



AFRICAN FOOD SYSTEMS



Panfrican farmers' organization
Organisation panafricaine des agriculteurs
المنظمة الإفريقية للفلاحين

By

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African Food Systems **ACKNOWLEDGEMENTS**

This study was carried out by PAFO and the staff of PAFO Secretariat in Kigali provided general guidance throughout the process and shared valuable information that enabled the analysis to be carried out in a meaningful way. Consultations were also carried out through online discussions and engagements with all the five (5) Pan-African Farmers Organization (PAFO) Member Networks in their respective regions. These are: The Eastern Africa Farmers Federation (EAFF), covering the eastern region; Plateforme Régionale des organisations paysannes d'Afrique Centrale (PROPAC), covering the central region; Réseau des Organisations Paysannes et des Producteurs Agricoles de l'Afrique de l'Ouest (ROPPA), covering the western region; Southern African Confederation of Agricultural Unions (SACAU), covering the southern region ; and Union Maghrébine des Agriculteurs (UMNAGRI), covering the northern region.



We are grateful and sincerely acknowledge all the inputs and contributions received to produce this study report, most especially, we are grateful to the PAFO network members for all the provided information and contribution. PAFO would also like to thank the Organization of African, Caribbean and Pacific States (OACPS), the European Union (EU) and the International Fund for Agricultural Development (IFAD), who made this study possible thanks to the FO4ACP project.



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The view and information contained within this study report are provided for informational purposes and for policymakers and various stakeholders on the African continent to make appropriate decisions. The report represents the current good-faith views of PAFO and its members' network at the time of publication.

This study report is intended only to provide general and preliminary information on PAFO's efforts of helping African farmers through the organization's respective members' networks at going in deep and analyzing the complexity of the food systems in Africa. It is not intended as a personal recommendation of particular financial or investment decision and thus it does not provide individually tailored investment advice of any kind.

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African Food Systems

TABLE OF CONTENTS

List of figures.....	5
List of tables.....	5
Acronyms.....	6
1.Introduction.....	7
2.PAFO and its origin.....	8
2.1.PAFO and its mandate.....	10
3.Summary of terms of reference.....	11
4.Methodology.....	12
5.Overview of Africa food systems /Food System Approach Overview.....	13
5.1.A strong observation made by the United Nations in 2020:.....	16
6.Rationale /Why Africa Food System.....	19
7.Issues of agriculture producers in Africa.....	23
7.1.Production.....	23
7.2.Market access.....	26
7.2.1.Linking farmers to markets.....	29
a.Market infrastructures.....	30
b.Cooperatives.....	35
c.Traders-Collectors.....	37
d.Wholesale markets.....	38
e.Supermarkets.....	39
f.Retail markets.....	41
g.Intra Africa Trade in food products.....	42
7.2.2.Summary of issues /Findings.....	46
8.Conclusions & Recommendations.....	48
9.References.....	56
Annex 1 : Survey.....	59

African Food Systems

LIST OF FIGURES & LIST OF TABLES

Figure 1 1: Conceptual frameworks for the links between consumption patterns and food systems.....	14
Figure 2 1:Fertilizer consumption and application rate by region 2017.	16
Figure 3 1: Selected indicators, CAADP 0 and CAADP 4 countries.....	21
Figure 4 1 : Components of Agrifood System Value Chains.....	27
Figure 5 1: Intra-African agriculture export, percentage share.....	44
Figure 6 1: Intra-African agriculture import, percentage share.....	44
Figure 7 1: Change in product export shares in intra-African agricultural trade, between 2005–2007 and 2016–2018.....	45
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Table 1 1: PAFO: Regions and countries.....	9
Table 2 1: Agricultural Outlook 2019–2028, (in 1000 metric tons).....	28

African Food Systems

LIST ACRONYMS AND ABBREVIATIONS

AfCFTA:	African Continental Free Trade Agreement
AGRA:	Alliance for a Green Revolution in Africa
AU:	African Union
CAADP:	Comprehensive Africa Agriculture Development Programme
CF:	Contract Farming
COMESA:	Common Market for Eastern and Southern Africa
EAC:	East African Community
EAFF:	Eastern African Farmers Federation
ECOWAS:	Economic Commission of West African States
FAO:	Food and Agriculture Organization of the United Nations
ICT:	Information and Communication Technology
IFAD:	International Fund for Agricultural Development
IPM:	Integrated Pest Management
NAIP:	National Agriculture Investment Plan
NCD:	Non communicable diseases
NEPAD:	New Partnership for Africa's Development
NTBs:	Non-Tariff Barriers
PAFO:	Pan-African Farmers' Organization
PPP:	Public-Private Partnership
PROPAC:	Regional Platform of Farmers' Organizations of Central Africa
R&D	Research and development
ROPFA:	Network of farmers 'and producers' organizations in West Africa
SACAU:	Southern African Confederation of Agricultural Unions
SADC:	Southern African Development Community
SMEs:	Small and medium-sized enterprises
UMNAGRI:	Maghreb and North African Union of Farmers
VC:	Value Chain

African Food Systems

1.Introduction

This study is mainly based on the literature review, country profiles; development partners such as the World Bank, FAO, IFAD, African Unions, AGRA, NEPAD documents, articles and new letters have been published. However, most of these documents are on a continent level with some examples on a country level.

Africa is a continent rich in land, fisheries, natural resources and biocultural diversity, all of which are critical assets for a well-functioning food system. Despite this, Africa remains the most food-insecure continent.¹ The situation is most problematic in sub-Saharan Africa where the food system is characterized by small-scale operations, short local supply chains and market relations by spot exchange.

Using a food systems approach is crucial for effectively addressing the systemic challenges related to food, and can greatly benefit practitioners and policymakers to analyze, diagnose, and help take adequate decisions in food systems.

Also, a food systems approach enables to distinguish interactions between other sectors and systems, thus providing potential linkages with other policy domains.

Lastly, participation of stakeholders can be built into the design of interventions to advance sustainability. Knowledge about different parts of the food system needs to be brought together, and using a food system approach can help create a shared understanding amid complexity, as a basis for coherent action.

As the majority of Africa's farmers are small-scale farmers with few financial resources, limited access to infrastructure, and disparate

¹ <https://za.boell.org/en/2019/12/16/transforming-africas-food-systems-withstand-2-degc-world#note2>

African Food Systems

access to information, they meet a lot of challenges from simply access to inputs and increase production and income, to access to markets through good roads, access to warehouses, market outlets, and selling to other actors in value chain, including consumers. Therefore, becoming competitive and attractive commercial partners in modern markets constitutes a major challenge for small-scale farmers, and rather favors better-off farmers who are able to deliver larger quantities of better-quality products. There is therefore a need to promote policies and strategies that support smallholder farmers.

This report discusses the constraints that farmers face along the value chain through production, processing and distribution up to the final market. It then examines the impact of infrastructures on food systems and identifies key gaps in knowledge and information analysis and dissemination. The study also looks at the opportunities for expanding smallholder access to Africa's rapidly growing commercial agricultural markets. Finally, this report highlights the key policy, strategies as well as public and private investments that are critical in stimulating successful food systems in Africa.

2. PAFO and its origin

The creation of PAFO is the culmination of a long process., it was not until the 1980s that African countries engaged in disengagement policies linked to structural adjustment programs, opened up to the associative life by establishing laws and regulatory frameworks that have enabled communities to organize themselves to take charge of themselves.

The emergence of these national farmer organizations has now enabled agricultural producers to take charge of their concerns. Now the

African Food Systems

Farmers are involved, through national consultation frameworks, in all debates relating to strategic and political questions and give their point of view on everything related to agriculture.

African Farmer organizations driven by a survival instinct felt the need to come together at the sub-regional level to better position themselves. Thus, in the five major economic regions of Africa, regional organizations, resolutely engaged in the battle to safeguard family farming and to defend millions of small producers' interests, are emerging. Grouped within the national platforms from 45 African Countries, these sub-regional networks of peasant organizations and agricultural producers from the Maghreb (UMNAGRI), Southern Africa (SACAU), Central Africa (PROPAC), East Africa (EAFF) and West Africa (ROPPA), have been working together since 2003, on issues of continental interest having a significant impact on African agriculture. It is in this context that the regrouping of the five regional networks which met to discuss the conditions for the creation of a platform that would unite their efforts and harmonize their concerns, should be seen. These consultations led to a consensus materialized by the declaration of Addis Ababa with the foundation of the Pan-African Farmers' Organization (PAFO). It was under the sponsorship of the African Union that the Constitutive General Assembly of PAFO was held in Lilongwe, Malawi from October 27 to 29, 2010.

