



Food and Agriculture  
Organization of the  
United Nations



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# FOOD SYSTEMS PROFILE - **THE GAMBIA**

Catalysing the sustainable and inclusive  
transformation of food systems



The Gambia





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transformation of food systems

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# FOOD SYSTEMS PROFILE

## THE GAMBIA

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### Key messages

The Republic of The Gambia is surrounded by Senegal, barring its western coast. It **covers an area of 11 295 km<sup>2</sup>**, with a **density of 214 people per square kilometre**. The country's population was estimated at 2.34 million (with 51.2 percent females) in 2018 at a growth rate of 3.1 percent per annum (2010–2019). Climate change and variability have been ushering in seven-month-long dry seasons from November through May with rising air and soil temperatures. This is compounded by declining average rainfall of 800 mm in 2020 from 860 mm in 2000. Nearly one-third of the country stands at 10 m above sea level and is susceptible to annual flooding. The Gambia's food systems are primarily rooted in agriculture, which has the potential to become a robust engine of inclusive growth and poverty reduction. The country has favourable arable land resources with **about 553 116 ha** (56 percent of the land mass) that could be **suitable for agriculture**, and 80 thousand ha (14.46 percent of total arable land) of potential irrigable land. There are **four diverse agroecological zones** suitable for a wide range of agricultural products, and abundant water resources (118 thousand ha of surface water regimes and two major aquifers with good recharging capacities) with huge potential to irrigate over 80 thousand ha of lowland ecologies. Such opportunities, however, have not been tapped owing to technical constraints such as poor infrastructure, lack of maintenance and inadequate management skills, as well as fiscal constraints such as high cost of water extraction, user charges and inadequate government financing.

The Gambia's enormous agricultural resource has great potential to increase food and nutrition security as well as economic growth for building resilience to the effects of climate change:

- **Agriculture and related industries retain a crucial role in economic growth**, driving 33 percent of the GDP and **employing nearly half – 46 percent – of the labour force** (World Bank, 2019). It is also the **source of livelihood for 80 percent of the rural population**. The agriculture sector is the second main driver of Gross Domestic Product (GDP) accounting for a 16.7 percent share in 2019.
- GDP per capita at current prices reached USD 751.3 in 2019 owing to a strong service sector (rebound of the hospitality industry) and trade subsectors, which accounted for roughly 20 percent of the GDP.
- Despite the COVID-19 pandemic, which severely affected the decline of the hospitality industry, the **importance of supporting internal food consumption** from a quantitative and qualitative standpoint as well as aligning supply with the demand of fast-growing urban areas is to be acknowledged and addressed. This also constitutes important opportunities to boost quality horticultural, dairy and poultry production for improved food and nutrition security for the Gambian population.
- The Gambia's proximity to the European Union and United States of America, its liberal trade policies and **relatively well developed port capacity** position it as a potential subregional trade hub.



- The Gambia's **fishing sector** contributed 6.5 percent to its GDP in 2017. The sector **provides livelihood to nearly 200 thousand** people, with most being engaged in artisanal fisheries. Industrial fishing, however, is dominated by foreign vessels in Gambian waters. According to CIRAD (Avadi *et al.*, 2020), there were 15 licensed vessels (trawlers) operating in Gambian waters in 2017, of which 6 were Gambian registered but not owned by Gambians. The other 9 obtained licences through the reciprocal agreement with Senegal but are not necessarily owned by Senegalese nationals.

Despite the country's great potential, its food systems are marked by **limited capacity to supply adequate quantity and quality of diversified foods to its population**. The lack of optimal functionality of its food systems translates into both the inability of the domestic supply of adequate food as well as the population's lack of access to sufficient nutritious food. A range of factors including rapid population growth and urbanization with growing food demand and associated high food prices amid low-income households are challenging The Gambia's food and nutrition security and therefore constitute **key drivers** to the agrifood systems' ability to provide sufficient quantity and quality of food at affordable cost for the local population. These **key identified challenges** include:

- **Climate change and variability** with increasing frequency and severity of weather shocks constituting an additional burden on the food systems. This is due to the negative impact that climate and environmental shocks can have along the value chain by inhibiting production, constraining processing and transportation, increasing trade deficits, lowering export prices and, thus, limiting the participation of food system actors. Through a domino effect, climate change and environmental shocks negatively impact the food and nutrition security status of the population while having a detrimental effect on their resilience.
- High population pressure on natural resources with **widespread deforestation and accelerating desertification** is eroding the country's productive lands. Moreover, increasing salinity is turning large areas in West Coast Region and North Bank unproductive for agriculture.
- High dependence on rainfed agriculture with traditional farming methods is resulting in **declining productivity**.
- Predominance of smallholder farmers with **limited access to finance for inputs, services, infrastructure and technology** is constraining productivity in agriculture and allied sectors.
- Furthermore, **access to land is particularly challenging for youth and women** due to inequality in the land tenure system.
- **Weak downstream segments of food value chains** are characterized by an inadequate productive base (including use of inappropriate technologies) **as one consequence of poor governance of food value chains and low institutional capacities to promote the production of sufficient and quality food**.
- The country has **inefficient marketing systems** with nonexistent formal and functional producer marketing institutions to support value chain actors.
- **Undermined economic and social development** resulted from the country's poor agricultural performance during the period 2008–2017.
- **Low levels of knowledge, aptitude and practice of nutritionally essential actions culminate in poor infant feeding practices by care givers on one hand and increasing prevalence of overweight, obesity and non-communicable diseases (NCDs) among adults on the other.**



In addition, the emerging institutional dynamics have ushered in the following features in The Gambia's food systems:

- Unclear policies on imports and exports with the **government's direct involvement in fertilizer imports and distribution** (with a 58 percent price subsidy in 2018) led to the **crowding out of private sector investment** in the input market, resulting in insufficient availability of fertilizers for smallholder farmers. Moreover, by focusing on and subsidizing mineral fertilizers, the government limits the expansion and use of organic fertilizers.
- Although the **government has liberalized groundnut marketing** and exports, **it is still taxing the commodity**. Moreover, the price-fixing policy for groundnuts **limits incentives to develop and reward any high-quality standards**.
- **The government's attempt** to incentivize domestic rice production by imposing tariffs on imported rice **did not have the anticipated effect on boosting national production**, due to the uncompetitiveness of locally produced rice, based on price parity.
- The Gambia has not taken full advantage of its export opportunities due to its inability to alleviate critical supply-side constraints owing to **non-compliance with necessary sanitary and phytosanitary requirements** and technical barriers to trade agreements, market information gaps, and failure to meet food safety standards.
- **Budgetary allocations for the agriculture sector do not match its needs. Investment in research and extension remains** very limited, while input subsidies and other direct transfer methods constitute a major component of agricultural expenditures.

This analysis identifies four key challenges for the country to transition towards a sustainable food system: (a) sustainable access to nutritious food, a challenge for most Gambian households; (b) dominance of subsistence farming among smallholder farmers; (c) lack of competitiveness of agrifood commodities in domestic and international markets; and (d) lack of environmental resources' support to the country's sustainable food systems. The identified systemic levers in each of these areas are as follows:

- (a) In the area of 'access to nutritional food': Strengthening Social and Behavioural Change Communication (SBCC) campaigns and programming on nutrition; and expanding nutrition-sensitive and specific interventions.
- (b) In the area of 'subsistence farming': Increasing investment for enhanced productive infrastructure and improved input access; and strengthening support institutions and farmers' organizations for enhanced service delivery.
- (c) In the area of 'lack of competitiveness of agrifood commodities': Stimulating private sector investment in agrifood sector, as well as strengthening value chains of diversified agricultural commodities and creating market linkages for high-value fish and horticultural products.
- (d) In the area of 'environmental resources': Promoting sustainable land management by engaging smallholder producers in climate-smart agricultural development; and supporting urban and peri-urban agriculture to increase the resilience of local and regional food systems, and creating jobs for the young, urban workforce.



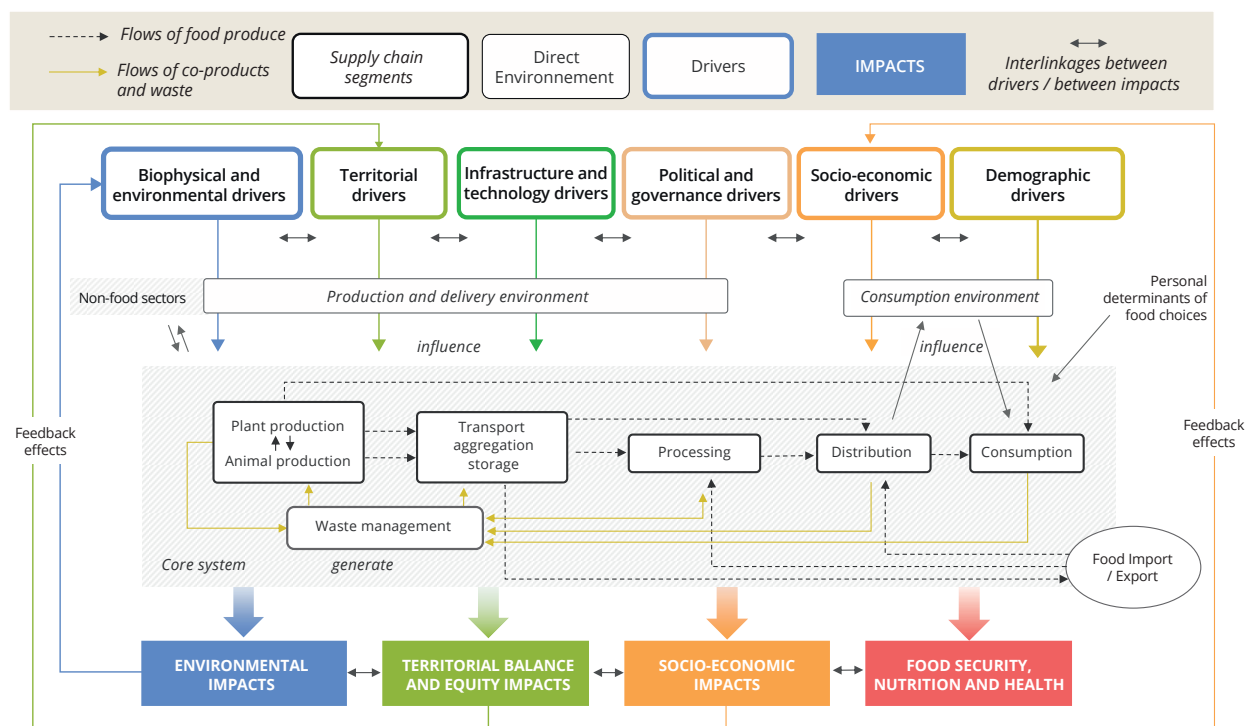
## Food systems assessment methodology and process

This brief is the result of a collaboration between the Government of The Gambia, FAO, the European Union and CIRAD, in close collaboration with FAO experts. It was implemented in The Gambia between May and August, 2022. The methodology used for preparing this brief is the result of a global initiative of the European Union, FAO and CIRAD to **support the sustainable and inclusive transformation of food systems**. This assessment methodology is described in detail in the 2022 joint publication entitled *Catalysing The Sustainable and Inclusive Transformation of Food Systems: Conceptual Framework and Method for National and Territorial Assessment* (David-Benz *et al.*, 2022).

The assessment integrates qualitative and quantitative data analysis with participatory

processes by mobilizing public, private and civil society stakeholders. The approach includes interviews with key stakeholders and a consultation workshop to refine systemic understanding of the food system and discuss potential levers to improve its sustainability. The assessment process thus initiates participatory analysis and stakeholder discussion on the strategic opportunities and constraints to sustainable transformation of food systems. The approach assesses the actors and their activities at the core of the system, together with their interactions along the food chain as well as the environments directly influencing their behaviour. Conditioned by long-term drivers, these actors generate impacts in different dimensions that in turn influence drivers via a number of feedback loops (see figure 1.1).

**Figure 1: Analytical representation of the food system**



**Source:** Catalysing the sustainable and inclusive transformation of food systems: conceptual framework and method for national and territorial assessment. (David-Benz *et al.*, 2022).





The approach involves a detailed understanding of the key challenges along the four dimensions of sustainable and inclusive food systems: (i) food security, nutrition and health; (ii) inclusive economic growth, jobs and livelihoods; (iii) sustainable natural resource use and environment; and (iv) territorial balance and equity. Aimed at identifying critical issues affecting the sustainability and inclusivity of food systems, the assessment is both qualitative and quantitative in nature. Critical challenges and key food systems dynamics are specified in the form of **Key Sustainability Questions (KSQs)**, whose answers (see schematic representations for all KSQs) help identify **systemic levers** and areas of action that are essential to bring about desired transformations in food systems.

This approach is designed as a preliminary rapid assessment for food systems and can be implemented over a period of 8–12 weeks. The methodology has been applied in more than 50 countries as a first step to support the transition towards sustainable food systems.







## National context: key figures

The Gambia is one of the poorest countries in the world, ranked 174 out of 189 countries in 2018 by the Human Development Report (UNDP, 2019). Poverty levels remain quite high with nearly half of all Gambian households living below the poverty line of USD 1.25/day (WFP, 2018). About 15.4 percent of the population are multi-dimensionally poor (GBoS-ICF, 2021), reflecting low consumption levels, limited education, and gaps in access to drinking water (95 percent, DHS 2020), sanitation (38 percent,

DHS 2020) and electricity, especially in rural regions.

The factors driving poverty suggest that rural poverty and food insecurity are closely associated with low productivity, particularly in rainfed agriculture. Deprivations contribute to the depth, complexity, and persistence of poverty. Income inequality is a prominent feature of the poverty profile of The Gambia, with a Gini coefficient of 35.9 points in 2015 (World Bank, 2019).

