable and equitable food systems. It also is an opportunity to bring all food systems' stakeholders together – national and local governments, companies, citizens and partners – to build bridges between divergent interests and foster a shared understanding.

Food is central in all societies. It defines the way humans interact with each other, connects people with their environment and is the foundation of livelihoods for a large part of humanity. Increasingly our food systems, shaped by changing lifestyles, globalisation, income growth, natural evolutionary processes and policies, pose a threat to peoples' health and the stability of our planet.

Food systems in West Africa are transforming at a blistering speed – “a quiet revolution” – presenting new opportunities and challenges. Policies will play a major role in shaping the future of the region's food systems. Designing sustainable food systems for healthy diets and a healthy planet will need to take local realities and contexts into account. The emerging policy synergies can only be achieved by promoting strong collaboration among all stakeholders locally, regionally and globally.

Box 1.

FOOD SYSTEM CONCEPT

“A food system gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes.”

Definition by the High Level Panel of Experts on Food Security and Nutrition (HLPE 2014).

Figure 1.

Food systems and the Sustainable Development Goals



Source: © Bricas (2019).

THE TRIPLE CHALLENGE OF FOOD SYSTEMS

FOOD AND NUTRITION SECURITY, LIVELIHOODS AND ENVIRONMENTAL SUSTAINABILITY

Food systems around the world are facing a “triple challenge” (Figure 2). They have to ensure food and nutrition security for a growing global population, provide livelihoods for people working in food supply chains, and build environmental sustainability while adapting to and helping to mitigate climate change (OECD, 2021). In West Africa, these challenges are amplified by a combination of high vulnerability, the importance of food systems in employment and value creation, and fast-paced transformations. West Africa’s population is projected to grow by 140 million people, from 400 million in 2020 to 540 million in 2030. In 2020, 16.7 million people were acutely food-insecure, and projections for 2021 indicate a further worsening of the food and nutrition situation. Food supply chains

provide employment to 100 million people, generate more than a third of regional GDP. Households spend 55% of their income on food. Food systems also need to adapt to climate change and ensure environmental sustainability. They are not only highly dependent on the environment, but also exert important pressures on it as they rapidly evolve (OECD, 2021). Different aspects of this triple challenge interact, sometimes creating opportunities for policy synergies, but also leading to difficult trade-offs. Resolving such trade-offs will require not only a better understanding of the three challenges, but also of the interconnections between them, as well as of the structures that determine how food is produced, transformed and delivered to consumers.

Figure 2.
The triple challenge of food systems

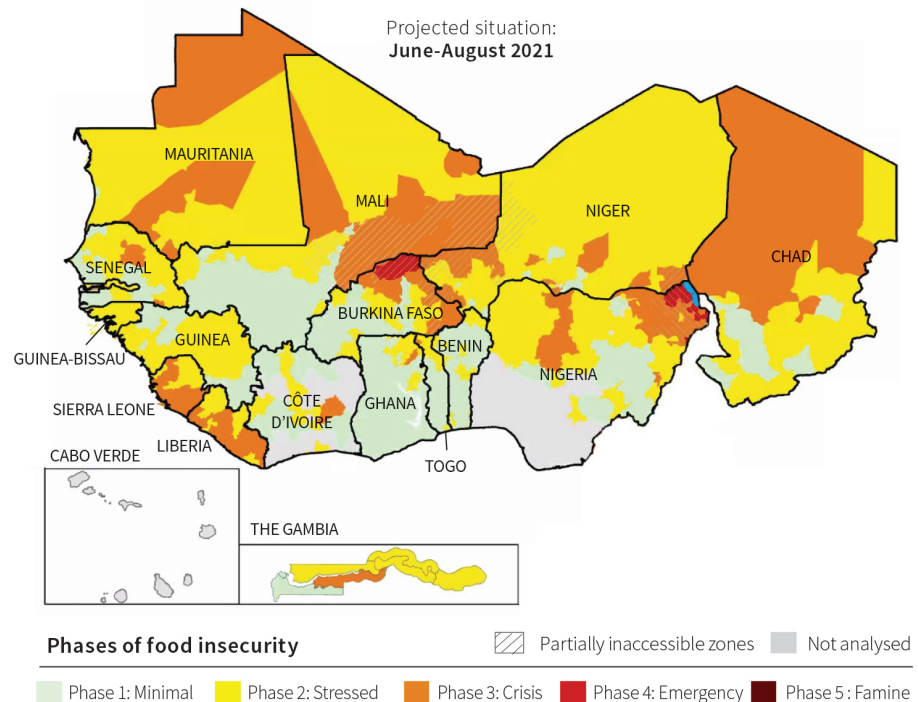


Source: OECD (2021); Figure: © SWAC/OECD.

ENSURING FOOD AND NUTRITION SECURITY

Food and nutrition insecurity remains a major concern in the region. In June-August 2021, 27.1 million people will be at risk of being in a “crisis” situation or worse. The number of acutely food-insecure people has increased over the past five years, mostly due to insecurity and large-scale displacement in conflict-affected countries. In parallel, chronic malnutrition persists. The prevalence of global acute malnutrition exceeds the threshold of 10% (“high” according to the WHO), especially in Sahelian countries. Nearly one out of three children in the region is stunted (27.7%). This number has increased by 3 million since 2000, reaching 17.8 million in 2019 (UNICEF et al., 2020). Meeting this challenge means tackling cyclical and structural factors simultaneously. Sustainable and resilient food systems are key to improving access to nutritious and healthy food and to providing livelihoods for millions of vulnerable people.

Map 1.
Food and nutrition outlook in the Sahel and West Africa, June-August 2021



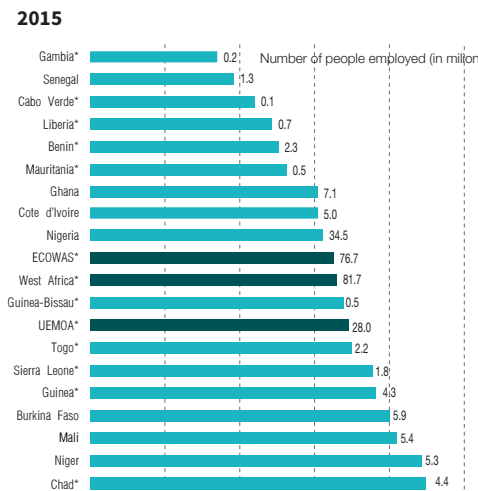
Source: Cadre harmonisé analysis, regional concertation meeting, Ouagadougou, March 2021; Map: © CILSS.

TWO OUT OF THREE WEST AFRICANS DEPEND ON FOOD SYSTEMS

In West Africa, the food economy is the largest economic sector, both in terms of employment and value creation. It generates 35% of regional GDP and almost 100 million West Africans, or 2 out of 3 people employed, depend on it for their livelihoods (Figure 3). In Sahelian countries, the importance of the food economy is even higher. Food system development, livelihoods and economic development are intrinsically linked. Employment in food systems, and in particular in agriculture, will continue to provide livelihoods for the majority of West Africans. Current food system transformations provide new opportunities and challenges for livelihoods. While a growing set of actors are able to take advantage of these opportunities and develop new activities, large spatial heterogeneities and socio-economic inequalities exist. Many

territories remain isolated and marginalised facing important constraints in developing revenue-generating activities. In addition, a large number of people, in particular youth and women, face socio-economic barriers to fully participate in food value chains. Current transformations provide ample employment and livelihood opportunities, in particular in the off-farm segments of food value chains (trade, processing, storage, distribution, retailing, and food services). Capturing these requires higher capital intensity and greater skills and organisation. As a result, millions of smallholder farmers and micro- and small-scale entrepreneurs will face daunting challenges to be able to compete effectively in this new environment over the medium term. Yet, there is great scope and leverage for improved policies and investments to support improved livelihoods in West Africa.