African Food Systems

Table 1 1: PAFO: Regions and countries

Regions	Countries
EAFF	Burundi, Djibouti, DRC, Eritrea, Kenya, Rwanda, South Sudan and Tanzania
PROPAC	Cameroon, Burundi, Tchad, Congo, DRC, RCA, Gabon, Sao Tomé & Principe, Angola, Guinée Equatoriale,
ROPPA	Burkina Faso, Bénin, Guinée Bissau, Cote d'Ivoire, Mali, Niger, Sénégal, Togo.
SACAU	Botswana, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe
UMNAGRI	Algeria, Egypt, Libya, Morocco, Mauritania, Sudan and Tunisia

PAFO is the voice of more than 80 million African farmers who integrate into 70 national organizations, unions, federations, cooperatives, associations, etc., above-mentioned. Members are in the African agriculture sector

2.1.PAFO and its mandate

PAFO mandate is:

- To work together on issues that have a significant impact on African agriculture.
- To bring together the farmers around common needs, themes and challenges which are mainly---access to land,--- financing, local, regional and continental trade---- public investments in family farming,--- capacity building of farmers and their organizations,--- the cross-cutting issues around climate change, the empowerment of rural women and young people, in addition to the current main challenge of 2020 - the Covid-19.

African Food Systems

- To facilitate dialogue and cooperation with various continental and international institutions, but also with financial and technical partners.
- To provide common positions on issues and themes dealing with agriculture and rural development in Africa.
- To contribute to the formulation of projects and the development of the capacities necessary to follow them up.

3. Summary of terms of reference

PAFO (Pan African Farmers 'organization) is concerned with the basic needs of human life. It has ordered a study aimed at going in deep and analyzing the complexity of the food systems in Africa with the objective of updating and informing its members on the constellation of activities which involves various actors including the producers, who in most countries, despite the fact that they are the ones who produce the raw material for human life . These are considered as important actors however not necessary sufficient. Collectors who link farmers to the markets in rural areas or to the processors when the products are not consumed fresh and require transformation for better conservation for urban consumption. The food system has a distribution component which consists of transporting food in different points of demand till the consumer's fork.

The linkage between food and human life is so important that it impacts healthy food, environment, economies and culture. In Africa despite the fact that the continent has the huge arable land with small plots per household Africa is still facing high rates of malnutrition and deaths especially in case of conflicts caused by the control of resources or political power. PAFO intends to collect information on the issues and challenges affecting the food systems in Africa.

African Food Systems

The study will cover the five regional African farmers' networks which are among the most committed organizations that represent the voice of the some farmers who day and night have to fight against food insecurity unfavorable environment, economies and cultures.

4. Methodology

The research is based primarily on the desk review of a wide range of literature on food systems and the interviews with PAFO regional networks members. This research looks into an overview of Africa food systems and challenges that farmers face at production and marketing level. It identifies the main issues and provides recommendations. The aim is to provide a guiding narrative that will help PAFO to advocate for farmers to various stakeholders. Due to time limitation, this research does not pretend to cover in depth all aspects of the food system.

5. Overview of Africa food systems /Food System Approach Overview

The food system is the interconnected system of everything and everybody that influences, and is influenced by, the activities involved in bringing food from farm to fork and beyond. It includes: (i) the chain of activities from producer to consumer; (ii) the factors that influence the chain of activities and are influenced by it; these are drivers and outcomes of the food chain, which have economic, political, environmental, health and social dimensions; (iii) the many entities, institutions and people directly and indirectly involved; (iv) the connections between all those elements, meaning that action in one part of the system has repercussions across the system.

African Food Systems

Food supply chain:

Food is produced, harvested, gathered or slaughtered; cleaned, packed and stored; and typically processed in some way – from cutting and canning to complex manufacturing.

Food distribution

Food is transported and traded – and sold and marketed to people in myriad ways. Afterwards comes the eating, together with spoilage, waste and disposal, which also occur throughout the chain. This is the food supply chain or food value chain: the chain of people and events through which food is produced and supplied to everyone who eats, and the value that is generated, distributed and lost through its ordinary functioning. Food chains operate at assorted scales and levels, from the shortest supply chains from garden to table, to long, highly complex globalized chains. The level and type of technology adopted in the food chain plays a major role in how it functions.

Drivers and outcomes

More holistic definitions of the food system explicitly incorporate the outcomes and drivers of the food chain. For example, a pioneering definition published in 2008 (FAO) focused on food security – food utilization, availability and access – as a key outcome. Some depictions include health, social, environmental and economic outcomes, while others focus on specific outcomes, such as nutrition. .

African Food Systems

Climate change, for example, both influences food production (such as by affecting crop yields and nutrient levels) and results from it (since agriculture is a source of greenhouse gas emissions). Food spoilage and waste are outcomes of the chain, but the functioning of the supply chain is also driven by an imperative to reduce waste. Drivers are sometimes depicted as not being part of the system, shaping it from the outside; likewise, outcomes may be viewed as “externalities” (costs or benefits borne by others outside the system). In practice, though they are intrinsic to the system; the food chain, as we know, would not operate without them. Food contamination, for instance, is not just an unfortunate by-product, but emerges from the normal functioning of the system.

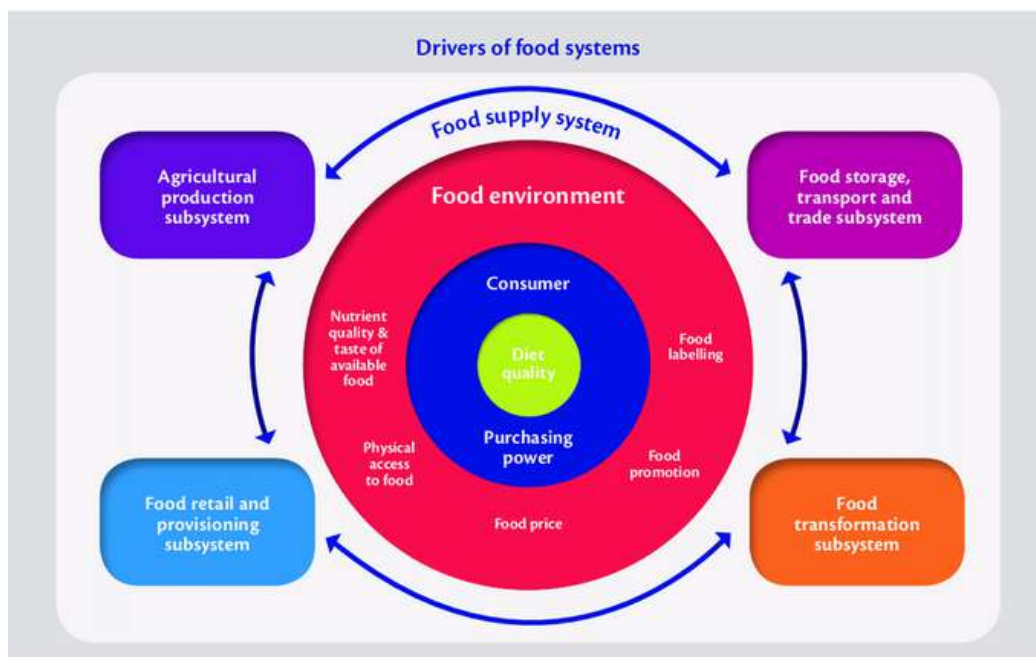
This is a complex approach of the food system. As is proposed, the study concerns mainly the actors in the supply chain who are, as mentioned in the terms of reference, the producers--- collectors—processors—transporters—consumers. However, these are not individuals who stand alone but the more they are linked, the more efficient the system is. The more these players are disconnected, the more they lack opportunities, which makes the system not sustainable. All those players do not have the same power; that is why government interventions are so necessary to get a fair system where all the players enjoy benefits of being in the supply value chain. In most African countries the food supply chain is not complex especially for local products and has easily to be fairly developed with optimal advantages for all actors in the supply value chain.

African Food Systems

The food system will also include processes and infrastructures involved in feeding the growing population, such as harvesting, processing, packaging, transporting, marketing, consumption, distribution and disposal of food and food-related items. It also includes the inputs needed and outputs generated at each of these steps. Among the actors, farmers especially in Africa play an important role as producers and are the main focus of PAFO as described in its mandate.