**Table 1.1: Country level data – The Gambia**

Indicators	Measures/Rates	Comments
National poverty level (head count)	48.6% (2015)	Gambians live on less than USD 1.25/day.
Rural poverty level (head count)	69.5% (2016) 62.1% (2010) 60.0% (2003)	Increasingly rising.
Urban poverty level	31.6% (2015–16)	Rising, owing to rapid rural–urban migration.
Percentage share of urban population	62.0% (2019)	High levels of urbanization.
Urban population growth rate	4.0% (2019)	Average annual migration of 57 711 people to urban areas.
Percentage of youth (below 15 years) in total population	43.0% (2018)	Signifying youth bulge with The Gambia's young population.
Urban unemployment rate for youth (15–35 years)	30.6% (2019)	Contributes to youth rural–urban exodus, increasing migration to Europe.
Rural unemployment rate for youth (15–35 years)	69.4% (2019)	
Percentage of population with access to health facilities within a 30 minute radius	80.2% (2015–16)	Signifying fairly good access to health facilities, but generally with poor-quality services and limited drug availability.
Access to electricity	60.3% (2018)	Signifying that at the national level, access to electricity is more than half. However, there is a significant rural–urban gap.
Rural–urban gap in access to electricity	40.5% (2018)	

**Source:** WFP, 2016; NDP, 2018–2021; GBoS, 2016, 2017; Statistical Abstract; World Bank, 2019; GBoS, 2018 and 2019 Statistical Abstract; The Gambia multiple indicator cluster survey, 2018.



Employment in the country is predominately informal, and lack of off-farm activities in rural areas results in underemployment, especially among women, and outmigration among the youth. Rapid urbanization triggered by high rural-to-urban migration has led to the highest concentration of the poor in the West Coast Region (WCR) and Greater Banjul Area, where inequality is high, traditional support systems are typically weak, and many are engaged in informal service sectors with low productivity. Access to basic services and facilities is worse in rural areas with strong territorial divides between urban and rural regions.

There is high import dependency for almost 50 percent of the food demand (World Bank, 2019), making The Gambia vulnerable to international market price fluctuations. As part of the food systems, remittances are emerging as major sources of social and economic resilience, and significant means of food purchases for Gambians.

According to the Central Bank of The Gambia, there has been an increasing trend in annual official remittances from USD 54 million in 2000 to USD 216 million in 2017. Since the outbreak of the COVID-19 pandemic, official monthly remittances increased further, averaging USD 27.42 million in 2019, USD 49.15 million in 2020, and USD 63.65 million in 2021.







## Key figures and trends in food production, consumption and trade

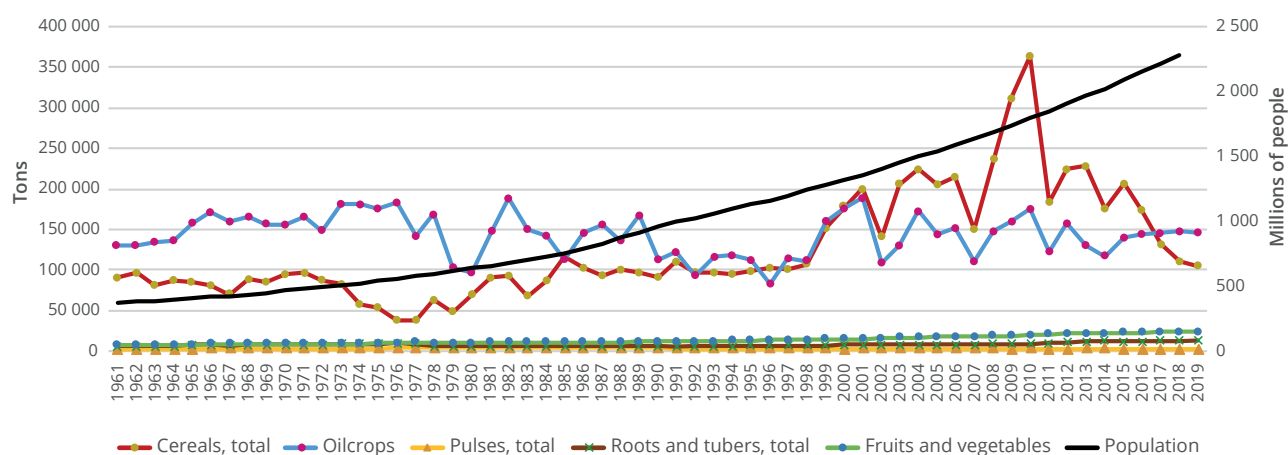
### Agriculture remains main source of livelihood, providing food for nearly half of the Gambian population; but the sector's performance remains subpar owing to various challenges

The Gambia's agriculture sector has been performing below its potential as a result of a set of constraints including the effects of climate change, low productivity, and limited access to markets and finance. There is low commercialization of agriculture with an annual growth rate of 3.7 percent. Sixty-two percent of households farm for self-consumption only, 34 percent for both self-consumption and commercial sale, while only 4 percent farm for commercial sale alone. Food insecurity increased from 5.6 percent of the population in 2011 to 8 percent in 2016, and then to 13.4 percent (or 329 189 people) in 2021; it disproportionately affects rural households (23.9 percent) more than urban ones (10.8 percent) (WFP, Draft CFSVA 2021). The population at the borderline increased from 29 percent in 2016 to 60 percent in 2021. Food insecurity was highest in Central River Region (CRR) ranging between 24.1 and 29.8 percent, followed by Lower River Region (LRR) and WCR at 15.8 percent each (WFP, 2021).

Value-added agriculture grew at an average rate of 2.45 percent per year from 2008 to 2017, which appears quite low in comparison to neighbouring countries (Guinea at 5.15 percent and Senegal at 6.44 percent). The overall growth in crop agriculture has been driven not by increase in productivity, but by the expansion of cultivated area (estimated at 2.0 percent per year), which has, however, not kept pace with the population growth.

Agricultural production is the main source of food for most rural households, complemented by wild food collected from forests (non-timber forest products, or NTFPs). The existing systemic challenges and the recurrent climate shocks marked by erratic rainfalls are the main impediments to the optimal performance of The Gambia's food systems. These bottlenecks have compounded effects on the diversity and levels of production, affecting food availability with increasing prices. Therefore, the food systems' performance is not at par with the increasing demand from a rising

Figure 2.1: Crop production in comparison to population growth



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/QC>.



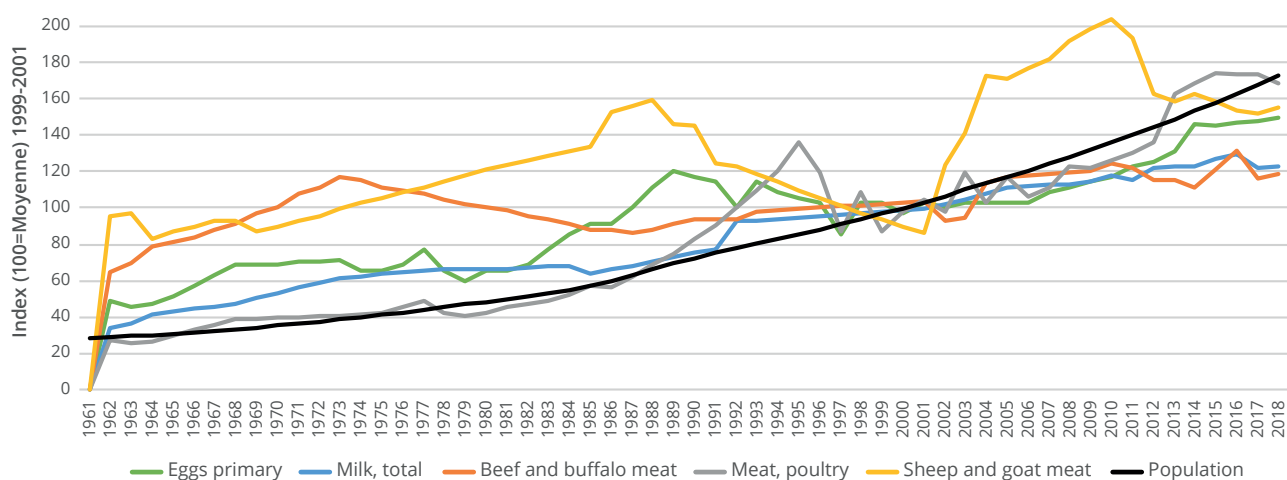


population of 3.1 percent per annum (2010–2019) (UNFPA, 2020), as shown in figure 2.1.

The country's main food crops of cereals, groundnuts and horticultural products provided a gross production value at USD 110.8 million in 2017. However, declining farm sizes and fragmentation of landholdings are posing challenges to modernized production systems. As illustrated in figure 2.1, crop production has been contracting since 1961, while population growth has been rising steadily. This declining trend in yields and the widening food gap are further challenged by adverse weather conditions, low productivity, and limited access to markets and finance for small producers.

As per the Livestock Census (2016–2017), The Gambia's livestock population was estimated at 3.28 million heads. Of this, its cattle population was about 0.3 million and poultry was 1.38 million, of which chicken was 0.94 million, while duck and guinea fowl made up 0.44 million. The population of small ruminants – both sheep and goats – increased from 0.1 million (1993–1994) to 0.17 million (2016–2017), and from 0.21 million (1993–1994) to 0.33 million (2016–2017) heads, respectively. The evolution of livestock production presents similar stagnating trends in small ruminants and cattle (including dairy cows) in recent years (see figure 2.2).

**Figure 2.2: Evolution of the number of livestock heads (index)**



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/QL>.

**Table 2.1: Livestock contribution to the national economy**

Years	2013	2014	2015	2016	2017	2018	2019
Contribution to national GDP	5.4%	5.7%	5%	5.6%	4.2%	3.8%	3.7%
Contribution to agriculture GDP	19.1%	23%	21.7%	21%	19.9%	18.6%	15.7%

Source: GBoS, 2020.



There has been a significant increase in demand for meat products in The Gambia in recent years. The present domestic production of beef, milk, lamb, goat meat, poultry meat and eggs are far short of the national demand. The deficit in

supply is supplemented by imports (particularly for supermarkets and hotels), offering an opportunity for commercial production to generate marketable surplus. Table 2.2 shows the supply and demand details<sup>1</sup> from 2012 to 2017.

**Table 2.2: Supply and demand of meat in metric tonnes**

Variables	2012	2013	2014	2015	2016	2017
<b>Production</b>	8 799	9 239	9 701	10 380	11 107	11 995
<b>Imports</b>	25 952	29 066	32 554	3581	39 391	42 936
<b>Demand</b>	34 751	38 305	42 255	4619	50 497	54 931
<b>Deficit</b>	17 153	19 827	22 853	2543	28 284	30 941
<b>Percent deficit</b>	49%	52%	54%	55%	56%	56%

**Source:** FAO, 2017.

The fishing sector contributes an estimated USD 55.5 million to the economy, of which USD 38 million<sup>2</sup> is derived from production and USD 16.1 million from industrial processing. In 2020, the average monthly wage of Gambians working in artisanal fisheries stood at USD 855<sup>3</sup>, in a range of USD 264–1751 for a crew member (Avadi *et al.*, 2020).

The Gambia's fisheries sector has a strong potential to develop into an emerging export market. Currently, fish exports (fishmeal, fish processing for exports, off-Gambia landings

by industrial vessels, etc.) represent roughly 19 300 tonnes per year, generating USD 65 million<sup>4</sup> to complement The Gambia's foreign reserves. However, while the sector represents an opportunity for future economic development, the coastal communities are citing over-exploitation and depletion of marine resources as their major concerns. The reasons behind this are discussed in greater detail in KSQ 4. There is an urgent need for the government to address these growing threats of resource depletion and increasing fish prices, which affects white meat access for a growing population.

<sup>1</sup> Meat production estimates include beef, lamb, goat meat, pork and chicken from traditional and commercial sectors.

<sup>2</sup> Exchange rate: USD 1 to GMD 45.

<sup>3</sup> Exchange rate: GMD 50 per USD 1.

<sup>4</sup> Calculated using Central Bank of The Gambia USD to GMD exchange rates over time (2021: USD 1 to GMD 50.91).





In recent years, the horticulture subsector has seen the most commercial investment, in particular for export of high-value products like fresh mangoes, baby corn and chili peppers. Fresh mango exports are potentially highly profitable, given farmgate prices of USD 200–240/MT against European CIF (cost, insurance, freight) prices of USD 850–1140/MT. There are great prospects in horticulture export markets, with a projected growth of USD 17 million from 2019 to 2025. However, the agrifood export market is constrained by inadequate compliance with World Trade Organization (WTO) sanitary and phytosanitary (SPS) requirements, and a failure to meet standards and technical requirements in EU markets.

Nearly 90 percent of rural residents collect/process NTFPs for subsistence and income. There is growing interest in wild fruits (*Baobab*, *Kabba*, *Netto*, *Ziziphus*) honey, local tea and herbal medicines, which attracts healthy local demand. Local entrepreneurs process a variety of wild fruits to produce juice, dried fruits and preserves, earning an average annual income of USD 211. Forest foods and beverages are vital to rural food systems, and with some value addition they have the potential to create large and reliable markets

for the products (Ecosystem-based Adaptation (EbA) Project, MECCNAR, 2018).