Figure 3.
Share and number of people employed
in the food economy



Note: *Modelled data. Economic Community of West African States (ECOWAS), West African Economic and Monetary Union (UEMOA)

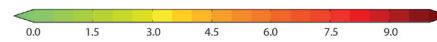
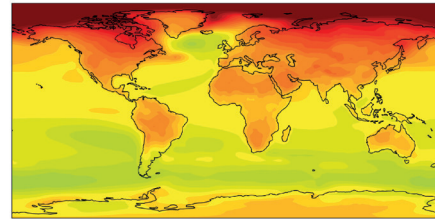
Source: Allen, T et al. (2018); Figure: © SWAC/OECD.

ENVIRONMENTAL SUSTAINABILITY AND ADAPTATION TO CLIMATE CHANGE

*Map 2. Mean temperature change (projections)
from pre-industrial climate (1851-1880) to the 2080s (2071-2100)*

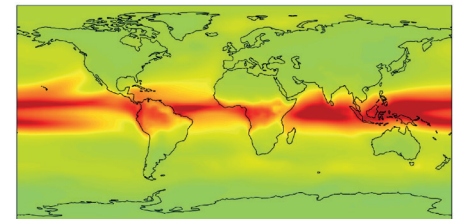
Food systems are not only dependent on natural resources, they also have a considerable adverse impact on the environment, including on climate change. In West Africa, 23% of greenhouse gas emissions come from agriculture, with much of the damage to the environment occurring at the agricultural production stage (USAID, 2019). Food systems are the largest driver of environmental degradation, biodiversity loss, water pollution and deforestation (OECD, 2020). At the same time, climate change and environmental degradation pose significant risks to food system performance. Environmental pressures on food systems are likely to intensify. Climate modelling for West Africa indicates increased variability of climate, as well as increased frequency of extreme weather events threatening crop and livestock production systems (Map 2). Particularly, smallholder farmers and poor or marginalised communities, women and youth are facing greater risks from exposure to environmental shocks (FOLU, 2019).

Absolute change



Degree Celsius

Change relative to annual variability



Standard deviation

Source: Lewis, K. and C. Buontempo (2016); Map: © SWAC/OECD.

Food systems need to transform to limit their environmental footprint, contribute to building more sustainable diets and at same time become more resilient to climate change and a more unstable natural environment. Achieving sustainability and climate adaptation of food systems requires designing policies that link diets with human health and environmental sustainability

and promote sustainable intensification strategies adapted to local contexts. The use of technologies and improved availability and access to climate services and tools such as early warning systems and risk insurances, are important investments helping producers and the overall food systems become more sustainable and resilient.

DRIVERS OF FOOD SYSTEM TRANSFORMATIONS

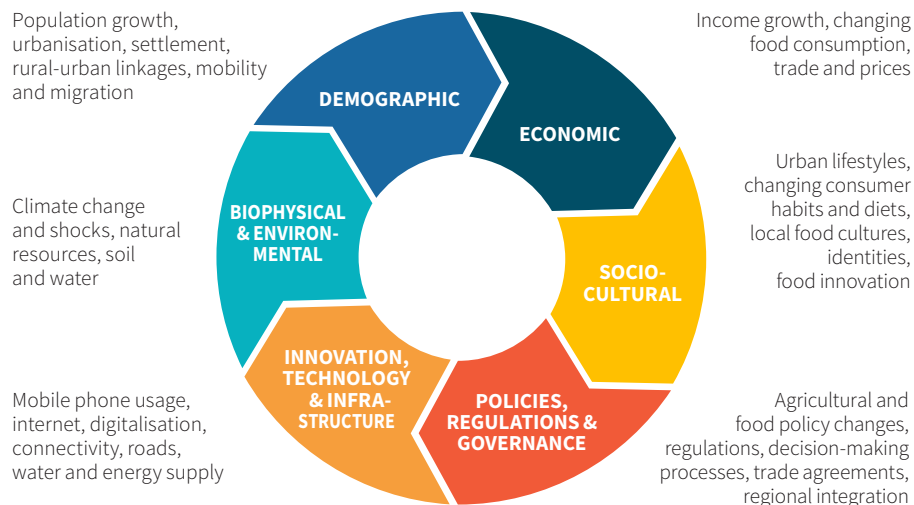
SIX KEY DRIVERS

Six categories of drivers will shape the future of food systems:

- ▶ Demographic
- ▶ Economic
- ▶ Socio-cultural
- ▶ Policies, regulations & governance
- ▶ Innovation, technology & infrastructure
- ▶ Biophysical & environmental

These drivers are highly interrelated and interact with each other, deliberately or unintentionally, influencing food-related activities, actors and outcomes. Together they define the way food is produced, traded and consumed. A better understanding of these drivers and their interactions will be central to informing and designing food system policies and the future of food systems.

Figure 4. Drivers shaping the future of food systems

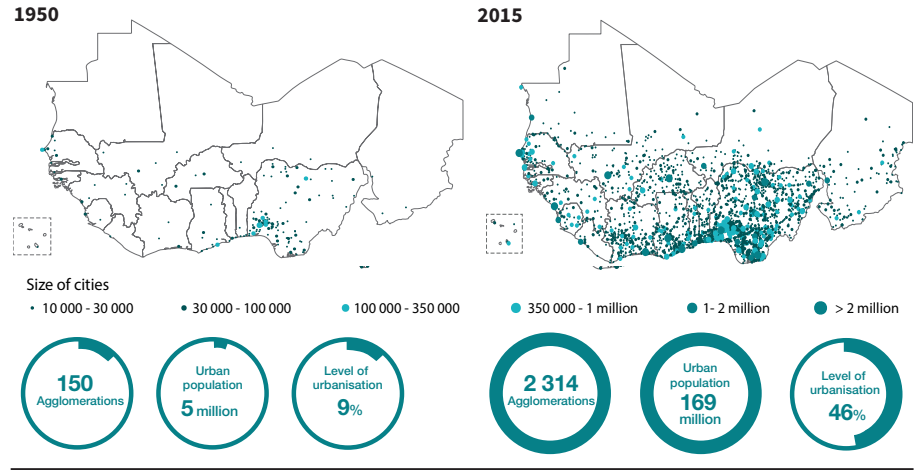


Source: Based on Dury et al. (2019) and Tefft et al. (2017); Figure: SWAC/OECD.

DEMOGRAPHIC DRIVERS: POPULATION GROWTH AND URBANISATION

Population growth, urbanisation and settlement patterns are major drivers of food system transformations across the world. This is particularly the case in West Africa, where strong demographic growth and rapid urbanisation over the past 60 years have radically transformed the region's food economy. Growing populations increase food demand, while urbanisation is transforming the structure of food consumption, affecting both diets and food habits. Between 1950 and 2015, West Africa's population grew from 73 million to 367 million inhabitants. Over the same period, the urban population increased from 5 million to 169 million. In 2015, the regional level of urbanisation was almost 50%, up from less than 10% in 1950. This urbanisation dynamic has led to the growth of existing cities and the emergence of thousands of new ones (Map 3). Today, cities and towns not only account for the majority of food demand (67%), but they also act as nodes for the spatial organisation of food trade and markets (SWAC/OECD, 2016).

Map 3. Emergence of a network of cities in West Africa



Source: OECD/SWAC, Africapolis (2020); Map: © SWAC/OECD.