International organizations play a key role in Africa as the main partners of the producers platforms such as PAFO. Those organizations have been conducting studies which contributed in a significant way better knowledge of farmers as the main actors in the food supply chain in Africa.

Figure 1 1: Conceptual frameworks for the links between consumption patterns and food systems



Source: Global Panel on Agriculture and Food Systems for Nutrition, 2016

African Food Systems

5.1 A strong observation made by the United Nations in 2020:

The current food systems are not sustainable. Indeed hunger has been on the rise for several years, with an estimated 690 million people worldwide going hungry in 2019 – and with the effects of the COVID-19 pandemic, up to 132 million more people are expected to join this number soon. Meanwhile, our food production practices – particularly the expansion of large-scale industrial agriculture – come with an unacceptably high environmental cost, threatening the food security of future generations

(IFAD--2019) The International Fund for Agriculture Development believe that small-scale farmers can offer solutions to those problems. But in order to succeed, they need the right tools – and that requires us to re-orient food systems so that those farmers are given opportunities to thrive, and to be fairly rewarded for the work they do.

Here are five reasons we believe that food systems with productive and prosperous small-scale farmers at their core could help us build a sustainable future, according to IFAD:,2016

- Increased incomes and profits among small-scale farmers and their businesses are invested back into local economies, where they create jobs and equitable growth. This is crucial for creating opportunities for rural youth to live and thrive in their home communities. In contrast, the benefits from larger-scale industrial farming models tend to lack these local links, with studies showing adverse impacts on local incomes and inequality.

African Food Systems

- Small-scale farming systems are often more environmentally sustainable. They often have greater levels of attachment to local landscapes and ecosystems. And sustainable, nature-based practices such as organic agriculture, crop rotation, and integrated pest management permaculture rely on the wealth of localized environmental knowledge that small-scale farmers possess.
- Small-scale farms are especially critical for the food security and nutrition of vulnerable groups. Those farms serve predominantly domestic and local markets, including communities that modern supermarkets do not reach. They are of particular importance in developing countries, for example, they produce more than 70 per cent of the food calories in Latin America, sub-Saharan Africa and South and East Asia.
- Small-scale farming is often more productive than other types of agricultural businesses, including industrial farms. Land productivity on small farms has been shown to be higher in many contexts, as a result of the advantages associated with family-based labor and management. Family workers are more motivated, have more specific knowledge of the land, and are prepared to withstand shocks that would send corporate-managed farms out of business.
- Small-scale farming also contributes to culture and community. Communities that revolve around small-scale farming represent a rich and diverse cultural heritage, encompassing art, music, history and architecture. This kind of farming is also a rich source of traditional knowledge, offering solutions for balancing food production, livelihoods and the natural world”

African Food Systems

Food system implies Food Security and its components which are: (FAO, World Food Conference 1974)

Food production which comprises such factors as the (FAO,,,) use of land for productive purposes (land use), the distribution of land ownership within communities and regions (land tenure), soil management, crop breeding and selection, crop management, livestock breeding and management and harvesting, which have been touched on in previous modules

Food distribution which involves a series of post-harvest activities including the processing, transportation, storage, packaging and marketing of food as well as activities related to household purchasing power, traditions of food use (including child feeding practices), food exchanges and gift giving and public food distribution.

Food utilization and consumption which include those involved in the preparation, processing, and cooking of food at both the home and community levels, as well as household decision-making regarding food, household food distribution practices, cultural and individual food choices and access to health care, sanitation, and knowledge.

The study will go through the approach as described above, analyze the current situation in Africa, consider issues and challenges, make recommendations for improving the food system in Africa.

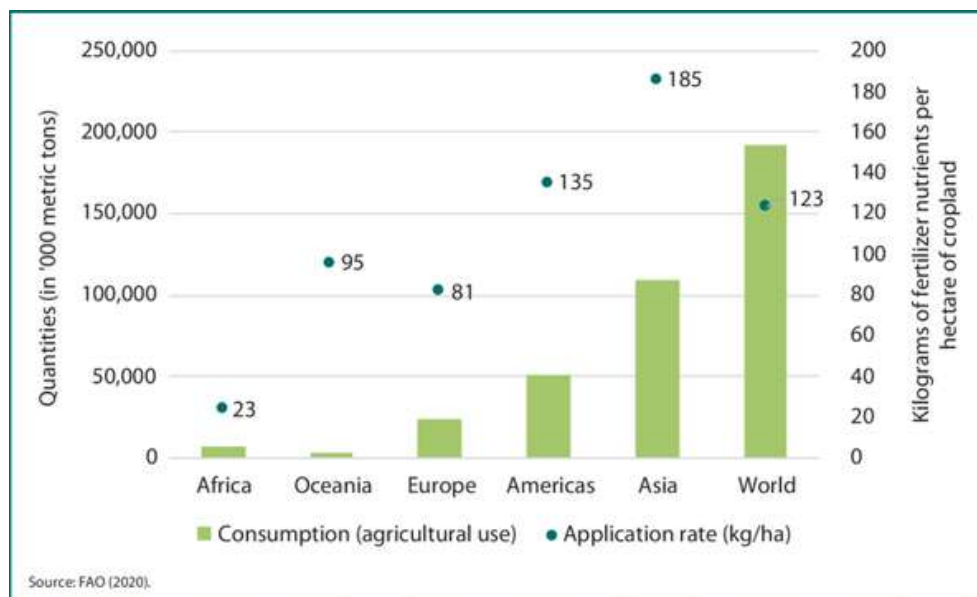
African Food Systems

6. Rationale /Why Africa Food System

The agriculture producer is the first actor in the food value chain supply and requires all the inputs including fertilizer, seeds, machines, and other agri-inputs to produce more, trade more and get more income for his her sustainable good livelihood. However the situation is as follows ² :

1. In most countries in Africa, the use of agri-inputs remains low, with African farmers using on average only 24 kilograms of fertilizer per hectare , compared to 185 kg per hectare in Asia. The agriculture sector in Africa (excluding North Africa) is expected to need eight times more fertilizer and six times more seeds than it currently uses in order to fulfill its yield and production potential.

Figure 2 1 : Fertilizer consumption and application rate by region 2017



² Otavio Veras 2020. Agriculture in Africa potential versus reality

African Food Systems

2. Although Africa has large areas of arable land and land tenure, it remains a major challenge, especially for female smallholder farmers. Besides, there is still a conflict between traditional land and modern land rights where women and youth do not have the legal right to own land and cannot use it for long-term investment. Little land is also titled compared to land owned by farmers. However in some countries such as Rwanda, there is a success story where almost 90 % of the land are registered where men have 50% of land rights and 50% of women have also the land right and own land titles certificates³. On the other hand, in countries such as Cameroon, Democratic Republic of Congo, Republic of Congo, Central Africa Republic, land is not registered, land ownership, land rights are still limited or sometime do not exist. In countries where land is titled, it is also divided into small, tiny lands which are not adequate for agro production. Nowadays, land is also used as a commodity for foreign investors for producing one crop (mono cropping) without taking care of environment, thus completely depleting the national resources. Another threat to the land use is urbanization where productive land is used for house construction.

3. Smallholder farmers represent 60 per cent of Africa's population. They operate on small parcels of land and tend to lack access to finance because of lack of collateral to increase the quantity and quality of their production. Smallholder farmers tend to use traditional farming techniques that limit the scope to increase yields

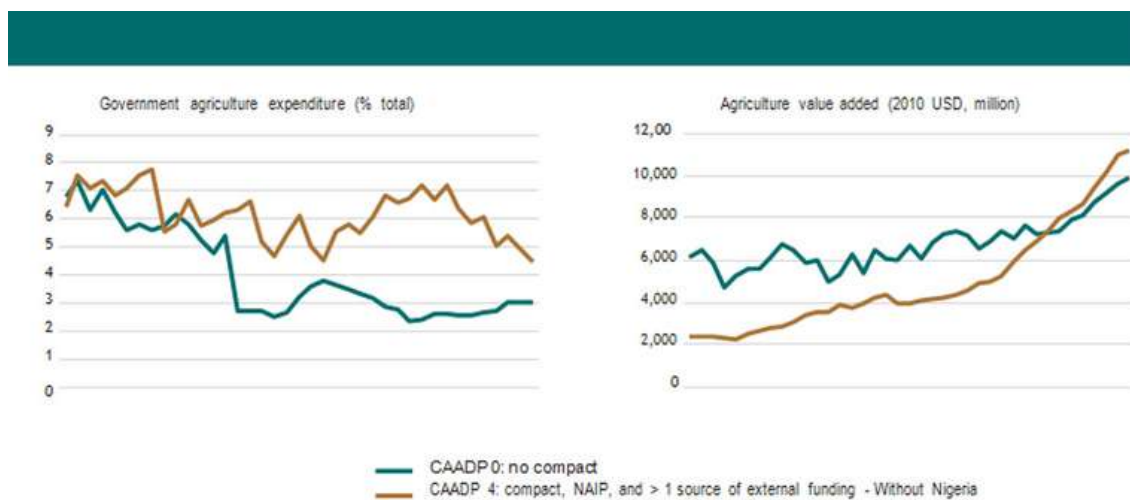
³ Rwanda Ministry of lands, environment, forests, water and mines, 2004. National land policy.