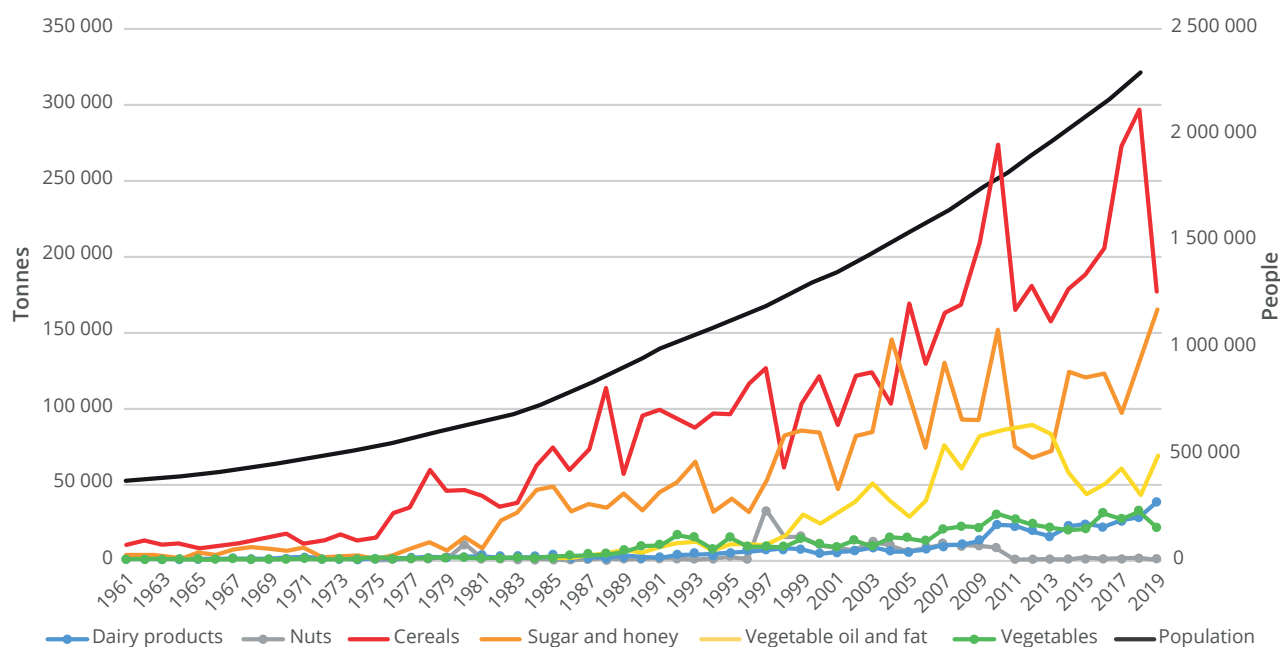
Imports fill the gap between food requirements and domestic production and have been growing over the decades. The Gambia's food imports are dominated by foodstuffs (particularly rice, sugar and vegetable oils). Rice is the dominant staple, with an average of 60 thousand MT/year of local production supplemented by imports of almost 200 thousand MT/year. This translates to USD 35 million/year (almost 4 percent of GDP), representing a large opportunity for increased domestic production. Local rice is priced at USD 550–610/MT, however, which is uncompetitive against imported rice at USD 507–565/MT in the domestic market on an import price parity basis.

The Gambia's agrifood imports far outstrip exports, with high import dependency for almost 50 percent of its food requirement. Of the top 15 imported items, 55 percent are food products with over 40 percent being fully processed (total cost of USD 242 million). The trade deficit in food products has widened significantly over the last five decades. Figure 2.3 shows The Gambia's volume composition of food imports over nearly six decades.





**Figure 2.3: Main imported food products in volumes with population growth**



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/TP>

The Gambia's export base is very narrow and dwindling. Groundnuts constitute the main export with oscillating volumes at the peak of up to 65 thousand MT in 1978 to the lowest of less than 10 thousand MT after 2011. The purchase and export

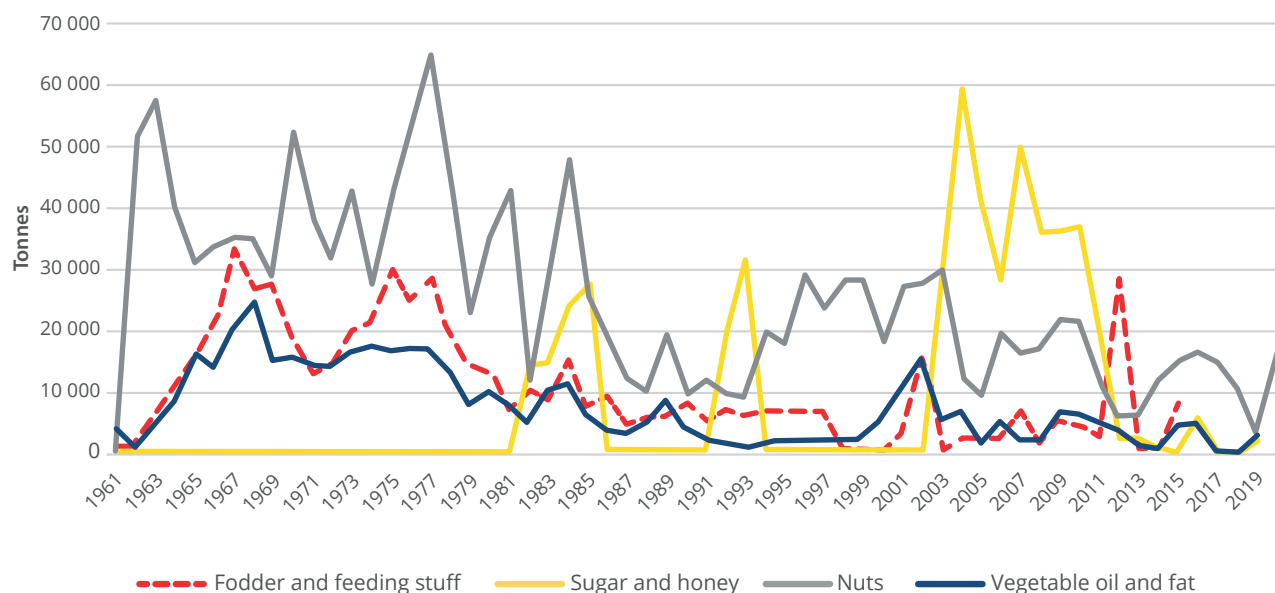
of groundnuts is dominated by a parastatal, making private sector activities risky and difficult to sustain. Export values of groundnuts declined from a high of USD 28 million in 1977 to less than USD 12 million in 2005 (MoTIE, MoA, 2018).







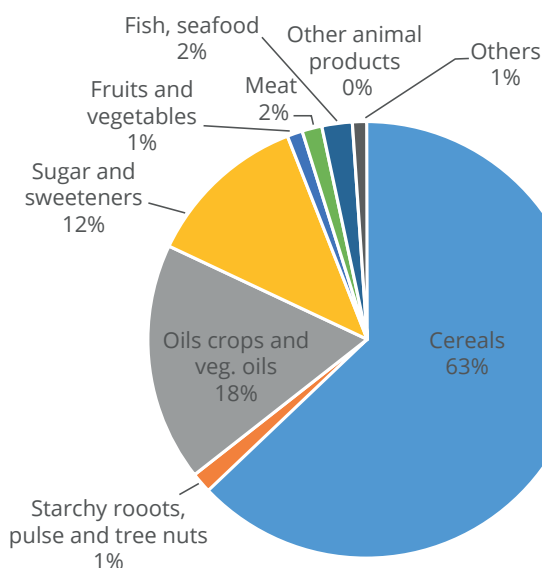
**Figure 2.4: Main product exports (in volumes)**



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/TP>

Food consumption in Gambian households is dominated by cereal-based diets with low dietary diversity.<sup>5</sup> Daily availability of basic foods (from both local production and imports) was estimated at 2849 kcal/capita in 2018. Cereals provide 63 percent of the available calories in local diets, followed by oil crops and vegetable oils (18 percent), and sugar and sweeteners (12 percent) (FAOSTAT) (see figure 2.5). On average, 6.5 percent of households do not consume foods rich in vitamin A, and 16.8 percent do not consume foods rich in iron (WFP, 2021). A study further found only 57.7 percent of rural households consuming foods rich in vitamin A against 69.7 percent of urban households (WFP CFSVA study, 2021). Though, no clear dietary guidelines exist for The Gambia, the National Nutrition Agency (NaNA) and the Ministry of Health (MOH) promote the consumption of nutritious food to achieve and maintain good health and reduce risks of chronic diseases.

**Figure 2.5: Food availability by commodity groups (in calories)**



Source: FAOSTAT, 2018.

<sup>5</sup> Dietary diversity is a qualitative measure of food consumption that reflects household access to a variety of foods, and is also a proxy for nutrient adequacy of the diet of individuals (FAO, 2011).



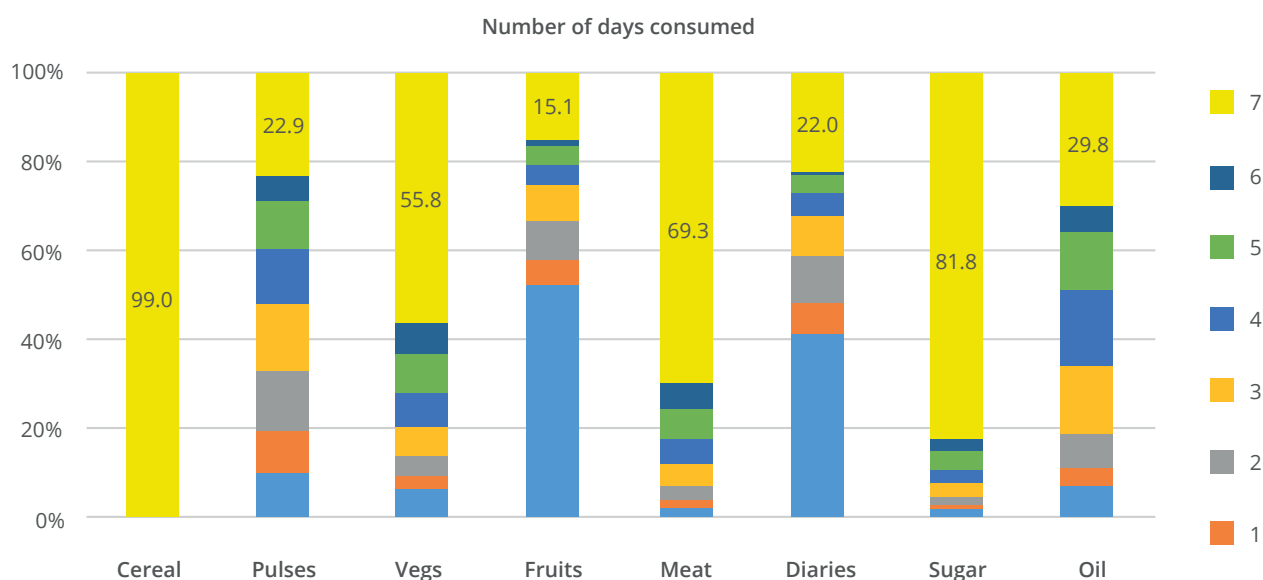
The estimated per capita consumption of cereals in The Gambia is 175 kg, of which rice constitutes 117 kg, followed by coarse grains like millet, maize and sorghum (58 kg). There has been a major shift from coarse grains to rice in recent years. However, only 6 percent of the staple rice requirement is met by domestic production with annual imports filling the food gap, as discussed earlier. Low agricultural production pushed up food costs by 7.26 percent in October 2019 over October 2018 (Trading Economics, 2020), triggering an alert for price spikes.<sup>6</sup>

More than 50 percent of Gambian households eat vegetables, meat, fish and sugar daily (WFP, 2016); and 99 percent eat cereals seven days a week. Only 15 percent of households eat fruit on a daily basis during the week; also poorer households were found to be less likely to eat meat, fruit,

and dairy (WFP, 2016). More than one household in three (35.8 percent) in The Gambia has a low dietary diversity (see figure 2.6).

Although urban households have access to more diverse foods than rural households (WFP, 2016), mainly due to increased availability of imported food in cities, this does not always translate into better nutrition. Prevalence of Global Acute Malnutrition (GAM) in The Gambia was 5.1 percent in children under five (CUF) in 2019–2020 (GBoS-ICF, 2021); though this is a considerable improvement from the 12 percent reported in 2013<sup>7</sup>. Disparities exist, however, in the gender distribution of GAM prevalence, which is higher in boys (5.9 percent) than girls (4.1 percent) (GBoS-ICF, 2021). Moreover, just 14 percent of children aged 6–23 months receive a minimal acceptable diet (MAD).

**Figure 2.6: Dietary diversity of households in The Gambia**



**Source:** WFP, 2016.

<sup>6</sup> The alert for price spikes monitors the extent to which a local food commodity market experiences unusually high food prices.