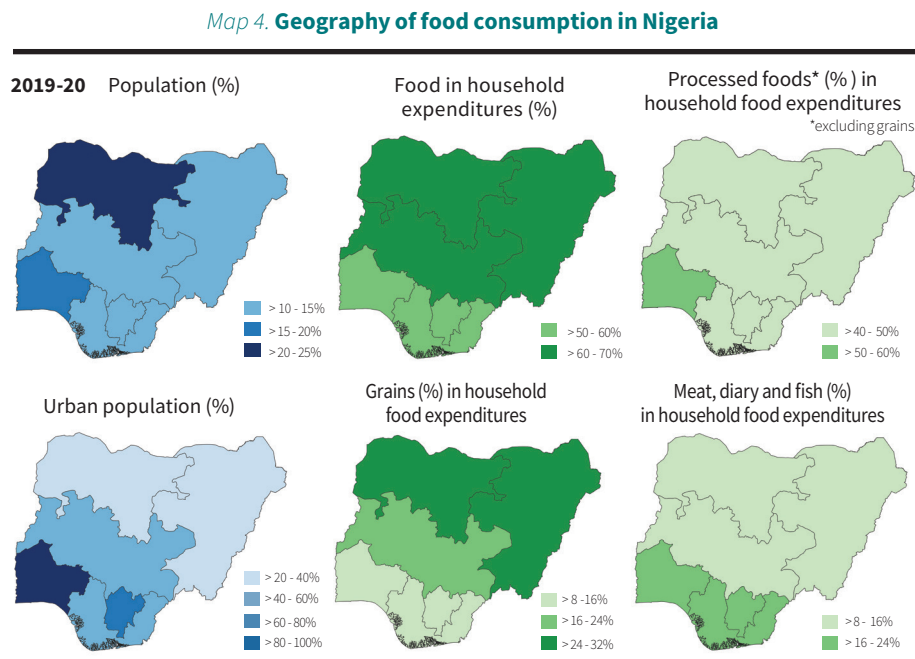
With this transformation, the centre of gravity of the region's food system has shifted towards cities and towns, providing rapidly growing opportunities as well as creating new challenges. Food value chains are increasing in length, both

intermedationally with more actors, logistics, trading wholesaling, retailing, and spatially with food being traded over longer distances. As a result, new actors, dimensions and policies are needed to design effective food system policies.

ECONOMIC DRIVERS: INCOME, PRICES AND TRADE

A “QUIET” REVOLUTION

Economic drivers, through their effect on incomes, consumption and investments lead to transformations along the entire food value chain and the broader food system. When two (or more) of these complementary drivers operate simultaneously, the transformation can be extremely rapid. In West Africa, rapid urbanisation, income growth and changing diets, are driving a “quiet revolution”, rapidly transforming food systems from a subsistence-oriented sector into a more commercialised, more profitable and productive one. Driven by private sector investments, this “quiet revolution” is similar to that which occurred in Asia in prior decades (AASR, 2020). Thousands of small and micro, small and medium-sized enterprises (MSMEs) are making large investments in up- and down-stream food services, i.e. trade, processing, logistics and retail segments, individually and in the aggregate. Private and public investment, ultimately funded by consumers, need to be oriented to making West Africa’s food system



Source: SWAC/OECD (2020), based on *National Bureau of Statistics, Nigeria*; Figure: ©SWAC/OECD.

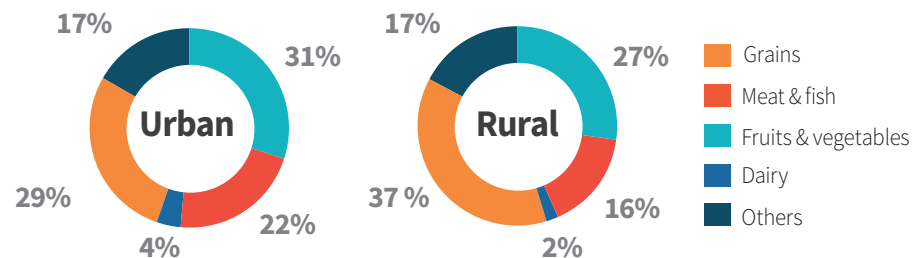
more competitive, healthy and sustainable. Reaping the full potential of food systems transformations, notably in terms of food and

nutrition security and resilience to shocks, will crucially depend on promoting regional and continental integration.

INCOMES – CHANGING

With rising incomes, diets and consumption habits evolve. Food demand is diversifying and moving towards foods that are convenient to buy, prepare and consume (Figures 5 and 6). Other attributes such as shelf-life, freshness, nutritional content, packaging and labelling are becoming more important for consumers. These changes, also driven by urbanisation and urban lifestyles, are spreading beyond the frontiers of cities into rural areas and impact consumption habits across all income brackets, including low-income households. This growing and increasingly diverse food market provides greater opportunities for the West African food system to increase production and value added, thereby generating more jobs, income and food security. Yet, a number of structural and policy constraints continue to threaten the ability of the region to seize these opportunities. Most investment programmes have placed insufficient emphasis on the post-harvest

2010

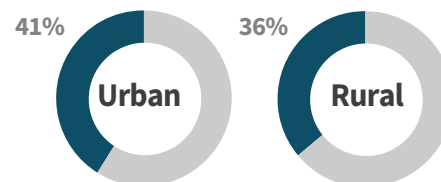


Source: Allen, T. et P. Heinrigs (2016); Figure: © SWAC/OECD.

segments of the food system and paid too little attention to food products for which demand is growing fastest (fruits and vegetables, meat and fish). Policies in the region need to adjust to ongoing transformations in order to provide a framework for the development of the West African food economy (Staatz and Hollinger, 2016).

Figure 6. Consumption of processed foods in West Africa

2010



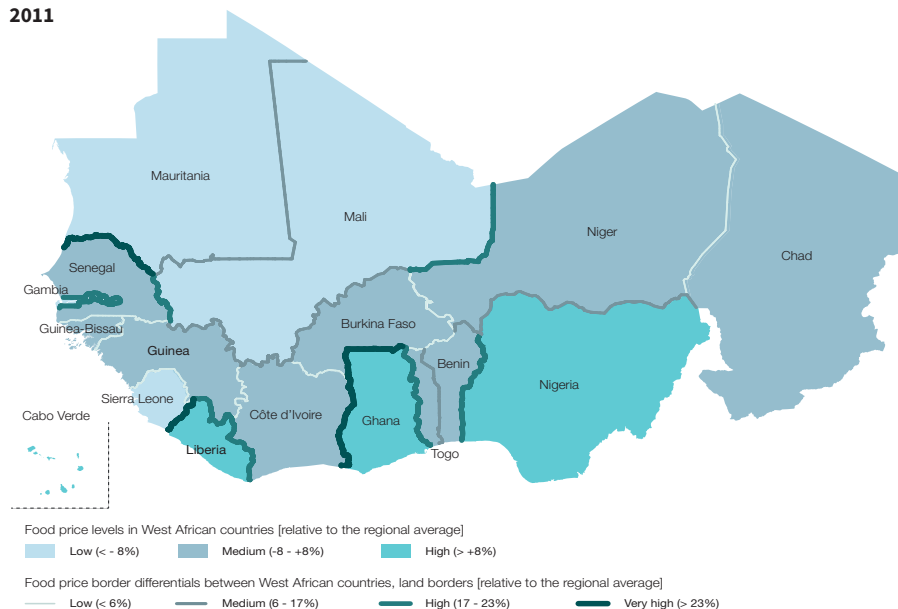
Source: Allen, T. and P. Heinrigs (2016); Figure: © SWAC/OECD.