African Food Systems

4. The lack of investment in African agriculture production leads to crops that are of less quality and often less nutritious. Many seed varieties used – which are often also recycled multiple times – are not resilient to climate change, with agriculture still largely rain-fed and the weather becoming harder to predict. These factors make agricultural production risky for rural households. Nevertheless, the main reason for more use of rain-fed agriculture is its cost, indeed it is affordable compared to the irrigation system which is expensive for small farmers with little land and limited resources. This population is more concerned with food security and poverty reduction and the use of rainfall is very much appropriate, and therefore they plan their production according to the rain season. If you plant during the rain season, plant right and plant sufficiently; there is no need to plant when there is no rain and to invest in irrigation equipment. The major challenge is that a big quantity of production is lost because there is not enough storage techniques and facilities; there is low processing capacity, there is no market for some of the value added products. In addition, there is a lack of information about our consumption needs. All those factors contribute to the inefficiency of rain-fed agriculture. However there are countries where irrigation infrastructures are cheaper especially in countries facing regular droughts.

African Food Systems

Figure 3 1: Selected indicators, CAADP 0 and CAADP 4 countries



Source: ReSAKSS (2020).

Note: CAADP 0 countries: Algeria, Botswana, Comoros, Egypt, Eritrea, Morocco, Namibia, South Africa, South Sudan, Tunisia. CAADP 4 countries: Benin, Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Rwanda, Senegal, Tanzania. Nigeria is also a CAADP 4 country but is not shown in the figure due to data inconsistencies. CAADP = Comprehensive Africa Agriculture Development Programme; NAIP = National Agriculture Investment Plan; USD = US dollars.

5. Land is sometime poorly managed and lacks necessary support to improve their quality and productivity. There is also limited access to services, like public or private extension, mechanization providers, soil testing providers and crop storage.
6. Access to technology solutions remains relatively limited when compared with the extent of the need, even though solutions such as drones, mobile phone technology for market information and use of data management applications are gradually increasing

African Food Systems

7. Issues of agriculture producers in Africa

The African producer has been the major actor in the Africa food system and his or her performance depends on his or her linkages with other actors in the value chain. As reported in various documents from country profiles, publications, important challenges are below summarized

7.1. Production :

- Although there has been so much investment in agricultural research, agricultural producers still have difficulty accessing improved inputs (seeds .IPM). Reasons are multiple: the critical mass of researchers and equipment, such as demotivated extension services, the fertilizer price inaccessible to the producer without government subsidies, unskilled rural population unable to have access to technologies and good practices.
- A lack of skills from the agricultural producer is mentioned as one of the constraint for agricultural development.. There has always been a component in the government and development partners' budgets to improve knowledge and skills of the agriculture or livestock producers.(capacity building). However the evaluation teams have reached out to the same conclusion that capacity building is not sufficient alone and requires financial support to be sustainable.
- Poverty and food insecurity among the producers are the highest on the continent despite the fact that they are the ones who produce food. This is an African dilemma which needs continental advocacy to break the cycle.

African Food Systems

- Integration of the agricultural producer as an actor in the value chains is still weak and this affects the development and the performance of the entire sector. In some areas, it has been said during the consultation that local food production may compete with food import especially when the same product is found on the local market such as rice, maize, vegetables like tomatoes, fish, chicken. Those imported products are cheaper and but not necessary healthy and local products are expensive, healthy and nutritious.
- There is not enough investment put in agriculture which makes local African food less competitive compared to well imported subsidized food import. This needs African organizations to inform the policy for changes.
- In Africa, agricultural production of traditional crops for export is a task for aged population. The youth is not interested in the sector which is considered as a risky sector. How to change the situation and make agriculture more attractive to the young generation? Otherwise poverty and food insecurity will prevail for a long term..
- Land is still under traditional regime in some African countries when land registration and ownership constitute an opportunity to leverage resources from the private sector for sustainable agricultural development. In some countries traditional chiefs are still land owners and powerful and arable land is still not used when producers are struggling for food security and poverty reduction.

African Food Systems

- Westernizing diet in Africa is a key challenge when the continent has healthy and nutritious food with almost no side effects with the consequence of introducing competition between local and imported food, thus discouraging local production and marginalizing the agricultural producer?
- Why is the agriculture sector low funded by governments and the private sector when it feeds 100% of the population of each country? Under CAADP it was agreed that 10% of the national budget would go into agriculture but there are still countries with lower resource allocation.
- Agriculture producers need interventions and support from the government and donors' community to mitigate external factors with a negative effect such as climate changes and environmental shocks . This requires continuous and consistent mobilization of civil society to make producers more resilient in a sustainable way and its effort should be permanent.
- Africa food production is affected by climate change and environmental shocks especially for countries relying on rain-fed agriculture. This is a big and long-term challenge and only a worldwide solution can address adequately this issue. Countries have to be mobilized and come together to create more resilience of the population.
- Agro-industry is so well developed in few countries and almost non-existent in others even when these are neighbors . This stand-alone policy seems to be an old approach which calls for change in the confinement,

African Food Systems

- In Africa, there is food insecurity in some countries with huge and unused arable land. This unfortunate situation calls for mobilization of political leaders to support rural community and improve its livelihood.
- The African food production is rain-fed when water resources are available. The main reason is that the cost of irrigation is so high compared to the volume and value of the products on small land. However in areas with frequent droughts, irrigation is dominant .

7.2. Market access :

Facilitating market linkages should receive as much attention as enhancing production. Most food crops throughout Africa are produced by smallholders working individually and buying and selling in spot markets made up of many small- and medium-scale intermediaries. Strong links to markets for poor rural producers are essential to increasing agricultural production, generating economic growth in rural areas and reducing hunger and poverty. Improving those links creates a virtuous circle by boosting productivity, increasing incomes and strengthening food security. Better access by small producers to domestic and international markets means that they could reliably sell more produce at higher prices. This in turn encourages farmers to invest in their own businesses and increase the quantity, quality and diversity of the goods they produce.⁴ Traditionally, lack of reliable market access for smallholder farmers has impeded the economic development of rural areas because farmers often live far from the wholesale markets, and it is not feasible for them to deliver their produce directly. Highly fragmented, fluctuating and non-transparent systems encourage farmers to navigate through farmer groups or brokers to get their produce to markets.⁵

4. Access to markets: Making value chains work for poor rural people, IFAD, September 2012

5. https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/impact-stories/technology-helps-african-farmers-sell-what-they-sow

African Food Systems

The selling chain begins with traders-collectors drivers who buy produce from rural markets or directly from individual farmers. The traders-collectors drivers constitute the main link between geographically scattered small farms in rural areas and the distribution network of wholesale and retail markets in cities. Urban wholesale and rural assembly markets play a key role in carrying out the functions that link rural producers and the urban supply chain. In agriculture-based towns and small cities, secondary wholesale markets provide the entry point for rural traders and smallholders to connect with transporters and traders who, in turn, assure the link with larger urban markets. In some areas, rural farmers also sell directly to consumers. Operations of those markets, therefore, become a key to the small-scale farmer's access to markets and competitiveness.

Moreover, Africa's rapidly growing cities offer the largest and fastest growing market opportunity available to the continent's 60 million farms (Lowder, Skoet, & Raney, 2015). The combination of growing urbanization, rising incomes, and changing diets is collectively fueling rapid growth in urban food markets, making this field the most important commercial opportunity available to African farmers and agribusinesses over the coming decades.