<sup>7</sup> Ten percent is deemed high: <http://www.who.int/nutrition/team/prevalence-thresholds-wasting-overweight-stunting-children-paper.pdf>



## Characterization of the dominant actors of the food system

- Foods reaching Gambian consumers are produced by 4.78 million smallholder farmers (GBoS, 2016)<sup>8</sup> (or 46.4 percent of the workforce) (FAO, 2018), of which 22 percent are engaged in horticulture and 41.9 percent (mainly foreigners) are employed in the fisheries sector, with most engaged in artisanal production and **less than 5 percent of local fisherfolk involved in industrial fishing**.
- The number of self-employed fisherfolk, processors and traders in the fisheries sector is estimated at 41 thousand. Around 158 thousand are involved in the processing and distribution of fish and 1500 are employed by 14 fish processing and export companies (Avadi *et al.*, 2020). Most fisherfolk employed by industrial fisheries are foreigners. Overall, 200 thousand people depend on fisheries for their livelihoods.
- Also, **105 623 households** supply local markets with various livestock products; but have **limited access to information and advisory services, as well as credit sources** (FAO, 2019; DLS, 2018, 2019).
- **Women play a crucial role in food production, providing 42 percent of farm labour and 40 percent of total agrifood production.** They also produce 60 percent of The Gambia's rice (MoA, 2014; MWCSW, 2020).
- **Informal, small-scale itinerant traders connect with retailers and wholesalers at weekly organized markets ("Lumo") and regional agricultural markets ("Samdika", for trading only agrocommodities).** A weekly "Lumo" typically serves a cluster of about 10–15 villages within a radius of 10–20 km<sup>2</sup>, depending on their location.
- Itinerant traders are engaged in aggregation, transportation, storage and distribution. Their major challenges are **lack of investment capital for expansion and low marginal returns due to repeated low service fees**.
- The **processing sector is still nascent**, with a few obsolete state-owned rice mills. On-farm rice threshing mainly uses manual methods; consequently, **30 percent of harvested paddy is lost during processing** (WFP, 2020).
- Some motorized cereal threshing and milling facilities (both communal and privately owned) are accessed by approximately 30 percent of smallholders.<sup>9</sup> Machine operators have limited maintenance skills, low knowledge of value additions, or of good hygiene and safety practices.
- There are over 219 thousand actors in the country's food wholesale and retailing markets (GBoS, 2016). Retailers and vendors in about 300 regular markets trade small quantities of specific agrifoods, sourced either directly from growers or traders at "Lumos" or major "Samdikas".
- There are four major supermarket chains with a proliferation of mini supermarkets in urban areas. There are three dominant, large-scale, licensed food importers and 85 clearing agents (customs brokers) as major aggregators with storage facilities, vehicles or vessels in the import market.
- Export market operatives are medium and large farms, namely GHE, RADVILLE, Busumbala Farm, Kura's Garden and M. Kharafi and Sons, producing and exporting high-value horticultural commodities (FAO, 2019).

<sup>8</sup> The Gambia's working population is 1.03 million.

<sup>9</sup> Estimated by the VCA study, 2019.



## Key challenges to the achievement of core sustainable food systems goals

### Key sustainability question 1: Why is sustainable access to nutritious food a challenge for most households in The Gambia?

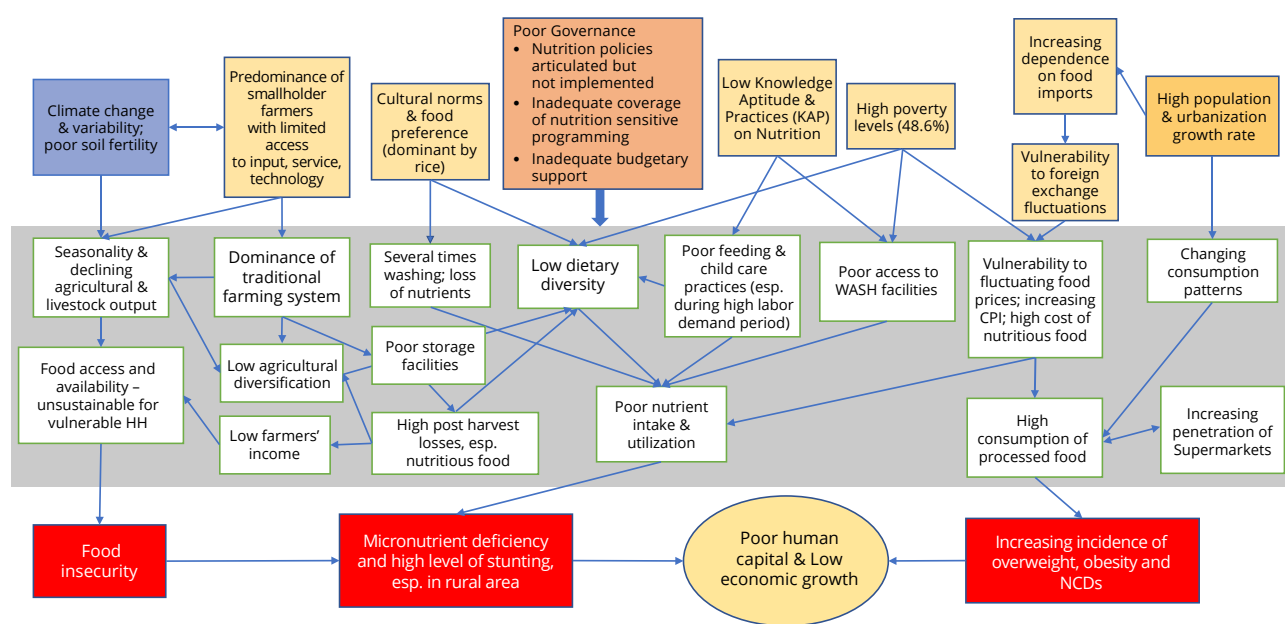
In 2021, The Gambia ranked 72 out of 116 countries in the Global Hunger Index (GHI). With a score of 17.6, The Gambia has a moderate level of hunger (WFP, 2021). In the Gambian food systems, a large proportion of households consume cereal-based diets with inadequate inclusion of proteins, vitamins and minerals; and, hence, enjoy low dietary diversity (see Section 2). Although urban households have a more diverse diet due to easy access to animal-sourced foods, sugar, oils, saturated fats, refined cereals and other processed foods, this does not always ensure nutrition security (WFP, 2016).

Low intake of nutritious foods can be particularly detrimental for children, who are mainly fed high-carbohydrate foods such as millet or corn flour porridge. According to the 2016 WFP report, while

low intake and utilization of food culminated in high levels of micronutrient deficiency and malnutrition, particularly in rural areas, significant improvements were registered in urban areas. In this regard, recent surveys have consistently highlighted improvements in nutrition indicators at the national level with stunting for CUFs declining from 25.4 percent in 2013 to 19 percent in 2019 (GBoS & ICF, 2021), and wasting and underweight also declining (10.3 percent to 5 percent and 21.6 percent to 12 percent, respectively) during the same period.

On the other hand, unaffordability of nutritious foods, increasing penetration of supermarkets, and changing food habits of urban consumers result in the high consumption of processed foods high in saturated fats, sugars and sodium.

Figure 4.1: Challenges behind sustainable access to nutritious food for most households in The Gambia



Source: Authors, 2021.





This is resulting in high incidence of overweight, obesity and NCDs. The prevalence of overweight in CUFs and adult obesity have increased by two percentage points each during 2012–2018 and 2010–2016, respectively (FAO, ECA and AUC, 2020). The percentage of women who have been told by a healthcare worker/doctor they have high blood sugar or diabetes in the past 12 months is 59.5 (GBoS & ICF, 2021).

The above culminates in the triple burden of malnutrition (undernourishment, micronutrient deficiency and overweight/obesity), which impacts public health and workforce productivity. A significant proportion of the burden of poor nutrition outcomes are borne by women (15–49 years) who are child bearing and active care givers to infants and the elderly. As found in discussion with stakeholders, women's traditional role in food processing and meal preparation makes them key targets for interventions aimed at enhanced food and nutrition security in The Gambia.

The Gambia experiences **frequent extreme weather events** (droughts, floods, windstorms) due to climate change, culminating in reduced crop and livestock performance. The increased frequency of climate change events in the last ten years, lack of productive inputs, infrastructure and post-harvest losses have led to low access to food for vulnerable households. This is exacerbated by the low income of farmers due to declining agricultural outputs (see KSQ 2).

The Gambia's production systems are **dominated by smallholder** producers with limited access to means of production (inputs, services, technology and finance), along with poor soil fertility and climate variations, culminating in stagnant production. The effects of these unfavourable conditions are further discussed in KSQ 2.

**Low knowledge, aptitude and practices (KAP) of Nutrition Essential Actions (NEA)** in The Gambia culminate in poor feeding practices, as care givers generally have insufficient knowledge of nutrition and hygiene. Similarly, poor maternal, Infant and







Young Child Feeding (IYCF) and care practices (e.g., the percentage of exclusive breast feeding under the age of six months is 54 percent) as well as poor sanitation and healthcare services (e.g., only 38 percent households have access to an improved toilet) (GBoS-ICF, 2021) predispose children to chronic diseases or recurrent infections that affect adequate nutrient intake and absorption. The childcare situation is particularly difficult for households during the lean season (July–September) when food stocks are depleted. Similarly, peak labour demand periods limit the availability of parents and guardians, therefore, often constraining adequate care practices.

**Gambian diets are largely based on cereals, with rice as staple. Millet, maize, sorghum and wheat are consumed to a lesser extent; this is despite the fact that coarse grains account for 70 percent of cereal production.** The staples are complemented by vegetables, fish, groundnuts and milk. As seen in discussion with stakeholders, the preference for rice is driven by its availability in processed form, relative cheapness, ease of

preparation and short time to cook compared to coarse grains and other foods. However, the traditional method of rice meal preparation results in further loss of nutrients, including thiamine, due to the several washings involved.

As discussed in Section 1, poverty is endemic in The Gambia. Data from WFP (2016) indicate that households in the lowest wealth quintile spend in excess of 64 percent of their income on food. Such households are particularly vulnerable to rising and fluctuating prices, making access to fresh nutritious foods difficult (see Section 2). Poorer households also have less access to potable water, sanitation facilities and health services.

The government is committed to the multisectoral dimension of food and nutrition security in The Gambia through the creation of NaNA in 2005. NaNA promotes the mainstreaming of nutrition into sectoral policies to ensure ownership in implementing nutrition-sensitive and specific interventions. NaNA also helps foster





a strong dynamic, synergistic and multisectoral collaboration among various stakeholders. The Ministries of Trade, Office of the Vice-President (Social Protection), Health, Agriculture, Education, Women, Children & Social Welfare, have all addressed the need to fight against malnutrition in The Gambia through the articulation of various policies and plans.<sup>10</sup> In addition, The Gambia's Cost of Hunger Study (COHA) advocates greater budgetary support for improved nutrition (AUC *et al.*, 2018).

Although recent policies and plans exist at national and sectoral levels, their implementation has been poor due to low capacity, lack of coordination and inadequate budgetary allocations, and they need to be upgraded with a food systems lens. Despite the presence of requisite structures with clearly defined roles and responsibilities of stakeholders in the food systems governance, this assessment identified diverse institutional challenges in each of the key sustainability questions, at national, decentralized and community levels. They relate to issues of intersectoral coordination (food systems outcomes require inputs from diverse sectors and ministries), to the upgrading of mandate, functions and capacities in key technical institutions (e.g., food safety standards). The successful experiences of NaNA in the coordination of a multi-actor and sector platform for the nutrition sector provides a good example with lessons for similar mechanisms in the broader food system.

These positive sectoral policy breakthroughs are, however, constrained by the lack of budgetary support for adequate levels of nutrition-specific<sup>11</sup> and sensitive<sup>12</sup> programming as well as coverage to ensure availability and sustainable access



to nutritious food all-year-round for a large proportion of households. This is compounded by the inadequacy of storage infrastructure, which makes highly perishable and often nutritious products (vegetables, fruits, milk, fish) last for only short durations.

Given The Gambia's dependence on food imports, changes in exchange rates generated changes of GMD 49.58 in 2019, more than four times higher than the repercussions of retail pricing. The behaviour of profit-seeking traders is another factor in the price rise. A The Gambia Competition Commission Study (August 2010–August 2011) revealed that the price set by importers was almost 47 percent higher than the economic cost (USD 267).

Most households (91.4 percent) source their food from the market (WFP, 2016) and have been experiencing increases in food prices

<sup>10</sup> National Nutrition Policy (2018-2025), the Agriculture and Natural Resources Policy (ANRP 2017-2026), the Social Protection Policy (2015-2025), National Health Policy (2021-2030), National Trade Policy (2018-2022), the National Gender Policy (2010- 2020), National Development Plan (NDP 2018-2021), and The Gambia National Agricultural Investment Plan II – Food and Nutrition Security (GNAIP II-FNS 2017-2026).

<sup>11</sup> Maternal and child dietary supplementation, treatment of severe acute malnutrition, disease prevention and management, etc.

<sup>12</sup> Agriculture and food security, social safety nets, water and sanitation, early childhood development, health and family planning services, etc.





(cereals, fish and meat). This is evident from the Food Consumer Price Index (CPI), which has increased from 100 in 2010 to 205 in 2019 (FAOSTAT, 2019). Prices of meat per kilo doubled between 2010 and 2019 (GLMA, 2020), while the price of millet increased by 50 percent between 2016 and 2020 (PSU, 2020). The high prices of animal proteins and the high share of food (58 percent) in household expenditure are key reasons why Gambian diets are primarily based on carbohydrates, principally imported, highly polished rice. Data (FAOSTAT, 2019) shows the share of dietary energy derived from cereals, roots and tubers at 62 percent (three-year

average for 2011–2013), followed by daily dietary supply of animal proteins (14 g/capita) (2011–2013) and fats (60.63 g/capita) (2018).

The Gambia has been experiencing high population growth in recent decades, almost doubling in every 20 years as presented in Table 4.1. The growth has outstripped food production, requiring significant food imports to meet the demand gap. Food imports constitute about 33.2 percent of merchandise imports (FAOSTAT, 2019) making a huge drain on foreign exchange resources.