DRIVERS OF TRANSFORMATION

THE COST OF HIGH FOOD PRICES

Food prices have become a key determinant of food and nutrition security with households increasingly depending on markets to access food (Allen, 2017). More than 90% of food in West African cities is purchased on markets, and more than 50% in rural areas. Price is also an important indicator of market functioning, revenues and investment signals. Although agricultural production in West Africa has increased significantly since 1980, most agricultural value chains remain plagued by poor co-ordination, underdeveloped marketing and transport infrastructure, and erratic electricity supplies (OECD, 2013). These factors drive up risks and costs faced by value-chain actors and limit the transmission of information and incentives from consumers to producers. Food prices in West Africa are 30-40% higher than in the rest of the world at comparable levels of per capita income. Combined with the high share of household budgets allocated to food – 55% of household expenditure is spent on food – price levels and price variations directly impact food and nutrition security. Prices are also an essential element of competitiveness. Poor price competitiveness limits a country's

2011



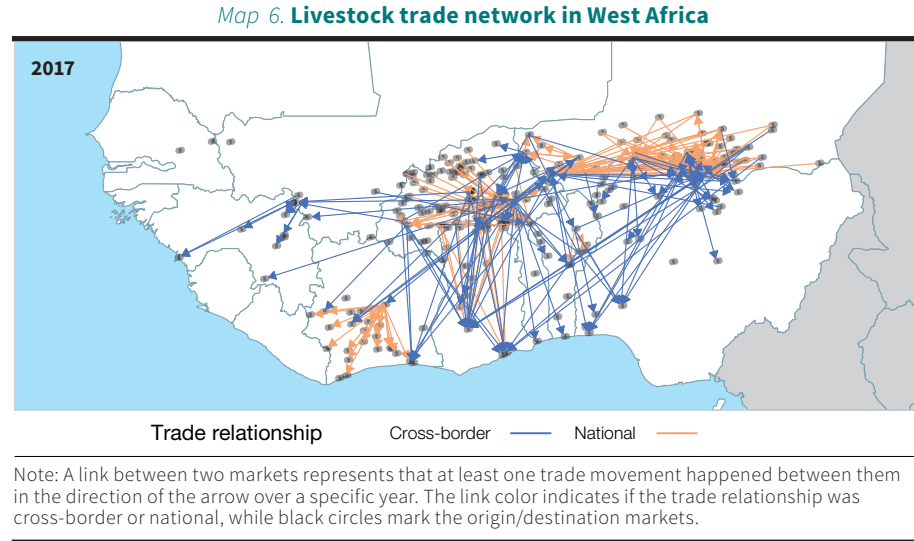
Source: ICP (2011), World Bank (2015); Allen, T. (2017); Map: © SWAC/OECD.

capacity to sell its products abroad, but also hampers its ability to develop and compete on its domestic markets. Tackling this issue and developing market opportunities will depend on productivity gains made at each stage of

the value chain. Investments promoting food value chain productivity will have substantial impacts on prices, farmers' incomes and food affordability.

REGIONAL FOOD TRADE – AN ESSENTIAL COMPONENT

Regional food trade is essential for agricultural growth and transformation, food and nutrition security, resilience to shocks and broader regional and continental integration. The size and importance of intraregional food trade in the region is greatly underestimated due to lack of data (OECD, 2013). Relatively high food price differentials across the region – from -28% in Mauritania to +14% in Ghana (Map 6) – point to inefficiencies within the regional food market and underscore existing opportunities. Despite these inefficiencies, regional integration through food trade is already a reality. The livestock sector, for example, highlights the linkages and interactions between landlocked Sahelian countries (mostly producers) and coastal countries (mostly consumers) (Map 6). Deeper regional integration would contribute to reducing price volatility, developing production complementarities and increasing economies of scale. To be competitive in a wide range of products with large global actors such as Brazil, China and India, West African agriculture needs to capture some of the economies of scale



Source: CILSS (2017); Valerio, V. (2020); Map: © SWAC/OECD.

that those countries enjoy in agricultural research, input markets and technology development, among others. To do so, the region requires more harmonised grades and standards for agricultural inputs and outputs and common procedures for approval and reviews of improved varieties. It is also key

to further develop regionally co-ordinated systems of agricultural research and higher education and remove restrictions that limit agro-processors from sourcing agricultural products across national borders (Staatz and Hollinger, 2016).

SOCIO-CULTURAL DRIVERS – THE DIVERSITY OF FOOD SYSTEMS

Food systems are incredibly diverse. This diversity is being shaped by human innovations based on locally available resources and products and adapted to social values, attitudes and cultures. Societies are defined just as much by their food and diet as their language. This results in great spatial variation of particular foods and diets and of different models of production, processing, distribution and consumption (Dury et.al, 2019). At the same time, there is a continuously evolving mixture of food cultures. Urbanisation, increased mobility of people and ideas and greater economic openness impact cooking and eating habits and lead to a blending of local food cultures and terroirs. Examples from West Africa include the spread of fried plantains across the region (aloko) or the diffusion of attiéké (cassava semolina) from Côte d'Ivoire to other countries (AGRA, 2020). Also, new dishes (food innovation) are appearing, such as baabenda, a preparation of vegetable leaves popular in Burkinabè cities. At the same time, in big cities, global food brands such as Coca-Cola, Frito Lay and Kentucky Fried

Chicken are gaining market share, affecting consumer tastes and habits. Broader socio-cultural changes, like urban lifestyles explain the expansion of street food, restaurants and canteens in West African cities. In cities, time allocated to food preparation is reduced because of longer working hours, long commutes or the fact that a greater proportion of women work. Changing tastes and preferences impact the organisation of food systems, through for instance, values attached to food production and processing methods. Shifting diets and food habits are also creating new challenges. For instance, there is growing concern about the nutritional quality and health effects of processed and ultra-processed foods. Over time, preferences can and will change. These changes should be monitored to adapt and introduce new food system policies, such as food and nutrition standards, improving nutrition literacy and education, environmental protection and animal health standards, etc. Moving (back) towards more healthy foods for people and the planet will also depend on the strength of local food cultures and the right policy mix.



POLICIES, REGULATIONS & GOVERNANCE

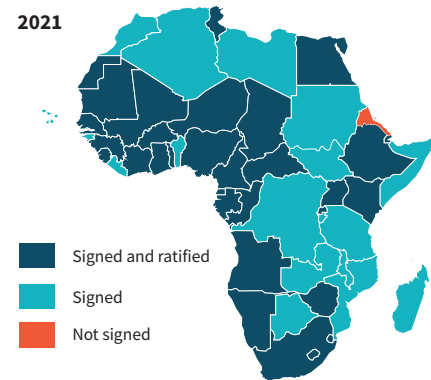
Policy affects all components of food systems. Policies, via a range of instruments, such as laws and regulations, investments and subsidies, target all actors involved in food systems: consumers (e.g. taxes, social protection, education and health policies), producers (e.g. input subsidies, environmental standards, infrastructure investments) or the trade and intermediating system (e.g. import/export tariffs or quotas, macroeconomic policies, safety standards) (FAO/FAPDA, 2021). Although, all countries in the region have agricultural investment policies, only few countries have food policies, or limit these to food availability and food safety (Dury et al, 2019). Tackling current and future challenges of food systems implies broadening policy levers and the introduction of coherent ‘food system policies’. Health, education, environment, urban and national development planning, trade, infrastructure and employment policies are interacting with one another and impacting food system outcomes. Diversifying budget allocations

and breaking institutional silos between agriculture and other ministries, agencies and institutions is a first step towards adopting food system policies that are more sensitive to the changing West African food realities. Importantly, particular efforts are needed to improve policy co-ordination and harmonisation between sectors, actors and along different levels of government, from supra-national to local levels. The African Continental Free Trade Area (AfCFTA) process is a unique opportunity to advance such co-ordination and harmonisation through food trade (Map 7). Given the complexity of food systems and uncertainty around future trends of some food system elements, policy processes will involve a range of trade-offs, synergies and choice of policy instruments. This process also needs to focus on developing more adapted forms of governance, allowing for the involvement of a greater variety of actors, from the private, public and civil society spheres, as well as providing mechanisms for transparency, evaluation and adjustment.

Map 7.

The African Continental Free Trade Area

2021



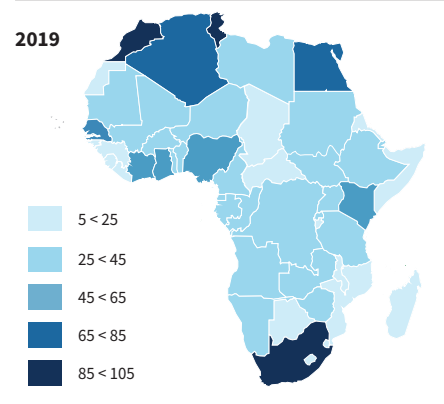
Source : AfCFTA (2021); Map: © SWAC/OECD.