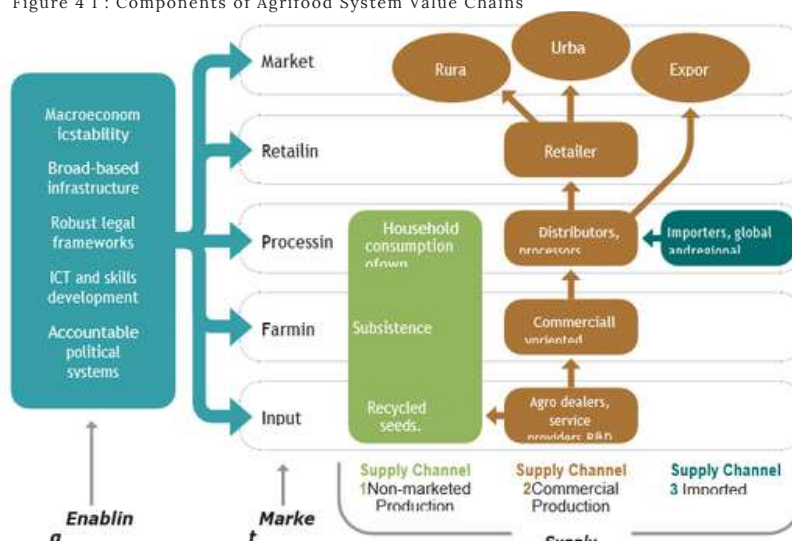
A modern food system, though, is featured by food production and trade that are increasingly regulated through strict public and private requirements on food quality and safety, and on environmental aspects. Such standards can create opportunities for small scale farmers to become engaged in modern value chains but the production and process requirements inherent in the standards-driven upgrading

African Food Systems

also implies potential constraints and marginalization of less-developed, small-scale farmers as standards imply investments and requirements that are difficult or costly for farmers to satisfy⁶.

Although market access is a key to facilitate smallholder farmers' income increase and poverty reduction; many rural producers often face serious difficulties in accessing markets. They are constrained by their remote location, high transportation costs, lack of safe storage facilities, limited business skills and lack of information; for instance knowing in real time about market prices and demand is essential for participation in value chains. Lack of organization is also another challenge that farmers face. Belonging to an organized group and being an active member of an effective farmers' organization brings many essential benefits, i.e allowing smallholder farmers to bulk produce, reduce costs through economies of scale and most importantly, strengthening farmers' bargaining power with powerful market actors. Membership can also bring access to financial, processing and business services, all of which being a key to empowering farmers to interact on equal terms with other market actors and succeeding as commercial farmers.

Figure 4 1 : Components of Agrifood System Value Chains



Source: Adapted from Resnick et al. (2019).

⁶ Siemen van Berkum, Thom Achterbosch and Vincent Linderhof, June 2017. Dynamics of food systems in Sub Saharan Africa, implications for consumption patterns and farmers's position in supply chain. Wageningen Economic Research.

African Food Systems

7.2.1 Linking farmers to markets :

Market opportunities for the majority of African smallholders are likely to be greater in domestic markets and, to some extent, in regional markets. Domestic agricultural production, in Sub-Saharan Africa in particular, is more geared to supplying local, national or, in some cases, regional markets than to supplying global value chains and international market⁷.

As urban food markets grow, African farmers increasingly depend on an expanding network of intermediaries – assembly traders, wholesale markets, agro-processors, and food retailers – who purchase from farmers and supply food products to urban consumers. For low-value non-perishables such as cereal crops, supply chains typically cover long distances and involve storage, processing, and packaging. In contrast, higher-value non-perishables such as dairy, poultry, and horticultural products are often produced in peri-urban areas or in farming zones with close road access to major towns. For the high-value perishables, urban wholesale markets become key transaction points through which farmer’s access urban supply chains⁸.

Table 2 1: Agricultural Outlook 2019–2028, (in 1000 metric tons)

COMMODITIES	2019			2028		
	SUPPLY	DEMAND	BALANCE	SUPPLY	DEMAND	BALANCE
Beef and veal	6 751	7 412	deficit	7 850	8 876	deficit
Cotton	1 920	453	surplus	2 300	558	surplus
Fish	12 026	13 950	deficit	13 264	16 993	deficit
Maize	82 983	101 072	deficit	100 192	122 843	deficit
Poultry meat	5 986	7 925	deficit	7 237	10 019	deficit
Rice	21 307	40 334	deficit	25 920	54 791	deficit
Roots and tubers	90 107	88 271	surplus	104 433	104 030	surplus
Soybean	3 130	8 039	deficit	3 646	9 080	deficit
Vegetable oils	8 219	19 359	deficit	9 388	24 119	deficit

⁷ Karim Hussein & David Suttie, 2016. Rural -Urban linkages and food systems in Sub-Saharan Africa. IFAD

⁸ AGRA, 2020. Feeding Africa's Cities , Opportunities, Challenges, and Policies for linking African Farmers with Growing Urban Food Market.

African Food Systems

a. Market infrastructures

Benefiting from the vibrancy of local, national and regional markets, food crop sectors are among the most dynamic. Several factors boost the appeal of food crop production. First, improvements in transport and market infrastructure facilitate the supply of crops to urban areas, whose growth is rapid, ongoing and predictable over the long term.

A key challenge for farmers to access markets for their products is often the weak state of roads, lack of and/or inappropriate marketplaces, storage facilities etc. Safe storage facilities, all-weather roads and affordable transportation are basic needs to make trade possible. Market infrastructures help rural farmers' access the market, while allowing urban and rural consumers to benefit from a variety of quality food at affordable prices, thus, the market infrastructure has an important impact on how food systems function.

The term market infrastructure encompasses the food systems, i.e., the physical and institutional infrastructure that link farmers to consumers. It includes any infrastructure that physically or contractually brings supply and demand together. The physical market infrastructure includes roads, marketplaces, storage units, consolidation areas, retail distributors, and so forth. The institutional market infrastructure includes quality standards, ICT and price information systems, contracts, purchasing processes, competition rules, and national and international regulations⁹.

According to AGRA, in their report of 2020, out of 54 African countries, 16 are landlocked. This geographical handicap reduces connectivity and increases the cost of access to the sea, thus leading

⁹ NEPAD, 2013. Agriculture in Africa, Transformation and Outlook

African Food Systems

to decreasing competitiveness of exports. Given poor infrastructure, high fuel costs and frequent internal trade barriers, per kilometer costs of trade within Africa remain very high. A recent study of 42 countries in sub-Saharan Africa finds median trade costs being over five times higher than elsewhere in the world (Porteous, 2019). As a result, transportation costs in Africa account for more than half the marketing costs, and frequent roadblocks add to these mark-ups (Pannhausen, 2010). According to the ESCAP-World Bank Trade Cost Database, 14 the estimated costs of exporting agricultural products among African countries are generally higher than the costs of exporting outside the continent. For example, the lowest trade cost (excluding tariff) of exporting agricultural products from Nigeria to Lithuania at about 155% of sales; the lowest cost of exporting to another African country (in this case, South Africa) is 188% of sales. The same situation is observed for Ethiopia, where the costs are 138% and 177% for the lowest trade cost to destination outside and inside Africa respectively. In another study, Porteous (2019) estimated that median intra-national trade cost in sub-Saharan Africa is over five times higher than benchmark freight rates elsewhere in the world. Distance between production and consumption areas, combined with underdeveloped and unreliable road and transportation system, impairs producers' access to markets and reduces their bargaining power ¹⁰.

In addition to roads, facilities such as storage, logistics, cold chains etc. determine the quality of food supply. Produce is usually transported loose or in sacks by trucks. It is common to find carrying trucks being used for sorting, packing and storage of produce in places where no wholesale markets exist. Standard weights, measures and

¹⁰ AGRA, 2020. Feeding Africa's Cities , Opportunities, Challenges, and Policies for linking African Farmers with Growing Urban Food Market

African Food Systems

grading systems are non-existent in the rural-urban trade of local produce, and, as a result, trading by sampling is predominant. Inefficient handling and high levels of deterioration and wastage, especially in the case of perishables, increase the cost and reduce the quality of produces.