**Table 4.1: Population of The Gambia through various censuses (in million)**

Census Year	1973	1983	1993	2003	2013
Population	493	688	1038	1361	1857

**Source:** GBOS, various Population and Housing Censuses.





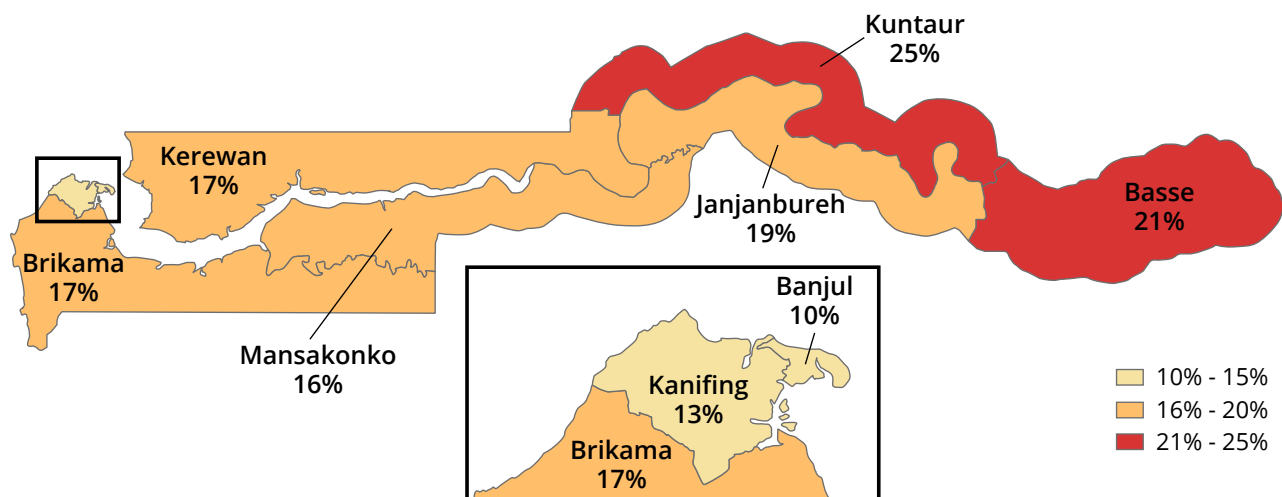


Similarly, the country is also experiencing rapid urbanization. While only 25 percent and 40 percent of the population in 1983 and 1993, respectively, lived in urban areas, by 2013, almost 59 percent were urban residents, growing at the rate of 3.19 percent annually (GBoS, 2013). As found in discussion with stakeholders, urbanization eating habits have been changing to convenient and easy-to-cook foods, catalysed by the increasing penetration of supermarkets and fast-food outlets. Given the high cost of nutritious foods, there is high consumption of processed and much cheaper foods (margarine, mayonnaise, canned beverages) high in saturated fats, sodium and sugars. According to the Global Nutrition Report (The Gambia Nutrition Profile, 2018), the consumption of healthy foods (rich in calcium, vitamins, and Omega 3) in The Gambia was below the mid-point of the Theoretical Minimum-Risk Exposure Levels (TMRELS)<sup>13</sup> as well as that of African and global average consumption levels. The consumption of meat (processed and red) and trans-fats was less than the African and global

consumption levels as well as the mid-point of the TMRELS. However, the consumption of sodium, saturated fats and sugary beverages was above the mid-point of the TMRELS. In fact, at 98 g, the consumption of sugary beverages in The Gambia was higher than the global average of 95 g, i.e., almost 40 times the mid-point of the TMRELS.

The high level of malnutrition in rural communities continues to be a public health concern. Figure 4.2, extracted from the DHS 2019–2020 (GBoS-ICF, 2021), shows high prevalence of stunting in Kuntaur (CRR - N) at 25 percent, and Basse (URR [Upper River Region]) at 21 percent, while the urban areas of Kanifing (13 percent) and Banjul (10 percent) reported low stunting levels for CUFs. The higher stunting rate is attributable to the higher level of poverty (72.4 percent) in Kuntaur than Kanifing (17.3 percent) and the generally high adequacy level in urban areas with better access to markets (local and global), which assures a continuous supply of relatively cheap protein.

**Figure 4.2: Stunting in children by local government area**



**Source:** The Gambia Demographic and Health Survey, 2019-20.

<sup>13</sup> TMRELS as follows: 300 grams per day (g/d) for fruits, 500 (g/d) for vegetables, 100 (g/d) for legumes, 20 (g/d) for nuts and seeds, 125 (g/d) for whole grains, 0 (g/d) for red meat, 0 (g/d) for processed meat, 0 (g/d) for sugar-sweetened beverages and no underweight, overweight or obesity (Nutrition and Chronic Disease Expert Group-NutriCoDE).



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There is also a relative high prevalence of micronutrient deficiency in rural communities in The Gambia (see Section 2). Figure 4.2 reveals that Kuntaur (25 percent) and Janjanbureh (19 percent) have the lowest prevalence. The Gambia Micronutrient Survey (GMNS) 2018 reported vitamin A deficiency at 18.3 percent among children (higher in boys at 22.2 percent than in girls at 14 percent). Moreover, the same is twice as high among children from rural areas as those from urban centres. Very high rates of iron deficiency anaemia were also found in 38.2 percent of children aged 6–59 months and 28 percent of non-pregnant women of reproductive age (15–45 years).

### Proposed systemic levers

1. **Strengthening Social and Behavioural Change Communication (SBCC) campaigns and programming on nutrition.**
2. **Expanding nutrition-sensitive and specific interventions.**

Creating greater awareness of essential nutrition actions for positive change in nutrition practices will result in positive changes in food intake for

consumers. Households and communities will also benefit from strengthened SBCC campaigns implemented in collaboration with NaNA, other state and non-state agencies. However, before rolling them out, detailed situational and barrier analyses as well as KAP surveys should be conducted to support effective and impacting message design and communication channels.

Both nutrition-sensitive and specific interventions are critical in addressing nutrition in all its forms. Expanded nutrition-sensitive interventions will contribute to enhanced access to nutritious food, ensuring availability (food fortification, biofortification and social safety nets, such as school feeding programmes, vegetable schemes, short-cycled livestock, and aquaculture) to vulnerable communities. It will also promote a conducive environment (WASH, health services and care) allowing for safe, adequate and nutritious food intake and utilization by addressing the underlying causes of malnutrition. Similarly, increased implementation of nutrition-specific interventions will address the immediate causes of malnutrition, including supporting healthier food consumption and better health practices.

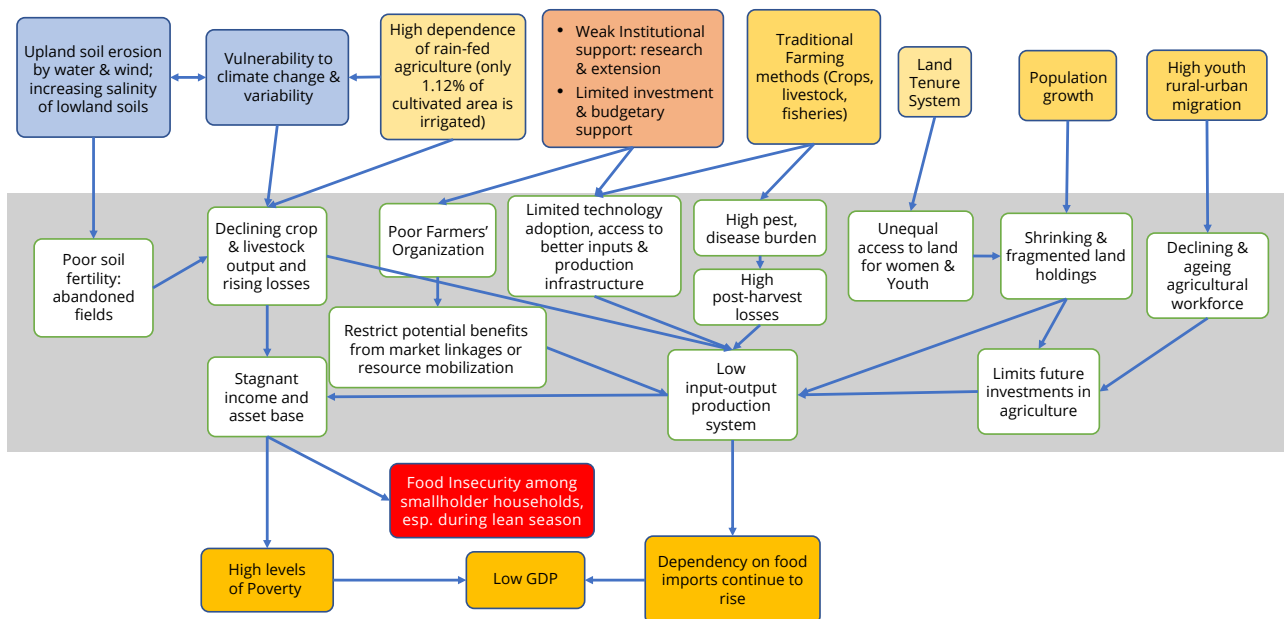


## Key Sustainability Question 2: Why are most farmers in The Gambia mainly engaged in subsistence farming?

Farming systems in The Gambia are dominated by smallholder farmers who practice subsistence farming characterized by extensive low-input production systems amid climatic variations and weak institutional support. Farming systems are, thus, marked by low outputs, low income and a consequent vicious cycle of poverty. According to the Agricultural Census of 2011–2012, there were 82 459 agricultural households (a 19.3 percent increase over the 2001–2002 census), with more than 62 percent of them being subsistence

smallholder farmers. The World Bank (2018) has reported that they contribute 43.1 percent to agricultural GDP. Given their large numbers and the potential for their upliftment through productivity improvement, smallholder farmer transformation from subsistence to commercial agriculture is critical for meaningful progress in food security and rural poverty reduction. Also, with the significant food demand gap in the country, this transformation is especially meaningful.

**Figure 4.3: Reasons why most farmers in The Gambia are mainly engaged in subsistence farming**



**Source:** Authors, 2021.

In The Gambia, agriculture is dominated by crop farmers (71.9 percent; Agricultural Census 2011–2012) cultivating field crops (millet, groundnuts, maize, sorghum), practicing horticulture and grazing livestock. Most of the crop production is

carried out in degraded upland soils, eroded by wind and water, becoming inherently less fertile to support optimal production. Lowland soils in the western part of the country are particularly affected by increasing salinity culminating in





many swamp rice fields being abandoned in West Coast, North Bank, Lower River and parts of Central River regions.

In the last ten years, moreover, The Gambia has witnessed seven years of droughts (delayed rainfall) or floods that have resulted in low crop performances with low outputs. The drought of 2011–2012, for example, inflicted crop losses causing GDP to contract by 4.1 percent in 2011 alone. The high dependence on rainfed agriculture, with only 1.12 percent of the cultivated area equipped with irrigation (FAOSTAT, 2020) makes smallholder farmers particularly vulnerable to climatic shocks such as droughts.

Smallholder farmers, in addition, are faced by weak service delivery institutions, such as agricultural research from the National Agricultural Research Institute (NARI) and the University of The Gambia (UTG), and the extension agencies of the Department of Agriculture (DOA). Capacity constraints linked to personnel and budgets also keep these institutions from effectively carrying out their mandates. The national budget, for instance, finances only 6 percent of NARI's capital expenditures (WB, 2018). The ratio of agriculture expenditure to agricultural GDP, known as the Agricultural Orientation Index (AOI), was as low as 0.27 from 2011 to 2015 in the country (WB, 2018).

Extension service delivery is predominantly handled by the public sector, which is constrained by low staff numbers, inadequate mobility and lack of funding (National Agricultural Extension Policy, 2018). The current extension workers to farmer ratio of 1:2500 is insufficient for the delivery of Good Agricultural Practices (GAP) to the critical mass of farmers for smart technology adoption. These constraints prevent smallholders and other value chain actors from taking advantage of scientific and technological progress in agrifood systems across the region and the world (WB, 2028).

The Gambia is yet to attain the 10 percent national budgetary allocation for agriculture

as agreed at the Malabo Declaration, limiting public investment in infrastructure and services. Weak support services also culminate in poor organization of smallholder producers who cannot take advantage of market linkages or resource mobilization. The production system is also constrained by traditional practices with low external input use (own reserved seeds and breeds) and limited mechanization that is largely extensive in nature, generating limited and insufficient output, particularly in years of drought, along with the heavy burden of pests and disease outbreaks for livestock.

In the past, rural citizens enjoyed considerable tenure security (Freudenberger, 2000). According to WFP (2016), between 79 and 89 percent of households in the predominantly rural Local Government Areas (Mansa Konko (formerly Lower River); Kerewan (formerly North Bank); Kuntaur (formerly western part of Central River); Janjanbureh, (formerly eastern part of Central River); and Basse (formerly Upper River) reported having access to farming land in contrast to the



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urban (1 percent for Banjul, 6 percent for Kanifing and 29 percent for Brikama). However, due to the dominant patriarchal system, land tenure is not favourable for women and youth. The high population growth rate and inadequate access to mechanization limit the size of land cultivated by households, culminating in small, fragmented holdings with low outputs. The Agricultural Census 2011–2012 indicated that the total number of fields increased by 49.4 percent from 284 388 in 2001–2002 to 424 839 fields in 2011–2012; while recent studies show that farm sizes shrunk from an average 3.0 ha to 1.3 ha between 2010 and 2015 (World Bank, 2019).