INNOVATION, TECHNOLOGY & INFRASTRUCTURE

Innovations, technology and infrastructure are major drivers of food systems. They accelerate transformations in food production, consumption and policy. Technologies and infrastructure provide opportunities for improving efficiency and organisation of production processes and developing more sustainable and resilient food value chains. They also increase connectivity and information flows between food system stakeholders. Rising internet access and mobile phone ownership constitute the background for the gradual digitalisation of food systems. Between 2015 and 2019, the share of individuals using the internet in West Africa has increased from 17% to 22% (World Bank, 2021). In several countries, high internet access is paired with high mobile broadband access (Ghana, Côte d'Ivoire, Mauritania). Access to technology and infrastructure development are important to enable actors within food value chains to develop new markets and opportunities. Improved access to information via digital

technologies, through the use, for example, of mobile phone applications to provide price and demand information or the spread of e-commerce platforms (Map 8), can reduce market distortions, support the adaptation of production processes and reduce waste. Similarly, digital technologies can also provide health and climate services and improve the effectiveness of early warning mechanisms in support of farmers and governments to better anticipate and respond to pest attacks, crop failures and environmental impacts. Infrastructure includes marketplaces, warehouses, logistics services and communication networks (mobile phones and internet). These provide product specific services like cooling and packaging and conserving fresh and perishable foods. Infrastructures and technologies are also an important driver in improving food safety through, for instance, more adapted production and handling as well as traceability.

Carte 8. E-commerce in Africa, number of marketplaces per country

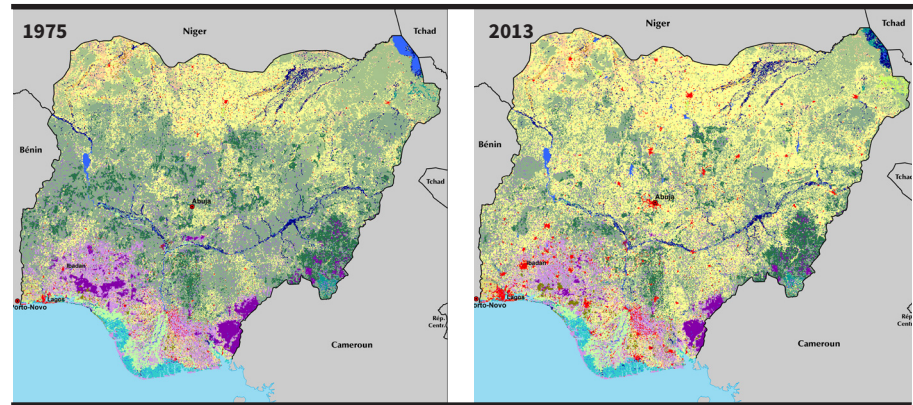


Source: International Trade Center (2020); Map: © SWAC/OECD, adapted from Faleg et al. (2021).

BIOPHYSICAL AND ENVIRONMENTAL DRIVERS

West Africa is home to a diverse set of food ecologies impacting food systems locally and regionally. The biophysical environment of the food system is experiencing profound changes. Climate change modelling scenarios for the region predict more unstable weather conditions, higher average temperatures and changes in the distribution, frequency and magnitude of rainfall. The frequency of extreme climate events will increase. Transboundary environmental shocks affect the whole food system, from production (yields, resources) and the intermediating system (infrastructure) to consumers (livelihoods, migration, mobility). Besides climate conditions, the evolution of natural resources highly influences food systems, especially in the production stage (Box 2). Natural resources are under growing pressure across the region, also due to the impact of food systems on these resources and the environment. Agricultural land cover in West Africa increased from 10.7% in 1975 to 22.4% in 2013. Over the period 1975-2013, forest areas were reduced by 37% (CILSS, 2016) (Map 9). An estimated 90% of

Map 9. Evolution of land cover in Nigeria



Source: CILSS (2016); Maps: © CILSS.

Note: Agricultural land is marked in yellow.

rangelands and 80% of farmlands in the Sahel and West Africa are seriously affected by land degradation, including soil erosion (FAO and ITPS, 2015). Given the strong interdependency between food systems and the environment, reducing the environmental footprint of food systems is crucial. Technology and innovations will play an important role in helping the transition.

Box 2

ENVIRONMENT AND RESOURCES

“Environmental drivers refer to the natural resources available, pollution and climate. They shape food systems mainly on the production side because food production is highly reliant on the availability of natural resources (water, land, biodiversity etc.). Natural resources refers, according to the UN, to all “natural assets (raw materials) occurring in nature that can be used for economic production or consumption.” These elements are soil, land, water, fish, biodiversity (plants, animals, microbes etc.), forest and minerals present in nature. The UN definition distinguishes four categories: mineral and energy, soil, water and biological resources. Some are fossil-based and can be considered as a finite stock and non-renewable (for example, mining phosphate). Some others are renewable, which means that these natural resources “after exploitation, can return to their previous stock levels by natural processes of growth or replenishment.”

Source: Dury et al. (2019).

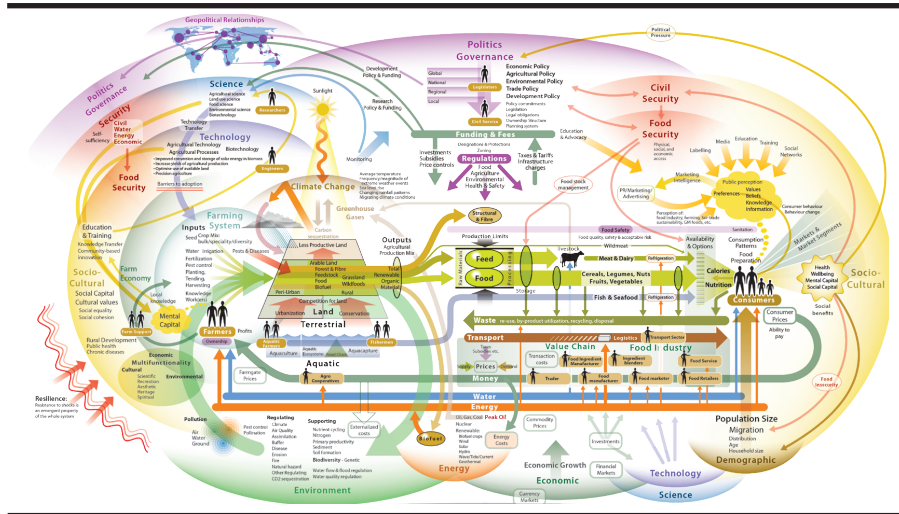
BUILDING SUSTAINABLE FOOD SYSTEMS

FOOD SYSTEMS ARE BECOMING MORE COMPLEX

West African food systems have been transforming rapidly. A growing population, urbanisation and environmental factors will further accelerate change. The regional population is projected to grow from 400 million in 2020 to 540 million inhabitants in 2030. The network of cities will densify and lead to an intensification of rural-urban linkages. Production systems will continue to transform, raising issues about the role of family farming, agro-ecology and sustainable production and consumption. New consumption habits and markets will create new jobs. Technology and digitalisation will provide opportunities for consumers, businesses and policies. These transformations will have implications for future public policy and investment decisions. A better understanding of the different drivers and the complexity of their interactions (Figure 7) and how they impact policy options is needed to promote healthy and sustainable diets and livelihoods for farmers, traders,

Figure 7.

Global Food Systems – Complexity and multiple interactions



Source: shiftN; Belchior, C. et al. (2016); Figure: © ShiftN.