Appropriate market facilities can reduce food losses, thereby improving food system sustainability and lowering food prices. According to FAO, all forms of food losses represent about a third of production (FAO 2017), or 150 kilograms per capita per year in Sub-Saharan Africa, and more than 200 kilograms per capita per year in North Africa (FAO 2020). Unlike in developed countries, in Sub-Saharan Africa the vast majority of food losses occur prior to consumer purchase. For example, 35–45 percent of fruit and vegetable production is lost during their harvest (10 percent), processing (25 percent), and distribution (10 percent). Because the cost of those losses is included in food prices, the losses may both reduce smallholder farmers' incomes and increase consumer costs. Therefore, even marginal gains in the food system efficiency and food waste reduction could have major effects on producers and consumers.

Furthermore, physical infrastructure on its own is insufficient to match supply and demand. Other important elements are price and quality information, credit, and trust in institutions and contracts. Market institutions include all private sector and public sector arrangements that create a conducive business environment to trade at all stages of food production and distribution, including soft market infrastructure such as price information systems, contractual arrangements, quality standards, and credit markets.

African Food Systems

One of the first steps needed when integrating markets is to make price information accessible. Market information systems have now emerged in many Sub-Saharan African countries and the rapid diffusion of technology has had many other impacts (Lemeilleur, Aderghal, et al. 2019). For instance, many farmers, wholesalers, shippers, retailers, and consumers now use mobile phones to access information about prices, volume, and quality, even in the remotest rural areas (Aker and Mbiti 2010). Information and communications technology makes markets more efficient by improving information flows, thereby reducing some actors' transfer costs or market power. However, in Africa, small-scale farmers still have challenges in accessing information relating to methods of production and access to markets. The flow of market information, including prices, between buyers and producers lags significantly behind changes in consumer demand in terms of quantity and quality. The uncertainty producers' face as a result of this weakens their bargaining position in dealing with collectors, whose trading margins remain stable despite fluctuating farm-gate prices¹¹. Quality data and information gathering, analysis and dissemination can inform better all market actors along the entire value chain, including farmers.

Another key element or tool that link farmers to buyers is the contract. Contract Farming (CF) has been largely believed to have the ability to promote the chances of small-scale farmers to participate and benefit from the markets. On the one hand Contract Farming has been seen as a solution to the various challenges likely to be met by small scale farms including access to technical and up to date farming information, loan facility and market risk, the characteristic features

¹¹ <http://www.fao.org/3/ab790e/ab790e04.htm>

African Food Systems

of commercial production. Thus CF helps organize the value chains. There is predictability in the value chains and farmers are able to reduce transaction costs. For the governments, it becomes easy to identify interventions points in an organized value chain.

This view supports the idea that Contract Farming facilitates the integration of small-scale fFarms into commercial agriculture, which may be useful for improving income growth, thereby helping to alleviate poverty. However, in many cases it has been found that small-scale farmers signed up to participate in the Contract Farming scheme without completely understanding the terms of the agreement.

Farmer attrition and breach of contract during the subsequent year were largely a result of incomplete information about the terms of the contract but also the limited capacity of farmers to understand the terms and clauses of the contracts. Besides, often farming contracts have difficult requirements for small-scale farmers to comply with, for instance the quality, standards, certificates, hygiene, delivery time, quantity, level of competitiveness, legal procedures, that are very expensive for small-scale farmers. In few countries, governments are involved and subsidize farmers to ease the above mentioned conditions.

However, in some cases, farmers, even buyers, do not respect the terms of contracts. For instance, when market prices raise farmers try to sell to other buyers (side marketing). In some instances, prices would fall and the processor buys supplies from the open market, imposing strict quality standards on the farmers to avoid purchasing

African Food Systems

from them at the agreed price ¹² A lack of trust or contract enforcement mechanisms affects market efficiency by limiting the ability of buyers and farmers to guarantee a transaction or specify its terms.

In some cases, CF are informal and not legally enforceable, the only recourse for the company being to refuse to work with the farmer in the future. Similarly, the main recourse for farmers is to withdraw from the scheme or to bring the case to the local officials for intervention. Having a contract is good as it builds a certain level of predictability and trust between farmers and buyers, thus farmers start to organize themselves to be able to produce enough quantity and better quality, accessing support from off taker through extensions services, getting certified inputs, accessing funds etc... The absence of it is a challenge because the value chains remain unorganized. A contract for medium and low value crops is also needed.

Lastly, difficulties in accessing credit further hinder the establishment of efficient food distribution systems and trade. Each step in the food value chain, from agricultural production to wholesale and retail distribution, involves entrepreneurial activities that require a properly functioning credit market. However, farmers /producers have more difficulty accessing formal financial services and credit.

b.Cooperatives

Cooperatives and producer organizations play a fundamental role in ending poverty and improving food security and nutrition. Cooperatives help to create a more resilient food system and foster

¹² Douglas Ncube1.2020. The Importance of Contract Farming to Small-scale Farmers in Africa and the Implications for Policy: A Review Scenario, 1 The Graduate Studies and Research College of Economic Management Sciences, University of South Africa (UNISA), Pretoria, South Africa

African Food Systems

local and regional economic development by engaging in activities that build local business, create jobs, and contribute to the development of skills, resources and assets of their members and their communities. Farmers are the custodian of food production; they are the biggest investors in agriculture collectively. They take part in the production, planning, processing and marketing of food, coordinate supply and demand of food to avoid pre-harvest sales.

Inclusive and efficient cooperatives and producer organizations build the capacity of their members, facilitate them to access resources and services including finance, market, information, enhancing social inclusion and giving their members a voice to defend their own interests in policy and decision-making processes.

In input markets, collective action has enabled group members to bargain for better terms of trade, to manage the procurement and distribution of inputs better, and increasingly, to gain access to improved farming technologies (Bernard et al., 2010). Moreover, one of the most significant benefits of collective action is access to working capital (Batt et al., 2011a). Through collective action, especially when the group is linked to a buyer, microfinance institutions are able to spread the risk by advancing a group loan whereby each member of the group becomes in part responsible for the other members' loans.

In output markets, collective action provides economies of scale in transport and logistics, improved access to market information, and – perhaps most important – greater ability to service the needs of customers through the provision of the desired quantities and a range

African Food Systems

of good-quality products that meet quality standards, reliably and consistently (Bernard et al., 2010; FAO, 2007). Economies of scale are also present in facilitating the adoption of quality assurance systems and seeking formal recognition as a business, both of which are prerequisites to engaging with buyers (Batt et al., 2011a).

On the other hand, farmers who participate in collaborative marketing groups report that they have a much better understanding of market dynamics, the roles and functions of various market intermediaries, and what they need to do to satisfy their downstream buyers' demands (Batt et al., 2011a). Not only does this collective action result in greater ability to negotiate with downstream buyers and develop vastly improved relationships with far greater trust, but farmers also feel that they are more empowered because they are able to apply the skills learned in transacting with the focal customer to new markets and to negotiate with new buyers. Farmers' cooperatives play also a big role in mobilizing the private and public sector to invest in processing plants, post harvest infrastructures such warehouses, cold rooms.

Moreover, collective action not only benefits individual households, but it can also benefit the community. When members of a collective group have an assured market for their product, smallholder farmers usually increase the area planted, with a commensurate increase in the demand for labor associated with cultivation, planting, harvesting and sorting (Batt et al., 2011a). Other entrepreneurs within the community may gain employment by facilitating the transport of the produce.¹³

c. Traders-Collectors

More intermediaries and infrastructure are needed to bring products from the production point to the final consumers when the place of

¹³ Da Silva, C., Mpagalile, J., van Rooyen, J. & Rizzo, C. 2016. Enabling more inclusive and efficient food and agricultural systems in Africa. FAO session at the IFAMA World Forum, 18 June 2014, Cape Town, South Africa

African Food Systems

production is far way, in other words, when producers are located in remote areas. The first intermediary is the so-called trader-collector driver who collects products from farmers. The traders-collectors drivers constitute the main link between geographically scattered small farms in rural areas and the distribution network of wholesale and retail markets in cities. Trader-collector drivers are the main suppliers of local produce, either as independent operators or quite commonly as a direct fixed commission agent.