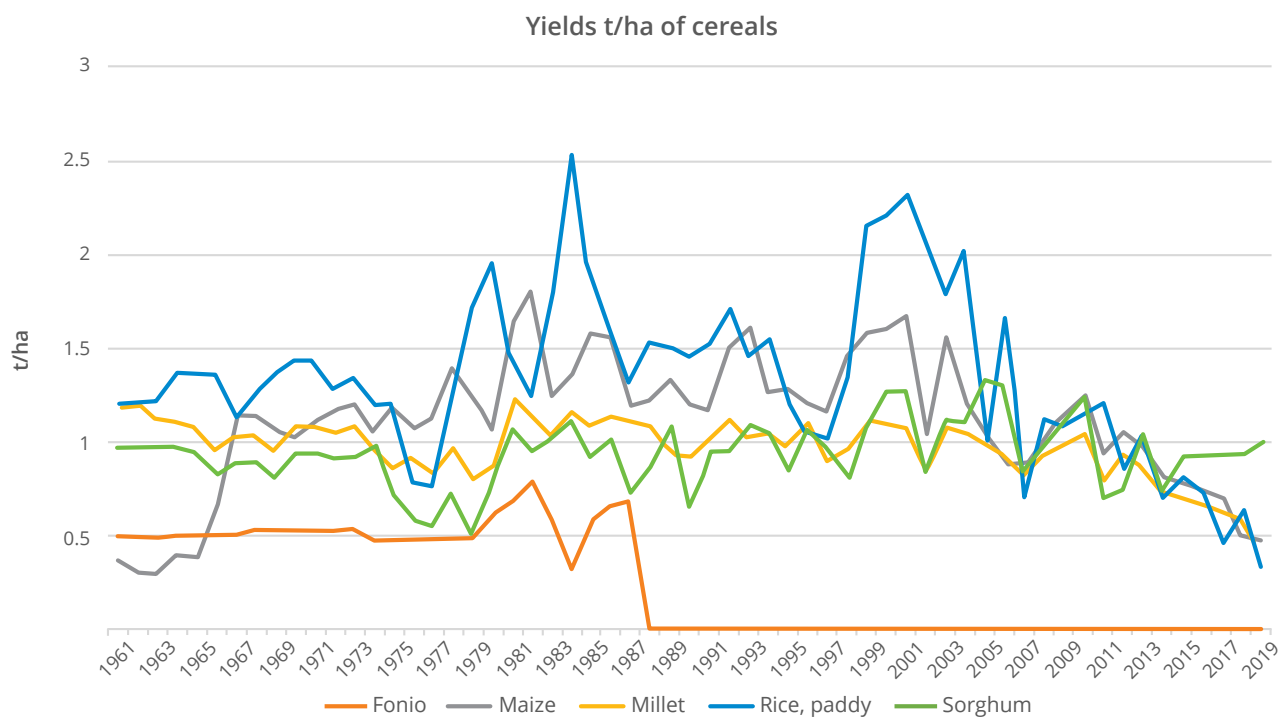
Women's lack of access to land and productive capital, moreover, reduces their ability to secure financial services. Women and girls are disadvantaged by sociocultural norms and practices, as well as by discriminatory provisions in customary law. Compared to men, rural women are mainly employed in agriculture and food production, but they have limited or no access to productive resources such as land, credit, technology and information, and have lower literacy levels. Female participation in the workforce is 72 percent compared to 82 percent for males.

Unequal access to productive resources for women and youth not only constitutes a key constraint for inclusive growth, but also leaves an untapped potential for rapid agricultural growth. The effects of youth outmigration on rural labour supply and shrinking farm sizes highlighted earlier are typical impacts of insufficient youth engagement in agricultural production and productivity enhancement. The rapid urbanization rate of 3.99 percent (GBoS, 2018) for The Gambia has been largely attributed to high youth migration, which is highly employment driven (services and micro-enterprises in secondary urban centres).

The interaction of biophysical factors, including poor soil fertility, dependence on rainfed agriculture, low practice of Climate-Smart Agriculture (CSA), and socioeconomic and institutional factors culminate in low agricultural production and productivity. The continued decline in rice yields since 2010, along with climate change and variability have deepened the gap in The Gambia's food systems. Figure 4.4 presents the evolution of crop yields and shows a stagnating trend, while Figure 4.5 shows production growth below the population growth rate, with cereal production declining since 2010.

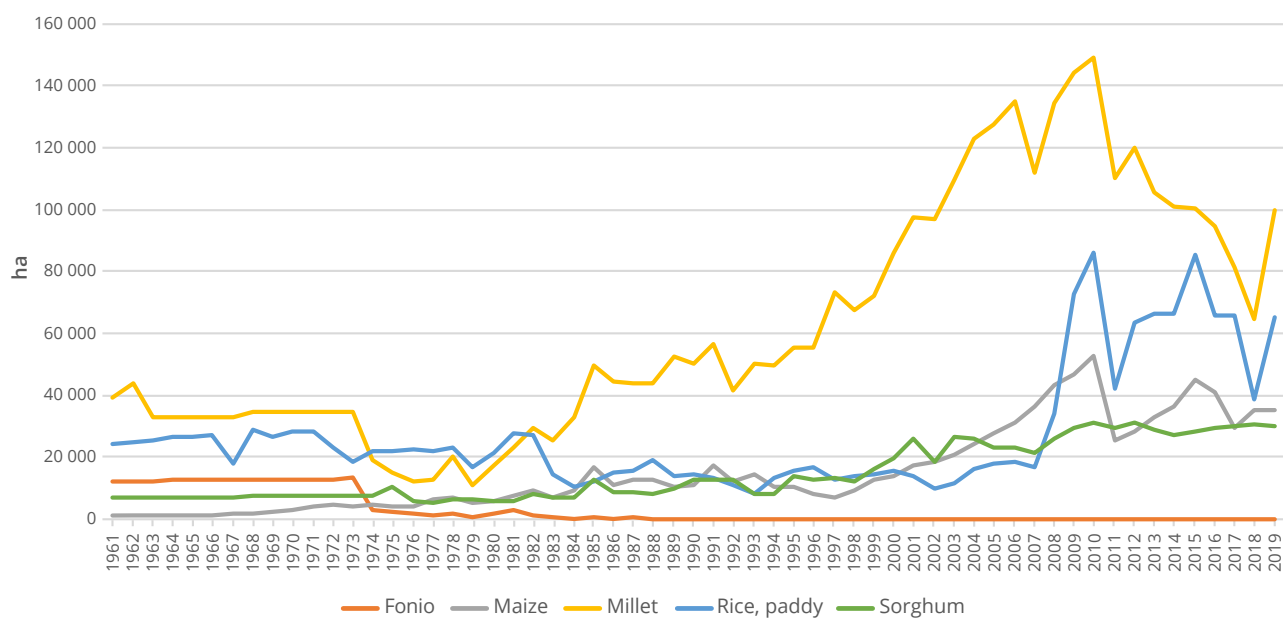


**Figure 4.4: Evolution of crop yields**



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/QC>

**Figure 4.5: Area harvested under major crops**



Source: FAOSTAT, <http://www.fao.org/faostat/en/#data/QC>





This scenario of a low income and stagnant asset base of smallholders, from declining productivity and limited market access, is not conducive to asset acquisition. This causes most households to employ coping strategies, which even involve disposal of assets including livestock and farm implements. Consequently, smallholder farmers constitute the socioeconomic group with the highest proportion of the poor in The Gambia. The Integrated Household Survey (IHS) of 2010 show that household heads in agriculture constitute the poorest among the country's socioeconomic groups, constituting 72 percent of the poor and 91 percent of the extreme poor. Similarly, the IHS results for 2010 and 2015–2016 show higher incidence of rural poverty from 64 percent to almost 70 percent, where most smallholders make a living.

### Proposed systemic levers

- 1. Increasing investment for enhanced productive infrastructure and improved input access.**
- 2. Strengthening support institutions and farmers' organizations for enhanced service delivery.**

The smallholder farmer's transition from subsistence to commercialization can be attained with modern productive inputs (through mechanization, digital agriculture and infrastructure) to increase production levels for the market. One key niche in the commercialization of agriculture is scaling up organic farming. This will ensure increased resilience against climate change and variability, reduce post-harvest losses and ensure sustainable production and productivity of crop, livestock and fisheries sectors. It will entail investment in productive infrastructure for irrigation (rice and horticulture), storage and marketing with increased access to improved



production inputs (improved seeds, fertilizers, feed, day-old chicks, vaccines) targeting smallholder farmers. To catalyse the investment, it will be imperative to create an enabling environment for engaging the private sector (e.g., public-private partnerships to support investment in marketing and quality extension services, policy reforms, tax incentives, research, access to electricity, and value chain financing) as well as a critical mass of actors with technical capacity and management skills in value chain development.

It will, however, require farmer organizations to be strengthened to effectively transfer knowledge, ensure timely availability of improved production inputs (seeds, fertilizers, vaccines, etc.) and provide reliable services (capacity building, mechanization, financing, Management Information System) to members. This is expected to further contribute to improved socioeconomic status (income and employment), enhanced food security and reduced emigration of youth.

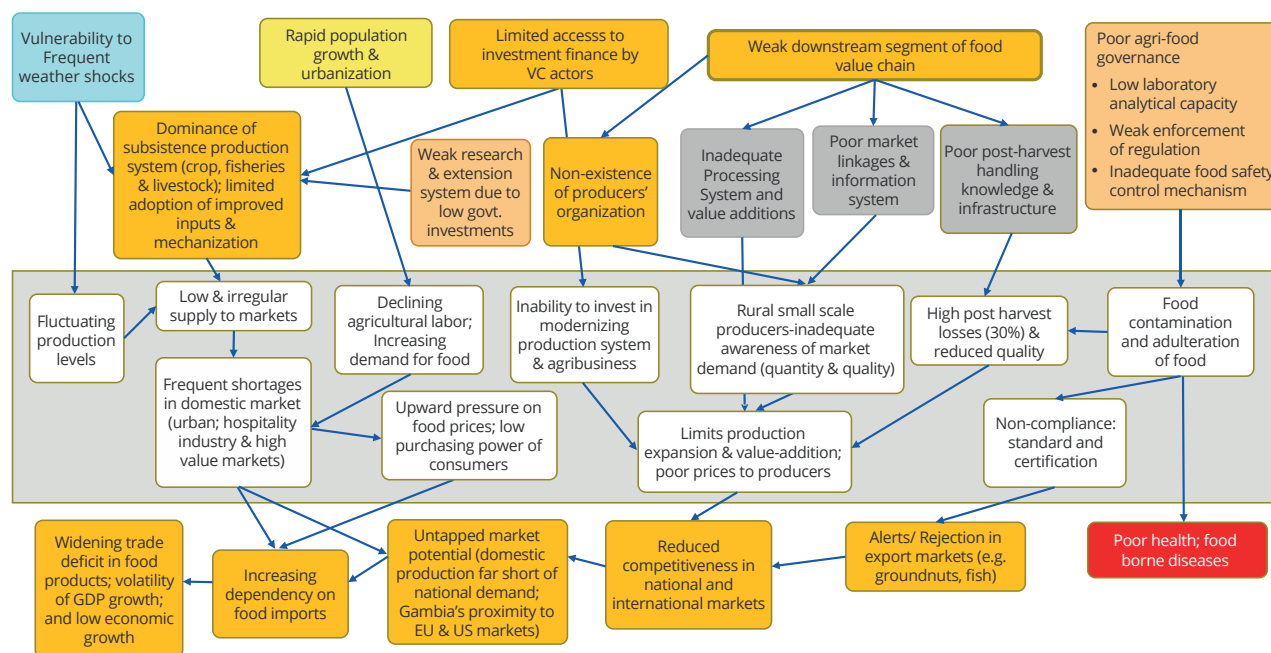


### Key Sustainability Question 3: Why are The Gambia's agrifood commodities uncompetitive in domestic and international markets?

The Gambia has the potential to gain huge agrifood market shares in the subregion, considering its agroclimatic conditions for growing a wide range of commodities, as well as its geographical proximity to Europe and the United States of America. Also, its hospitality industry and growing population with rising domestic demand for food offer a great market opportunity for the agrifood system. However,

the marketability of locally grown agrifoods stands at a disadvantage against imported foods based on price parity. The sector suffers from low and irregular supply of quality products owing to limited processing, low value additions, and low private sector investment. Industrial agroprocessing infrastructure is absent or very rare, particularly for the dominant groundnuts, cereals and horticulture products.

**Figure 4.6: Reasons why The Gambia's agrifood commodities are uncompetitive in domestic and international markets**



Source: Authors, 2021

Marketing of locally grown agricultural products is limited to informal markets attracting weak producer prices and low profit margins for different layers of market actors. This is due to the lack of sound market information, which is limited to informal communication of market prices among itinerant traders. Small-scale producers, mainly women, are exposed to challenges of

difficult market conditions, where actors (buyers and sellers) have limited or no knowledge of prices. Consequently, smallholder producers find it increasingly difficult to make better choices. The scarcity of market infrastructure, especially cold storage warehouses and the overall cold chain, has led to high post-harvest losses. For instance, wastage in the fisheries sector is up to 20 percent.





Coupled with limited value additions and poor logistics support, this also affects the quality and competitiveness of agrifoods in local markets.

The value chains are poorly organized and structured with several challenges including, *inter alia*, (a) low production levels limiting commercial surplus for the market; (b) poor production methods and inadequate productive infrastructure; (c) limited technical expertise and rudimentary rural advisory system; and (d) suboptimal use of appropriate inputs to produce desired quality products. Furthermore, weak market links, poor aggregation and low investments in agricultural research and extension have constrained agricultural productivity, as discussed in KSQ 2. The downstream food value chains are especially weak due to inadequate processing technologies and low access to support services, such as electricity, cold storage and market facilities, which exacerbates post-harvest losses, estimated at 30 percent of harvested foods.

The connection between actors along the food value chain is unstable due to low-capacity

producers and marketing organizations. Although there are efforts to harmonize them, much work is required to improve market linkages and develop commercial partnerships between farmer organizations and private agribusiness enterprises. There are not enough strong producer organizations (particularly for horticultural crops, which women dominate) to organize supplies and meet the demand of agroprocessors and exporters.

Dominated by a subsistence production system, only 4 percent of producers farm (mainly horticulture) purely for commercial sale. Annual production levels have been fluctuating widely, causing low average crop yields down the years, as discussed in Section 2, leading to limited commercial surplus for sales. Mechanization and use of improved seeds at household level are limited to a few farmers. Organic fertilizers are not sufficiently utilized due to lack of resources (livestock) and capacity (awareness) in crop agriculture.