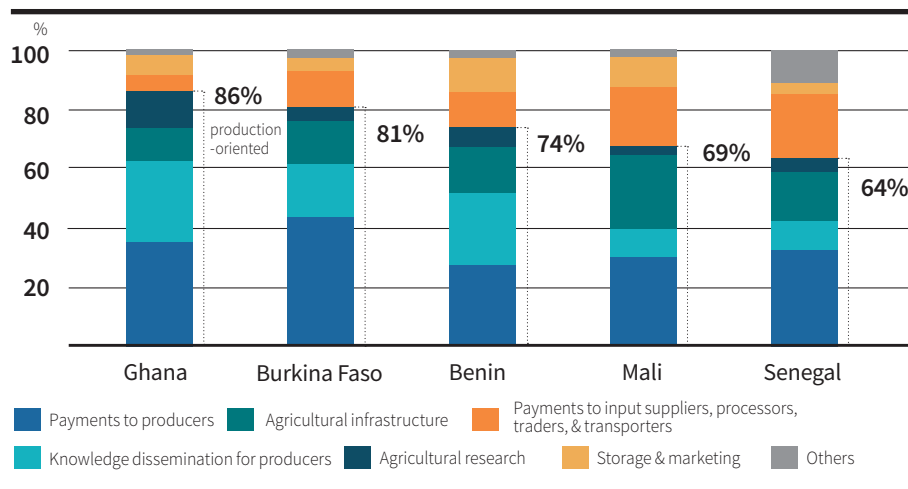
processors and consumers, while reducing impacts on the environment. Policymakers need to consider the following key areas in order to prepare the future of West African

food systems: food system policies, urban challenges, managing transition, inclusive employment creation, healthy diets, digital opportunities and resilience.

TOWARDS NATIONAL AND REGIONAL FOOD SYSTEM POLICIES

The dominant role of food systems in shaping the future health of people and the planet imply a need for a broader set of policy areas, beyond agriculture. Agricultural policies are not effective at addressing the triple challenge of food systems; they can often be counterproductive (OECD, 2020). In West Africa, governments tend to consider food issues through the lens of agricultural policy, which tends to focus on food security and availability, as evidenced by the composition of agricultural policy budgets across the region (Figure 8). Current transformations highlight the need for adjusting the policy environment to the new realities of the food sector. Key elements in this process are developing more coherent food system policies, regularly adjusting existing policies and ensuring effective implementation. Designing food system policies will involve a range of trade-offs, synergies and dealing with uncertainties. This also implies a need for greater investments into data and evidence generation capacity. The West African food system is characterised by its strong spatial heterogeneity and rapidly evolving context.

Figure 8. Composition of agriculture-specific public expenditures, national and external resources



Source: Pernechele et al. (2018); Figure: © SWAC/OECD.

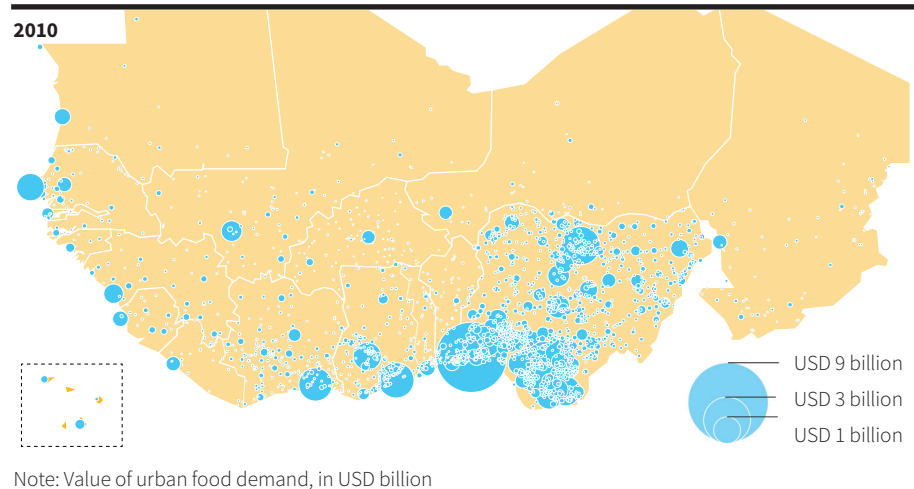
Therefore, national averages and outdated data are not able to provide sufficient granularity to inform efficient policies. The regional and continental organisations will have to play an important role to ensure coherence with food system realities and the evolving political economy context of deeper

continental integration, notably through the African Continental Free Trade Area (Map 7). Scaling-up regional and continental mechanisms, developing synergies across policies and improving monitoring and enforcement processes are crucial elements to design effective food system policies.

FEEDING CITIES – CONNECTING TO OPPORTUNITIES

West Africa's rapidly growing cities are the largest and fastest growing market opportunities for the region's food producers. Urban food markets represent 67% of regional food demand and will continue to grow rapidly over the coming decades (Map 10). The changing food demand patterns towards more perishable and higher-value products imply that producers have to diversify and specialise into these growing segments to be able to capture increasing market opportunities. Growing urban food markets also mean greater importance for food value chain activities and services that provide the connection between production and consumption, between rural areas and cities. Cities are not only fed by farmers, but also by transporters, processors, traders, street vendors and restaurants. In addition, small towns and intermediate cities will play an increasingly important role in the development and structuring of food supply chains. For the majority of family farms, the entry points to food value chain services are the region's small towns and secondary cities. With the shifting of

Map 10. Concentration of food demand in West Africa



Source: SWAC/OECD (2021); Figure: © SWAC/OECD.

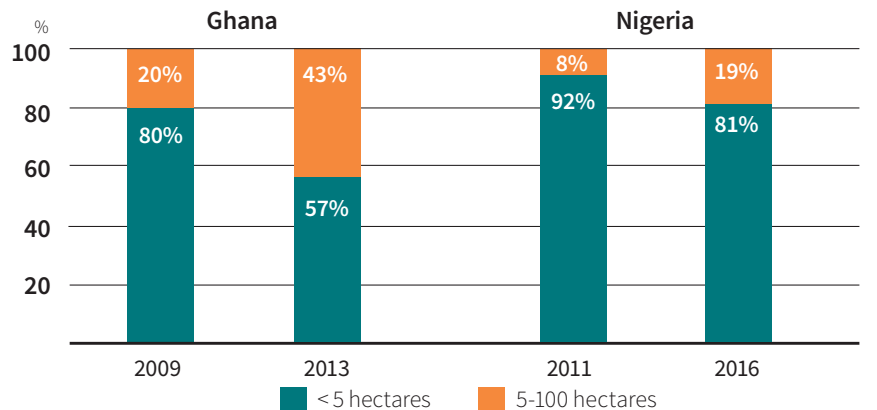
West Africa's food systems' centre of gravity towards urban areas, new non-traditional actors become central to the effective and safe functioning of food markets. Ministries of health and environment play a key role in food safety and public health. City mayors, urban planners and business associations

design and operate the market infrastructure upon which the food value chain depends to connect to urban consumers. New forms of governance are necessary to incorporate increasing numbers of stakeholders, ensure co-ordination and improve efficiency and connectivity across food value chains.

MANAGING TRANSITIONS IN FOOD PRODUCTION SYSTEMS

Ongoing transformations in food systems are driving major changes in production. Production is becoming more market-oriented, more specialised and better integrated into food value chains. Consumer behaviour is driving growing demand for more diverse and higher value foods. Environmental degradation, land prices and growing market competition are adding a layer of stresses to production systems. The transition of West Africa's production systems will demand higher capital intensity, greater organisation and skills. Larger commercial farms are able to access growing market opportunities and increase their market share (Figure 9). Supporting their development is crucial for building competitive domestic and regional value chains. At the same time, the large majority of producers operate on small landholdings with little capital intensity. In some regions, smallholders are able to invest in higher-value crop production, generate employment and develop successful commercial activities. Such clusters emerge in areas that combine favourable agro-ecological conditions and good connectivity and market access. The growing diversity and transition of food production systems, within and across countries, needs

Figure 9.
Changes in the share of national crop production value by farm size category



Source : Jayne et al. (2019); Figure: © SWAC/OECD.

to be better reflected in agricultural policies. Clearly, there is a need to increase the level of public investment in agriculture and at the same time improve the investment mix with a stronger emphasis on off-farm segments (Staatz and Hollinger, 2016). Of particular importance will be to increase structural investments (e.g. rural infrastructure, market access, access to finance and insurance), which have been underfunded and are product and producer neutral, thereby

ensuring a level playing field. Formulating and implementing effective policies will involve trade-offs and finding the best policy mix to create synergies. Designing inclusive processes and strengthening the capacity of various stakeholders, such as farmer groups and inter-professional organisations, will help make policy decisions more transparent and relevant for West Africa's millions of food producers.