The performance of a trader-collector sets the market conditions for farmers and the quality, availability and affordability of products to consumers. However, the role of local traders in value chains is key and frequently under-recognized. Those traders are often able to buy the entirety of the harvest of smallholder farmers. Given the key role local traders, who often operate in informal markets, play in providing markets for smallholders, there is to foster inclusive market approaches and business models that benefit both famers and traders. More efficient intermediaries will allow marginal producers to participate in the market. In other words, intermediaries along the distribution chain will have a decisive effect on producer revenues, the choice of markets and products, and so forth.

d. Wholesale markets

Urban wholesale and rural assembly markets play a key role in carrying out the functions that link rural producers and the urban supply chain. Wholesale distribution can be defined as the activity that bridges collection from producers and retailers to end users or consumers. In agriculture-based towns and small cities, secondary wholesale markets

African Food Systems

provide the entry point for rural traders and smallholders to connect with transporters and traders who, in turn, assure the link with larger urban markets. In some areas, rural farmers also sell directly to consumers. Food wholesalers usually trade in a wide range of items, only rarely specializing, and often combine wholesale and retail functions. Their facilities tend to be widely spread throughout the cities.

Although the wholesale sector is critical to efficiency in food marketing, most African cities do not have wholesale markets. It is often difficult to distinguish between wholesale and retail operations. Some activities that are considered retail are in fact sub-wholesale, for example, when large-scale wholesalers supply relatively small-scale wholesalers who are unable to purchase bulk quantities¹⁴. In some instance, wholesalers play a key role in determining the quality by sorting products and then charge more for higher-quality items incentivizing producers to improve quality and, in turn, they, too, will receive higher prices.

e. Supermarkets

Across most regions of Africa, the penetration of supermarkets has, in recent decades, increased so sharply in major cities. As the share of supermarkets in total consumption gradually grows, the supermarkets' quality and safety and consistency demands gradually translate into new investment requirements by farmers relative to what they were used to in traditional markets¹⁵. Supermarkets require minimum volumes, stringent quality standards, and regular deliveries, all of which individual small-scale farmers have difficulty meeting. Though they currently supply only a small share of urban retail food sales –

¹⁴ <http://www.fao.org/3/ab790e/ab790e04.htm>

¹⁵ Siemen van Berkum, Thom Achterbosch and Vincent Linderhof, June 2017. Dynamics of food systems in Sub Saharan Africa, implications for consumption patterns and farmers's position in supply chain. Wageningen Economic Research

African Food Systems

under 20% in most locations – modern format supermarkets and chain stores are growing rapidly in many urban markets. The small but growing scale of supermarkets food sales, has led to the development of new procurement systems that by pass traditional wholesale markets often via the development of preferred supplier programs and dedicated wholesale arms. These new procurement channels typically favor medium and large-scale farmers¹⁶. Supermarket procurement systems require large-scale, timely deliveries of products that conform to private quality standards. These requirements gradually exclude poor farmers that cannot keep up with the standards, thus excluded as direct suppliers to supermarkets.

A modern food system, though, is featured by food production and trade that are increasingly regulated through stringent public and private requirements on food quality and safety, and on environmental aspects. Such standards can create opportunities for farmers to become engaged in modern value chains but the production and process requirements inherent in the standards-driven upgrading also implies potential constraints and marginalization of less-developed, small-scale farmers as standards imply investments and requirements that are difficult or costly for farmers to satisfy.

Reference to different researches conducted on the impacts of supermarkets' sourcing from small farmers, the focus is on horticultural products, mainly fresh vegetables of which the growing is predominantly in the hands of smallholder farms in Africa. It has been found that farmers that sell to supermarkets under contracts have higher cash incomes compared to those supplying traditional markets, as the contracts with supermarket provide assurance and price stability. This situation helps small-scale farmers to shift from subsistence to viable business that secure more cash and improve

¹⁶ AGRA, 2020. Feeding Africa's Cities . Opportunities, Challenges, and Policies for linking African Farmers with Growing Urban Food Market

African Food Systems

farmers' households' economic status. Moreover, selling to supermarket has positive impacts on food security and diet quality of small-scale farmers as vegetable production also entails higher quantities of vegetables consumed at the household level.

However, it has to be mentioned that farmers supplying to supermarkets face various constraints including lack of capital, high cost of farm inputs , intensive labour(cleaning, sorting ,bundling)storage and transport , standards and certifications which are the major obstacles to rural smallholder farmers in providing the quantity and quality of products that modern retail markets are demanding. In addition to that, there is a centralized procurement practice of supermarkets which is very different from the informal and non standardized food procurement system smallholders are used to operating in. All those constraints are particularly relevant to the smaller.

f.Retail markets

It is often difficult to distinguish wholesale from retail operations. Some activities that are considered retail are in fact sub-wholesale. Food retailing takes place mainly in large central markets located in well-constructed structures, however in some places, retail markets are located in open spaces and lack basic infrastructure (concrete floors, drainage and facilities for sorting, storing, weighing and handling of produce). Inadequate infrastructure can be also a constraint to farmers who supply to those markets.

Smallholders' access to urban markets, productivity-enhancing technologies and training opportunities are contingent upon greater connectivity and smoother flows of goods, services and information

African Food Systems

between rural and urban areas. In this respect, improving rural-urban connectivity will be critical for food systems and broader national development. It will be crucial that the promotion of rural-urban linkages does not lead to the extraction of value from rural smallholders, but instead creates enhanced opportunities for rural and urban people upstream and downstream, and enables smallholders to meet more exacting standard and certification requirements associated with urbanization. Where appropriate and enabling territorial environments encourage such investments, opportunities for smallholders to do business with urban-based supermarkets, traders and agribusiness operators can provide mutually beneficial and inclusive outcomes¹⁷.

g. Intra Africa Trade in food products

Agriculture in Africa is focused primarily on national markets. Regional intra-African trade in agricultural and food products is very small in comparison to that of the rest of the world. The level of intra-Africa food trade is consistently below 18% while it is much higher in Europe (69%), Asia (59%), and North America (31%). The very low levels of intra-African food trade suggest that trade presents a great opportunity for the creation of larger regional markets that could help boost economic growth and sustainable development in Africa¹⁸.

The major opportunity for transforming Africa's agricultural sector lies, without a doubt, in the dynamism of food markets. The World Bank estimates that Africa's market for food could be valued at more than \$1,000 billion by 2030.

The significant scope for intra-African trade in the key food groups is possible. Most of the growth has been in diet diversification or non-

¹⁷ Karim Hussein & David Suttie, 2016. Rural -Urban linkages and food systems in Sub-Saharan Africa. IFAD.
¹⁸ AGRA, 2019. The hidden middle, a quiet revolution in the private sector driving agricultural transformation

African Food Systems

food grain products such as fruits and vegetables, roots and tubers, meat fish and dairy, edible oils and, in convenience, grains such as rice and wheat.

Africa's food systems have been transformed with increasing urbanization, changing diets, and growing food demand. All of those factors represent massive intra-African trade opportunities.

Food demand is projected to increase, fueled by high population growth, rapid urbanization and income growth. Moreover, Africa's urban food markets are estimated to expand exponentially. The launch of the African Continental Free Trade Area (AfCFTA) is an opportunity to increase investment and trade in agricultural products, given the importance of the agricultural sector to African economies¹⁹.

If the AfCFTA objectives of removal of tariffs and non-tariff barriers are aggressively supported and properly implemented by the signatories, this trade agreement has the potential to significantly boost the volume and value of intra-African agricultural and food trade and services. To achieve its objectives for boosting intra-African trade, an effective implementation strategy should include better harmonization of activities and trade rules among the regional economic unions in Africa i.e COMESA, EAC, ECOWAS, and SADC.

Despite the above mentioned opportunities, Africa is significantly lagging behind other regions around the world in its ability to leverage intra-trade as an engine of growth. There are key challenges that are still hindering the growth of Intra-African trade including policy inconsistencies, lack or inadequate infrastructure and trade logistics, the low level of trade facilitation due to poor investment and business

¹⁹ AO, 2020. Intra-Africa Trade in Food and Agriculture: Issues, Challenges and Prospects in the Context of the African Continental Free Trade Area (AfCFTA), Victoria Falls, Zimbabwe, 23-27 March 2020, Thirty-first Session

African Food Systems

environment for private sector activities, under-investment in productive capacity, especially regional value chains and market information systems.

To enhance intra-African trade, countries need to invest in physical infrastructure and trade logistics, simplify procedures, harmonize standards, reduce NTBs, streamline licensing procedures and certificates of origin requirements, improve market information and finance, and improve professionalism of customs officers, reduce the roadblocks and checkpoints that impede cross-border trade.