The Gambia is both fish abundant and rich in diversity with artisanal fishing driving supplies to







domestic markets; but inadequate cold storage and processing capacities create shortages in the market. Fish spoilage is a major problem, especially during peak fishing seasons with resultant losses that reduce the value of fish and fish products. Fresh fish supply to inland markets faces problems of lack of appropriate transport, handling and cold storage facilities both at source and at inland distribution points. The current state of fish processing facilities, equipment and practices leaves much to be desired in terms of processing techniques, hygiene and product quality.

Despite significant opportunities to increase supplies, therefore, aquaculture is pursued only at an artisanal level by small-scale, local fisherfolk. In addition, the milk value chain is

dominated by small-scale farmers practicing integrated crop/livestock production. At present, domestic livestock production is far short of national demand, with a 56 percent deficit in supply. Investment in poultry, meanwhile, has been steadily rising over the past three years, supported by projects promoting women's empowerment and youth employment creation that aim to check irregular migration to Europe (National Livestock Census, 2016).

Chickens are the most preferred and popular poultry birds in The Gambia. The 2016 National Livestock Census estimated chicken production at 937 951 birds, a 60 percent increase over 2001–2002 production levels. Table 4.2 shows the trend in the number of chickens and eggs produced in The Gambia between 2001 and 2019.

**Table 4.2: Chicken production trends in The Gambia**

Item	2001	2004	2007	2016	2019
<b>Chicken production in The Gambia (numbers)</b>	586 331	682 000	820 437	937 951	1 139 968
<b>Percentage of commercial poultry</b>	NA	NA	12.27%	9%	14.4
<b>Egg production in The Gambia (numbers)</b>	731 000	748 000	830 000	NA	NA

**Source:** Department of Livestock Services, 2019.

The main challenges affecting the poultry subsector are (a) the high cost of feed (estimated at 60–63 percent of investment) in poultry production, as a result of limited feed milling plants in the country; (b) poor husbandry practices including poor poultry housing, inadequate feed supply and poor disease management (particularly among women poultry farmers), and low access to investment finance and credit facilities. The key binding constraint in the subsector is the high competition that local producers face from importers of cheap chicken products (broiler/eggs) mainly from Brazil, Holland and West Asia. The key constraint is the price parity between imported products and locally produced chicken in the domestic



market. The current price of imported frozen whole chicken is about GMD 200 (3.75 USD) or GMD 90–100 (USD 1.69–1.88) per kg, while

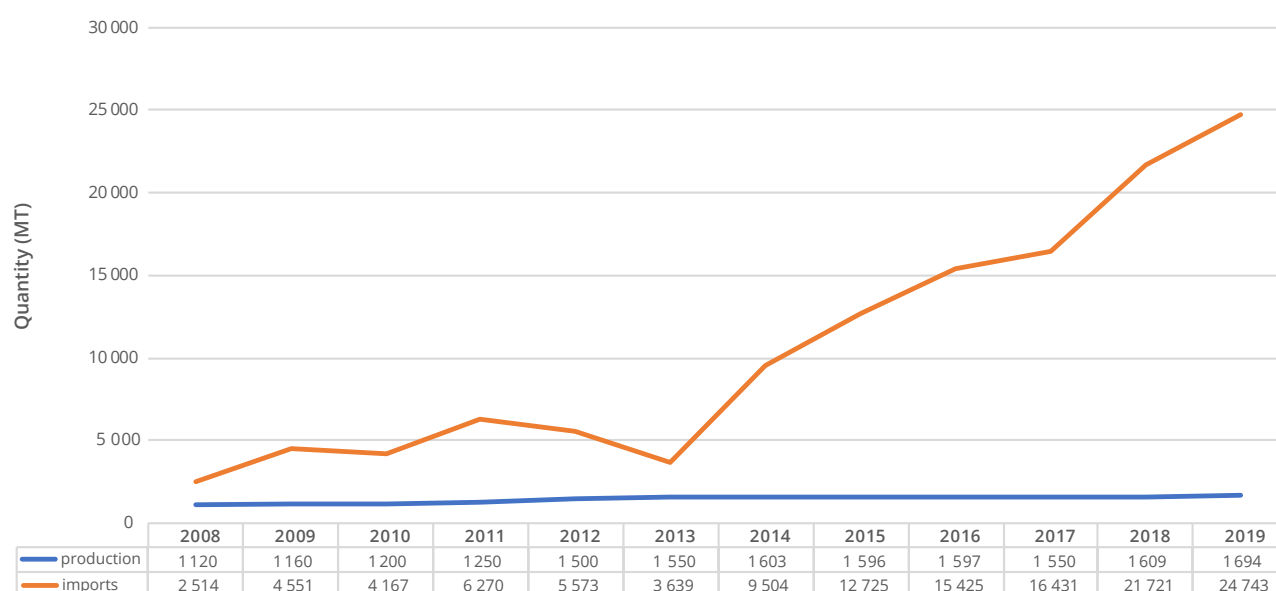


farmgate prices of live broilers from commercial farms range from GMD 250–300 (USD 4.69–5.63). Despite the rising poultry production in The Gambia (Knoema, World Data Atlas, 2020), annual imports far exceed local production levels (see figure 4.7).

Rapid population growth and urbanization are other drivers of The Gambia's uncompetitive

agrifoods. Although poverty and food insecurity are concentrated in the rural areas of Nanampere and Kuntaur (GBoS, 2020; WFP, 2016), they are also increasingly being seen in the capital region and its vicinity. In terms of current food production trends, this rapid urbanization will lead to increasing demand for food and nutrition as indicated in the last Cadre Harmonize (CH), November 2021 (PSU/MoA, 2021).

**Figure 4.7: Production and import quantity of poultry meat in The Gambia (metric tonnes)**



Source: FAOSTAT, 2021.

Low access to capital and credit for agricultural actors along the value chain is another major factor limiting productivity and growth in local agrifood businesses. Farmers and private investors have limited access to both short-term and long-term credit due to the high interest rates (25 to 29 percent), their inability to provide collateral, and limited numbers of financial institutions providing credit. This keeps them from investing in modernized production systems and agribusinesses. The share of domestic credit given out to small and medium enterprises (SMEs) in agriculture, moreover, is very small, estimated at an average 4.8 percent (MoTIE/MoA, 2018).

Only 23 percent of rural households have access to credit; and the situation is even worse in urban areas, where only 9 percent have access. The national rate for the same is 14 percent (GBoS, 2016), hence, limiting private investment along the food value chain and constraining expansion in commercial farming.

The marketing system in The Gambia is characterized by inadequate infrastructure, poor market linkages, and a small export base heavily dependent on rainfed agricultural products. Challenges include lack of connections (lack of formal MIS) and trust between actors





in the food value chain, where all small-scale producers operate individually. This limits their opportunity to achieve economies of scale in transactions with buyers and suppliers, with limited aggregation in the domestic market. Other marketing challenges include limited enforcement of norms and standards as well as quality control for the international market. Moreover, inadequate access to market information among rural producers leads to lack of awareness of high-demand products, processes and delivery standards. As there are only limited value additions on available agrocommodities, smallholder market agents sell only raw products, thus limiting opportunities for growth. Poor post-harvest handling of highly perishable local products, moreover, reduces their competitiveness in domestic and regional markets as well as global ones.

For local consumers, The Gambia's urban markets, its hospitality industry and high-value markets (supermarkets, hotels and restaurants) are the major outlets for agrifoods, but this is limited by low and irregular seasonal supplies of agrocommodities. Despite the rising domestic demand for food from the growing population and the hospitality industry, the country's agrifoods system is unable to take advantage of this great market opportunity. As a result, large urban markets, including wholesalers with a preference for Gambian produce, have to rely on imported foods (Irish potatoes, vegetables, beans/ cow peas, etc.) from Senegal to regularly meet domestic demand.

Poor agrifood governance resulting from low laboratory analytical capacity and weak enforcement of regulations exacerbates adulteration and contamination of Gambian foods, culminating in poor health and safety alerts, and subsequent rejections. Limited numbers of laboratory facilities<sup>14</sup> for testing for compliance with SPS requirements of developed markets and inadequacy of certification limit



The Gambia's participation in agrifood exports, particularly for SMEs.

Furthermore, food adulteration and contamination with microbial agents, trace elements, and heavy metals increase the incidences of rejection at the European Union border, adding to The Gambia's challenges in accessing lucrative global markets. For instance, the current aflatoxin level in Gambian groundnuts is above the maximum acceptable level of 4 ppb, primarily due to the agroecological conditions in which groundnuts are produced, inadequate post-harvest handling and management, and limited value additions. This could be alleviated through improved testing, standardization and certification of agrifood products for the export markets.

The Gambian agrifoods sector has the potential to become a robust engine of inclusive growth, building on a combination of strengths and opportunities in addressing binding constraints

<sup>14</sup> FAO supported the establishment of a number of laboratories for testing and certification through EU funding.



for growth. The assessment identified the following levers to transform the sector.

### **Proposed systemic levers:**

- 1. Stimulating private sector investment in agrifood systems**
- 2. Strengthening value chains of diversified agrocommodities and creating market linkages for high-value fish and horticultural products**

The following measures are proposed. Create fiscal incentive systems that promote high technology investment in agrifood production and processing, supported by regulatory measures to enhance agrifood exports. Increase access to investment finance for SMEs with growth potential to engage in commercial farming and strengthen the local food industry to eliminate import dependency. Provide an improved enabling environment with openness in international trade relations. Develop value chains of high-value agrocommodities that could

contribute to food and nutrition security, income generation, and job creation.

Moving from subsistence agriculture to market-oriented agriculture requires smallholder producers and private sector actors to not only increase the production of marketable surplus, but also to connect more effectively and invest in technologies to promote value chains that offer profitable business opportunities that appeal to private investors and provide gainful employment to the growing young labour force. Also, implementing the two levers would require strengthening cooperative organizations to access services, credit, improved storage and processing facilities, and markets backed by quality control measures and standards. Value addition and improved competitiveness of local products (quality, safety, price parity) for both domestic and international markets can be achieved with an improved policy environment and support service facilities. Therefore, The Gambia must remove all barriers of its agrifood systems to export markets in the implementation of the Trade Policy 2018-2022.







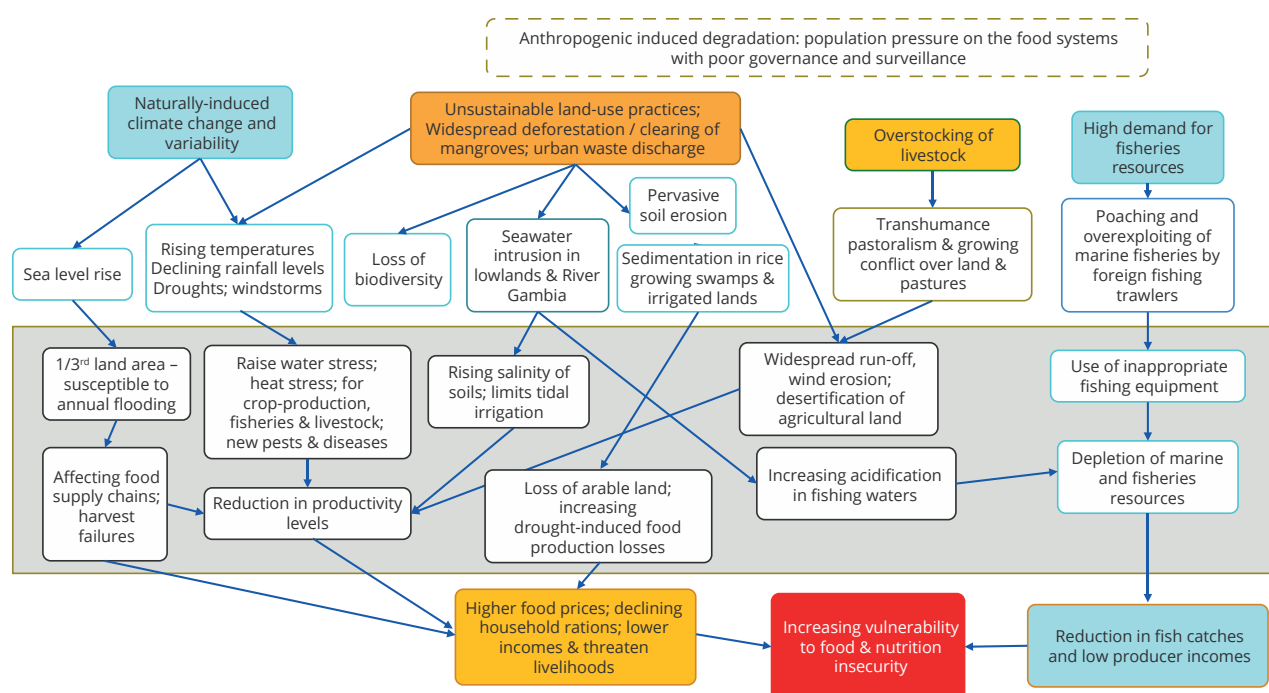
## Key Sustainability Question 4: What are the reasons for continued degradation of natural resources in The Gambia?

The geography of The Gambia is predominantly drought-prone Sahelian shrub land with sparse natural vegetation of woodland savannah and lowland riverine mangroves undergoing rapid deforestation. The changing agricultural climate resources are also altering the weather to a seven-month-long dry season (November to May) with rising air temperatures averaging 18–33 degrees Celsius. The projected changes in average annual temperatures from 2020 through 10-year intervals to 2100 will be at least more than 3.1 degrees Celsius by 2100 (GOTG-TNC, 2020), exacerbating the drought conditions. Average annual rainfalls have been following a declining trend from 1200 mm in 1970 to 800 mm in 2020. The government is predicting successive drought years to less than 500 mm per year by 2100 (GoTG, 2012). Climate change is manifesting itself with increasing frequency and intensity,

with the country becoming highly vulnerable to recurrent droughts, floods and sea level rise. Hence, The Gambia was ranked low at 143 (out of 188 countries) in the ND-GAIN Index 2017, which illustrates the comparative climate change resilience of countries.