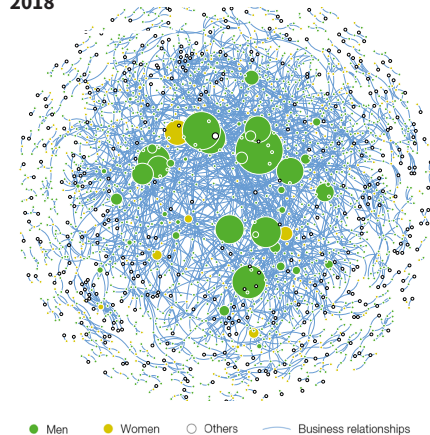
SUPPORTING INCLUSIVE EMPLOYMENT CREATION

Across West Africa, the food economy, and especially agriculture, continue to play a dominant role in employment generation and economic development. Rapidly growing urban demand will continue to drive more and new employment opportunities in food value chains. Policymakers can support food value chain employment by facilitating access to productive resources, promoting up- and mid-stream services, and developing the enabling environment needed to support the emergence and growth of micro, small and medium-sized enterprises in the off-farm sector. However, more effective and inclusive food value chain employment policies need to answer a broader set of questions. Which sectors have the most employment-intensive growth? How can employment growth be more inclusive across all demographics and regions? What are the long-term economic and competitiveness trends that sustain employment growth? What skills and infrastructures are needed for these activities? Youth and women employment is a

key issue on the region's employment agenda. Women dominate employment in off-farm segments, including food-away-from-home, food processing and food marketing. Yet, they rarely have access to the resources needed to develop their activities. An analysis of the rice sector in Benin, Niger and Nigeria highlights existing gender disparities in trade networks (SWAC/OECD, 2019). Women face a series of obstacles limiting their participation in trade: poorer access to information and markets, male-dominated distribution networks, time and mobility constraints, lower education levels, greater difficulties in complying with regulatory and procedural requirements, etc. Women are thus less likely to hold strategic positions and are less well-connected to central actors within value chains (Figure 10). Supporting employment in food value chains can offer immense opportunities to women and young people. However, more evidence, strategic thinking and integrated approaches are needed for more effective policies.

Figure 10.
Gender disparities in trade networks

2018



Note: Betweenness centrality by gender: example of the rice sector in the Dendi region of Benin, Niger and Nigeria

Source: OECD/SWAC (2019); Figure: © SWAC/OECD.

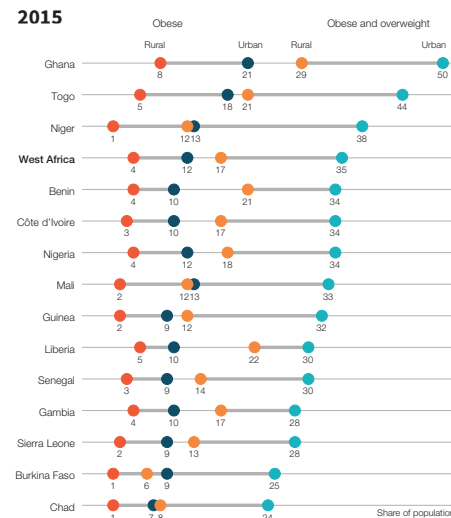
PROMOTING HEALTHY & BALANCED DIETS

MALNUTRITION – MONITORING AND NUTRITION LITERACY

West Africa is undergoing a nutrition transition and suffers from the double burden of under- and over-nutrition. An estimated 110 million people are not receiving the correct nutrition for their needs. Over 58 million people are classified as underweight, while around 52 million are either overweight or obese (van Weesenbeck, 2018). These numbers show the severity of the challenge that this “double burden” imposes on West Africa’s health systems that are generally underfunded and overstretched. Analyses also highlight strong variations in under and over-nutrition prevalence levels across countries and between rural and urban settings. For example, in all West African countries, the share of overweight or obese adults is higher in urban areas compared to rural areas. As much as 23% of the regional adult urban population is overweight and 12% is obese. In Ghana, one in two urban dwellers is already either overweight or obese. Food security and health monitoring mechanisms need to evolve and adapt, integrating

more direct metrics and in more settings, to accurately identify “nutrition hot spots” where policy interventions, including crises prevention and emergency aid, are most required. In particular, greater monitoring efforts of long-term nutritional trends and food security issues in rapidly growing urban agglomerations are needed. New forms of malnutrition and related health impacts also call for a greater attention to nutrition literacy in the region: public information, education campaigns in favour of greater nutrition awareness and appropriate standards for food packaging are required. Harmonised labelling standards like Nutri-score, which is already deployed in several European countries, and recommended by the World Health Organisation, are yet to make their way onto West African food packages. School feeding programmes, widely implemented throughout the region, also offer opportunities to deliver education on nutrition, together with improved food security, especially when targeting girls.

Figure 11.
Prevalence of overweight
and obese adults in West Africa

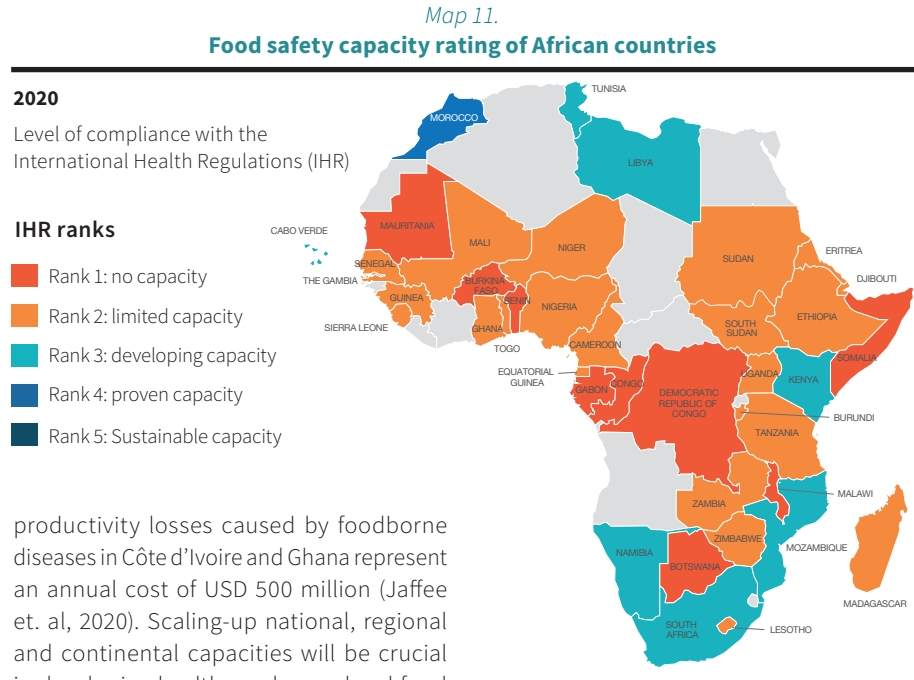


Note: Cabo Verde, Guinea-Bissau and Mauritania are not included in the regional average.

Source: van Weesenbeck (2018);
Figure: © SWAC/OECD.