The Gambia is a low-lying country with 20 percent of its land area covered by swamps and wetlands prone to permanent flooding. Floods have been a major natural disaster, affecting the country over the last decade. Cima Research Foundation (2018) estimated that on average 12 700 people are affected by annual losses from floods, especially in Upper River, West Coast and Kanifing Municipality. Table 4.3 shows the increasing effects of climate-related hazards on the local population during 2016–2018.

**Figure 4.8: Challenges behind the continuous degradation of natural resources in The Gambia**



Source: Authors, 2021

**Table 4.3: Rising effects of climate change on local populations**

Hazards	2016	2017	2018
All climate-related hazards	15 190	31 666	43 242
Percentage of population affected by floods	45%	58%	66%

Source: NDMA, 2019.

Sea level rise studies (e.g., Brown *et al.*, 2011) showed that projected sea level rise in The Gambia is higher than the IPCC<sup>15</sup> predictions by 0.13 m (in 2025), by 0.35 m (in 2050), by 0.72 m (in 2075), and by 1.23 m (in 2100) in comparison to 1995 levels. These projections are highly alarming, indicating that a sea level rise of 1 m will potentially inundate about 8.7 percent of The Gambia's total land area, which includes over 61 percent of the current mangrove area and over one-third of its swampland (DWR, 2016). The Gambia is classified as the tenth most vulnerable country to the impacts of sea level rise globally, with consequences of salinization of coastal areas, water aquifers and other sources of drinking water.

The Gambia's semi-arid climatic condition is marked by a long dry season with prolonged droughts, relative humidity as high as 80 percent or more at the height of the wet season and rising temperatures during the dry season, when temperatures could be as high as 42 degrees Celsius. This subjects agriculture (crops and livestock) to considerable risk of stress. Drying weather conditions are now increasing the frequency of heatwaves, especially in the eastern part of the country, which is notable for high temperatures. This is also reducing the quality and availability of forage. The Gambian atmospheric humidity is in a state of water deficit, increasing water scarcity for herders with lakes and ponds drying up, and making

the environment vulnerable to degradation and desertification.

Gambian soils are weathered, acidic and of low chemical fertility. Upland agricultural lands are mostly of ferrallitic and ferruginous tropical soils, which are very deep, well drained and have low water-holding capacity. They are slightly acidic (pH 5.5–6.5) and moderately well structured, but with moderate and declining fertility.

The lowlands (or swamps for rice production) are characterized by alluvial soils, which are usually fine textured with more than 80 percent silt clay content, while colluvial soils are found countrywide (Jatta, 2013). Despite being well drained, the soils are of low chemical fertility with hard to very hard consistency when dry. The organic carbon content of such soils is generally not more than 0.3–0.4 percent in the surface horizon. Available phosphorus is extremely low, usually 3–6 ppm, with high bulk density that is associated with severely impeded root growth.

Several factors are responsible for The Gambia's deteriorating natural resource base. Naturally induced climate change and variability combined with anthropogenic causes of land degradation have been causing erratic rainfall, high intensity storms, intra-seasonal drought and increasing average air temperatures. Such changes are affecting food and nutrition security through a complex network of mechanisms (see figure 4.9).

<sup>15</sup> Intergovernmental Panel on Climate Change.





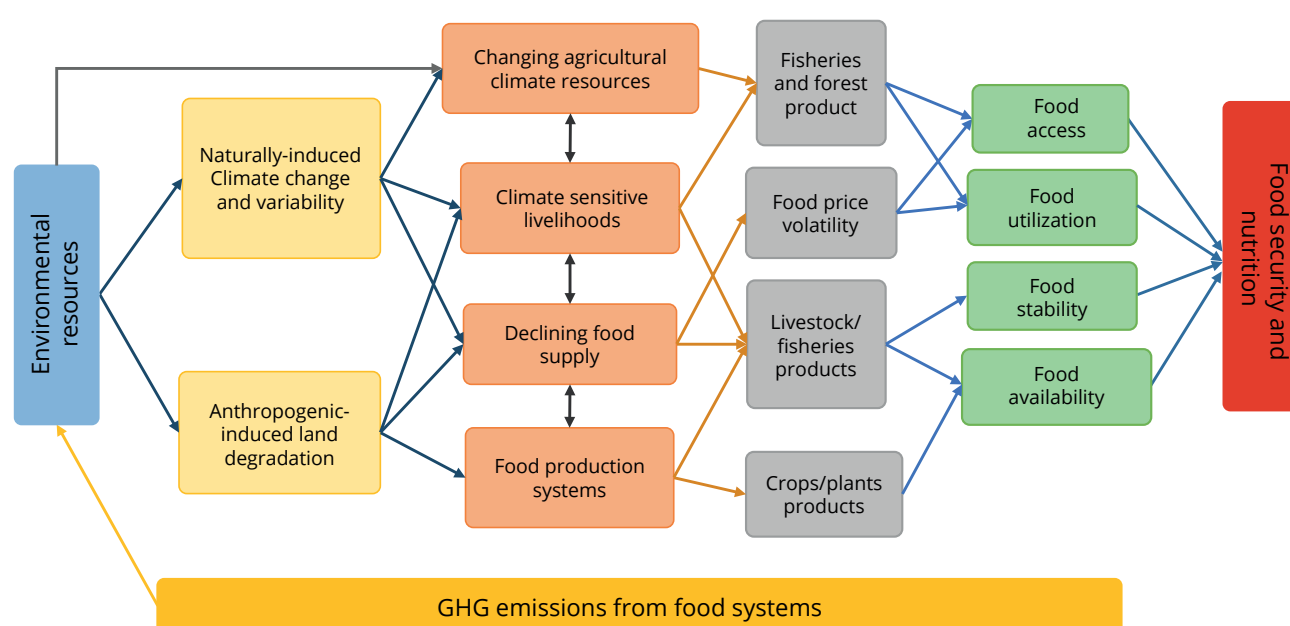
The changing climate is further lowering crop yields and livestock productivity by reducing water availability and quality. It is causing heat stress, while introducing both new pests and diseases that had been eradicated earlier, especially among livestock. Under the current climate conditions, on average, droughts (e.g., at least three months of drought conditions) are annually affecting 216 thousand people (e.g., 14 percent of the total population), and on average 15 percent of annual GDP (USD 108 million). This is expected to increase to 39 percent, affecting on average 938 thousand people, accounting for population growth (Cima Research Foundation, 2018).

Although 56 percent of The Gambia's land mass is considered arable, nearly 70 percent of the agroecologies are now degrading. The ecosystems are subjected to slash-and-burn farming, and over 100 thousand ha of close and open woodlands is now converted to subsistence agricultural land. Over-extraction of woodland trees (for fuel wood and charcoal), uncontrolled bushfires (claiming more than 60 percent of

the woodlands, rangeland and fallow lands annually) and illegal logging (with an estimated 65 percent of internationally traded *Pterocarpus erinaceus* originating from illegal sources in 2016) (MoTIE/MoA 2018; National Forestry Strategy, 2019–2028) have been leading to considerable loss of biodiversity, pervasive upland soil erosion, and sedimentation in productive rice-growing ecologies with wider implications for food production.

Little progress can probably be achieved in smallholder farming in The Gambia without first addressing problems associated with soil and land degradation. Over 44 percent of the land mass is unsuitable for agriculture, and less than 15 percent of smallholders have pockets of farmland with high-quality soil for good yields. Studies conducted by ICRAF (August 2018) showed widespread land degradation among 72.3 percent of the surveyed households. The studies found 61.84 percent of farms in CRR-N, 46.64 percent in CRR-S, 70.89 percent in LRR and 74.81 percent in URR have clear signs of degradation. Erosion was

**Figure 4.9: Linkages between environment, climate change, food and nutrition supply chain in The Gambia**



Source: Authors, 2021



among the most common signs of degradation recorded: 47.7 percent in CRR-N, 42.1 percent in CRR-S, 60.3 percent in LRR, and 50.5 percent in URR.<sup>16</sup>

Soil erosion in upland crop fields and sedimentation in rice-growing swamps and irrigated areas are leading to a general loss of arable land and increasing drought-induced losses in food production (through harvest failures), triggering higher food prices and limiting urban household rations. Overstocking, with a livestock density estimated at 42 units/ha (ANRP, 2020), is also pressurizing natural rangelands and affecting growth of forest trees, soil structure and crop production. Transhumance pastoralism (with growing conflicts over land and pastures) is also impacting the country's ecosystem (ICRAF, 2020), contributing to declining soil fertility. About 40 percent (or 371 200 ha) of the total land area is regarded as rangeland, of which only five thousand ha was classified as improved pasture as of 2010. Therefore, unimproved pastures and crop residues constitute the main sources of livestock feed in The Gambia.

There is high demand pressure on fisheries resources too, as fish is the main source of animal protein in Gambian diets. However, the sector's productivity is constrained by numerous economic, physical, technical, institutional and

social factors. Notable among these are poaching and overexploiting of marine fisheries by foreign fishing trawlers; pollution of spawning sites by urban waste discharge and chemical residues in surface run-off from agricultural lands; increasing acidification of fishing waters; use of illegal fishing gear and mesh sizes; and fishing in spawning areas. Deteriorating fisheries resources and their ecosystems with associated habitat destruction are reducing catches with wider nutritional implications. There is a lack of proper stock management, as well as poor Monitoring Control and Surveillance (MCS). Fish stocks are over-exploited by industrial fleets as in the case of bonga, sardinellas, white groupers (demersal), cuttlefish and pink shrimp.

#### Proposed systemic levers:

1. **Scaling up sustainable land management by engaging smallholder producers in pursuit of CSA development to support and maintain ecosystem health, increase agricultural productivity, and climate change adaptation and mitigation**
2. **Introducing and financing urban and peri-urban agriculture to increase the resilience of local and regional food systems, and create jobs for the young, urban workforce**

<sup>16</sup> Baseline Survey Report: Project: Large-scale Ecosystem-based Adaptation in the Gambia River Basin: Developing a climate resilient, natural resource-based economy.





Efforts for sustainable use of natural resources can be achieved through an integrated landscape approach that supports and maintains the ecosystem. For instance, undertaking appropriate conservation measures for improved soil and water management, application of organic fertilizers, and application of water-efficient irrigation methods such as sprinkler and drip irrigation for increasing resilience to the effects of climate change.

Adoption of high yielding drought tolerant crops can be cultivated under diversified cropping systems. Agroforestry can be promoted to reduce soil erosion and increase carbon sequestration, while diversifying livelihoods. Sustainable rangeland management systems (including assisted natural regeneration) can be adopted to increase rangeland resilience and long-term productivity, while supporting a wide range of ecosystem services. Horticulture, livestock (small ruminants and poultry) production, aquaculture

and beekeeping could be scaled up in and around urban areas.

Restoring and maintaining the productive capacity of The Gambia's natural resources base hinges on – a) the government's willingness and commitment to sustainably manage the ecosystems to meet social, economic, ecological and cultural needs of now and future generations demonstrated by increased sector financing, effective coordination and policy enforcement. Also, existence of effective decentralized regional soil and water management programmes back-to-back with efficient systems and processes: transparent roadmaps, public and smallholder participation encouraged, and effective monitoring and land-use planning; b) strong partnership with the private sector and market linkages by providing incentives for private investment to create green jobs among women and youth; and c) building community level resiliencies and climate change adaptation programmes.





## Transition to sustainable food systems

Existing food systems in The Gambia are predominantly on subsistence mode, and this assessment identified the need for greater investment in infrastructure, institutions, inputs and finance particularly in the upstream and downstream segments of the value chains for transition to commercial farming. The study suggests building the productive base in agriculture focusing on CSA, strengthening the capacity of actors, providing a favourable environment for the private sector to thrive, practicing sustainable natural resource management practices and ensuring equitable territorial balance with the creation of decent jobs in line with the NDP (2017–2022) pillar of modernizing agriculture and fisheries for food and nutrition security. The transition interventions should usher in competitive and viable market-oriented food systems, supported by strong institutional and policy frameworks enabling smallholders' and private sector investments along the value chains to secure an inclusive and sustained economic growth path. The entry points will include establishing adequate linkages between vertical and horizontal market players; and support the development of economic interest groups (EIGs) in the agribusiness.

The Gambia has formulated new and updated policy frameworks at national and multiple sectors levels including the NDP (2017–2022), The Social Protection Policy (2018–2025), The ANR Policy (2017–2026), The National Nutrition Policy (2018–2025) and the GNAIP II FNS (2019–2026) addressing a wide number of opportunities and challenges but is challenged to systematically and accountably implement them. Upgrading them through a food systems lens and the allocation of sufficient budget and human resources remain important challenges to their systemic operationalization. Similarly, the assessment identified diverse institutional challenges in each of the key sustainability questions at national, decentralized and community levels. They relate to issues of



intersectoral coordination (food systems outcomes require inputs from diverse ministries), to the upgrading of mandates, and capacities or to the professionalization and internal management and technical capacities of producer organizations and other food systems' actors. The successful experience of the NaNA in The Gambia, in the coordination of a multi-actor and sector platform for nutrition provides a good example with lessons for similar mechanisms in the broader food systems.

Institutional issues are also linked to the importance of improved governance and functional mechanisms required to address challenges in multiple areas of the food system. The assessment and stakeholder consultations identified diverse governance challenges including youth access (or lack thereof) to land, to the country's management of coastal and local water resources for sustainable fisheries, and, more generally to overseeing accountable delivery of policies, programmes and budgets that match political commitments (e.g., addressing women's inclusion in public actions to achieve clear national policy goals; equitable implementation of action in all territories). Transformation of food systems in The Gambia could build on this assessment by building on the insights, identifying, and adopting interventions that seize on the opportunities and address systemic challenges to achieve the desired impact.





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