SCALING UP FOOD SAFETY CAPACITIES

The COVID-19 pandemic has not only painfully shown the link between food safety and global health, it has also demonstrated the central importance of functioning food systems. Exposure to food safety risks increases with the complexity, density and length of the food supply network. West Africa's food supply chains are rapidly developing to respond to burgeoning demand. In addition, the riskiest foods from a health perspective are animal-source foods and fruits and vegetables, the consumption of which is rapidly increasing. Improvements in food safety will require important investments in market infrastructure, improved awareness by all actors on the responsibility to provide safe foods and enforcement capacity at the level of regulators. Current capacity to enforce food safety is uneven across the region, with significant gaps in Benin, Burkina Faso and Mauritania. Consumer attention to food safety and quality is growing, sometimes leading to consumers switching to imported products that are perceived as safer. In addition, foodborne diseases impose costs on farmers. The NEPAD/ReSAKSS initiative estimates that



productivity losses caused by foodborne diseases in Côte d'Ivoire and Ghana represent an annual cost of USD 500 million (Jaffee et. al, 2020). Scaling-up national, regional and continental capacities will be crucial in developing healthy and more local food systems. Effective legislation and regulation has to be developed and introduced in concertation with all stakeholders and taking context-specific realities and food cultures into account.

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

EXPLOITING THE OPPORTUNITIES OFFERED BY DIGITAL TECHNOLOGIES

Digital technologies—including the Internet, mobile technologies and devices, data analytics, artificial intelligence, digitally-delivered services and apps—are changing agriculture and food systems at different stages of food value chains (OECD, 2019). In agriculture, start-ups such as WeFly Agri, AgriPredict or INVESTIV use drone technology, remote satellite data and farm machinery automation to improve the accuracy of crop production methods and reduce costs. In downstream segments, digital marketplaces such as Farmcrowdy and Twiga are connecting farmers to traders, processors and consumers improving logistics services and marketing of agricultural products and the provision of information to consumers. In the field of digital payments telecom companies, mobile money services (Orange Money, MTN Mobile Money, etc.) and startups such as Paystack, Julaya, etc. are facilitating economic transactions and increasing financial inclusion in the region. Digital technologies are creating new opportunities for the private sector by connecting to new

markets, overcoming infrastructure gaps and information asymmetries, and enabling more actors in more places to integrate food value chains. Digital technologies also provide opportunities to deliver better food system policies by helping governments improve the efficiency and effectiveness of existing policies and design better ones. Satellite imagery, big data and artificial intelligence, for example, could dramatically improve early warning systems (food production, food and nutrition security, detection of pests) and climate services. They could also enable new ways for governments to monitor and ensure compliance with environmental standards and improve the reach and efficiency of extension services. Digital technologies and innovations can support the goal of more resilient, productive and sustainable food systems in West Africa. Directly—via the adoption of technologies by food sector actors, and indirectly—via the adoption of technology by governments to deliver better policies and services (OECD, 2019).



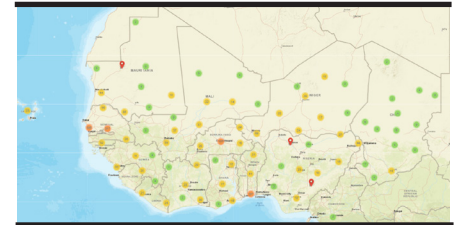
PROMOTING RESILIENT FOOD SYSTEMS

The COVID-19 crisis has highlighted the importance of improving the resilience of food systems all around the world. In West Africa, ecological fragilities, uncertainties and risks (related to climate, security or health crisis, etc.) are set to intensify. The region will have to adapt to an increasingly complex and uncertain environment. Rising temperatures and increased frequency of extreme climate events, which are associated with an increased incidence of disease, pests, and other disturbances, will continue to impact crop yields and production systems. In addition, insecurity and population displacements further disrupt the proper functioning of food systems (abandoned farms, difficulties in accessing production inputs, disruption of food supply chains). Food production, trade and consumption are exposed to a broad range of shocks. Such shocks can cause significant strains on the functioning of food systems and greatly affect people's ability to access safe and affordable food. The region has many

long-distance trade flows and cross-border trade is widespread. Livestock trade is structured around regional trade corridors and national and cross-border economic operators (Valerio, 2020). This uncertain and multi-risk environment calls for public policies that strengthen the resilience of food systems and their ability to cope with various shocks - including the resilience of actors and communities that are part of these food systems. Since the adoption of the regional roadmap of the Global Alliance for Resilience (AGIR) in 2013, countries have developed their own national resilience priorities based on a series of national inclusive dialogues. Resilience priorities have also been incorporated into the revised national agricultural investment plans of ECOWAS countries. A large number of food and nutrition security interventions include resilience (Map 12). Such initiatives need to be further complemented by forward-looking strategies, monitoring capacities and risk insurance services.

Map 12.

Food & nutrition security projects, including resilience-building



Source: RPCA; Map: © SWAC/OECD.

Box 3

RESILIENCE

“The capacity of vulnerable households, families, communities and systems to face uncertainty and the risk of shocks, to withstand and respond effectively to shocks, as well as to recover and adapt in a sustainable manner”.

Definition by the Global Alliance for Resilience – Sahel and West Africa (AGIR)

In the context of food systems, resilience can be understood as the capacity for a food system to withstand and recover from disruptions in a way that ensures a sufficient supply of healthy and accessible food for all.

INFORMING BETTER FOOD SYSTEM POLICIES

BUILDING A SHARED UNDERSTANDING

Food systems play a central role in West Africa's sustainable development process. As food system transformations unfold, there is a growing need to better understand and monitor them. Policy responses need to adapt to these changes in order to address food and nutrition insecurity, provide livelihoods, and promote environmental sustainability while adapting to climate change. How West Africa's food systems will respond to these challenges will depend on future public policy and investment decisions. Agricultural policies alone will not be effective in addressing the triple challenge faced by food systems. The complexity of food systems calls for investments in innovative data, tools and monitoring capacities as well as inclusive and sustained dialogue. Policy choices will present synergies and trade-offs. Resolving these challenges will be based on technical options and constraints as well as value judgments and policy debates. Developing a shared understanding on facts and evidence among stakeholders is needed to promote transparency and accountability and help drive inclusive and agile policy processes.



THE IMPORTANCE OF DATA AND EVIDENCE

There is growing demand from policy makers and analysts for data and evidence on drivers of food system transformations and their impact, in order to help design efficient policy interventions. Difficulties in designing and implementing coherent food systems policies often stems from disagreements over facts (OECD, 2021). This can be due to a lack of available data or analysis, or to different perceptions of issues. Data describing food system drivers are scattered, missing and not easily comparable. More and better data are needed across the entire food system but particularly in the off-farm sector. While the majority of West African countries track crop production and exports, only a few countries collect and analyse data on other segments of food value chains (Reardon, 2015). The thousands of micro, small and medium-sized enterprises that connect and link this USD 263 billion economy, are called the “hidden middle” due to the almost complete lack of data and information about them. Strategic investments in evidence and data generation capacities will help foster shared understanding of facts and promote more transparent policy processes. Access to harmonised data and indicators across countries could further improve monitoring, harmonisation and co-ordination of food system policies and strategies at country and regional levels.

PROMOTING INCLUSIVE POLICY DIALOGUE ON FOOD SYSTEM PRIORITIES



The complexity of food system transformations means there will be no silver bullet in policymaking. Inclusive and transparent policy processes are needed to identify priorities, define synergies and make difficult decisions in the face of trade-offs and different values. Because food is so central to livelihoods, societies and culture, policy reforms in this area can be highly contentious. Debate around topics such as genetically modified organisms, family farming or nutrition guidelines will become more contentious. Hence the need to promote discussion among all stakeholders to drive collective action, advance strong political uptake, avoid policy capture and promote accountability. Shared and nuanced understandings of food system transformations, in line with realities, will help countries and other regions to learn from each other and address weaknesses and bottlenecks. Policy dialogue is essential to navigating complex food systems and ensuring that they deliver healthy diets, livelihoods and healthy environments in West Africa.

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Maps & Facts, No.1, November 2015
Climate, Climate Change & Resilience



Maps & Facts, No.2, November 2016
**Food issues linked to demographic,
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Maps & Facts, n° 3, November 2020
**Food & Nutrition Crisis 2020:
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