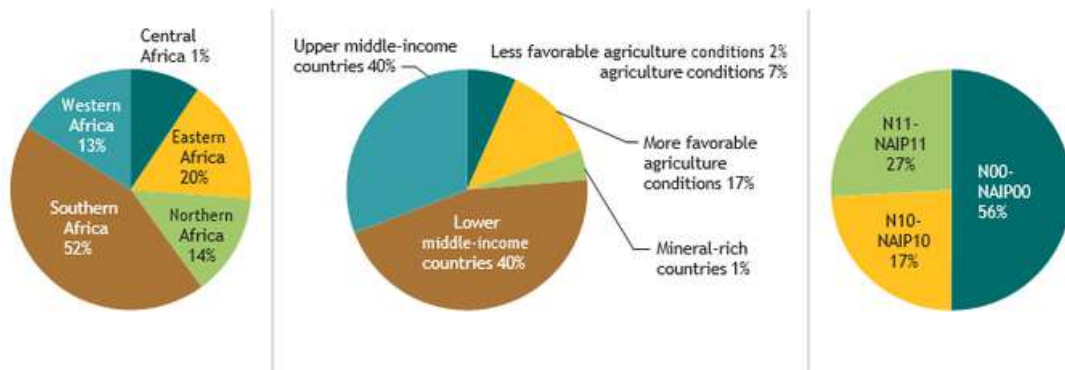
Making markets work for smallholder farmers will require actions from many different actors, both private and public, as well as from international partners 'organizations. The public sector plays a key role. Public sector policies should reduce the currently high levels of risk and uncertainty in African agricultural markets, and provide greater investment incentives for the private sector to offer smallholder farmers with the access to markets that they need. Financial markets will also stay away from African agriculture if the risks of investment remain very high relative to the returns.

On the other hand, if African governments define their roles clearly, implement these roles transparently and consistently, and invest their scarce resources in ways that make the greatest contribution to agricultural growth and poverty reduction, then this approach is likely to leverage even greater private investment in support of smallholder agriculture. When the conditions are created for profitable and stable private investment, the private sector has, in other parts of the world, grown and responded as seen in much of Asia, and there is little

African Food Systems

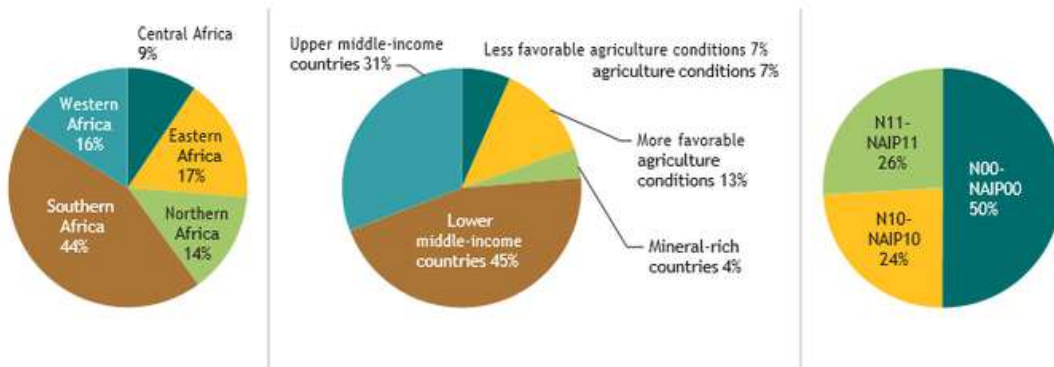
reason to believe that Africa is different. Hence, private sector investment patterns and the supply of bank financing for private investment, are largely outcomes of the public sector behavior – its policy choices, integrity of its institutions, and the ways it spends its funds through the treasury²⁰

Figure 5 1: Intra-African agriculture export, percentage share



Source: ReSAKSS based on UNCTAD (2020) and World Bank (2020).

Figure 6 1: Intra-African agriculture import, percentage share

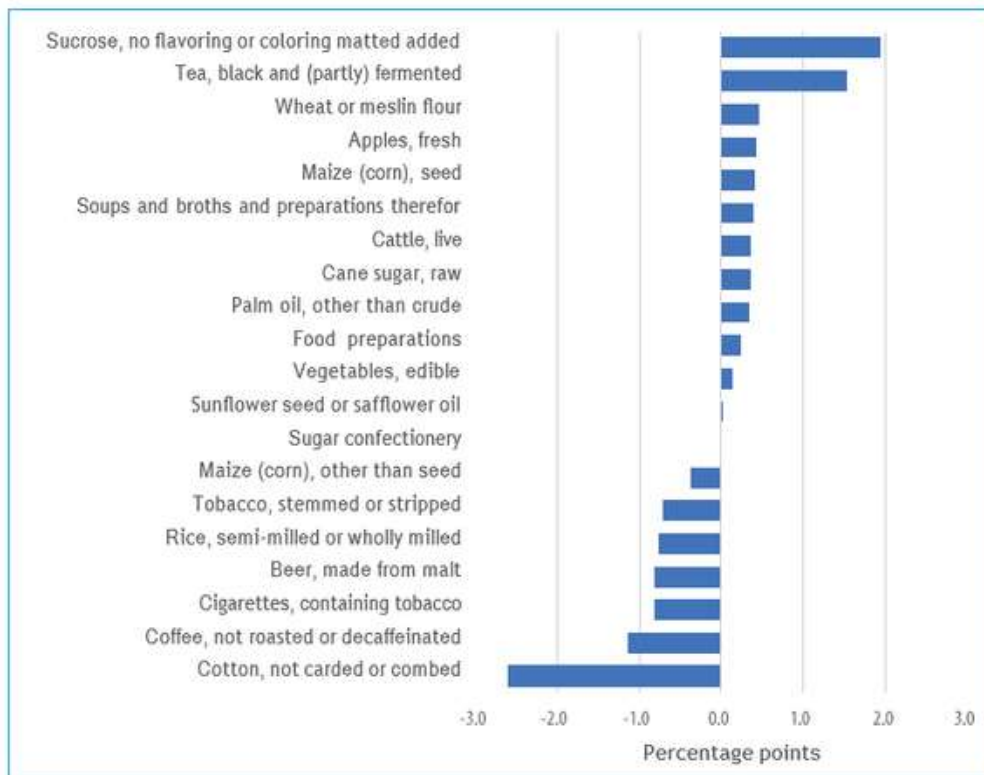


Source: ReSAKSS based on UNCTAD (2020) and World Bank (2020).

²⁰ Alliance for Commodity Trade in Eastern and Southern Africa, 2011. Synthesis report prepared for the African Agricultural Markets Programme Policy Symposium. Kigali, Rwanda

African Food Systems

Figure 7 1: Change in product export shares in intra-African agricultural trade, between 2005–2007 and 2016–2018



Source: 2020 AATM database and authors' computations. Note: Traded products listed at HS6-level.

2.2 Summary of issues /Findings :

Market infrastructures are crucial for farmers to access markets. It includes any infrastructure that physically or contractually brings supply and demand together. Physical market infrastructure includes roads, market outlets, storage units, cold chain, electrification, consolidation areas, retail distributors, and so forth. Institutional market infrastructure includes quality standards, ICT and price

African Food Systems

information systems, contracts, purchasing processes, competition rules, and national and international regulations. Investment in those infrastructures, is key for farmers to better integrate into value chain and be competitive at local, regional and international markets; likewise for the processing firms to achieve full capacity utilization and thus be able to take up more raw materials from farmers and reduce costs of sourcing from farm areas.

Small-scale farmers face a big challenge when it comes to assets and financial resources. Expanding access to financial services such as credit, insurance and financial saving mechanisms can help farmers of all sizes but particularly those like smallholder farmers that are more susceptible to risk and do not have independent sources of private capital

A modern food system, though, is featured by food production and trade that are increasingly regulated through stringent public and private requirements on food quality, safety, and consistency. Such standards can create opportunities for farmers to become engaged in modern value chains if supported to comply with those quality requirements and standards. There is, therefore, a need for governments and development organizations to support the upper tier of small-scale farmers, who are first to face such requirements, to be ready to meet those challenges.

Developing stronger connections between the different segments in agricultural value chains can foster wider market opportunities for smallholders. Strengthening agricultural value chains and bridging the gaps between different actors of those value chains are critical.

African Food Systems

Lack of trust and/or contractual enforcement mechanisms, particularly in Africa, have been discovered as being factors that hamper food supply and distribution efficiency by limiting the ability of buyers and sellers to guarantee a transaction and to build strong business relationships. . Governments and other relevant stakeholders in the agricultural sector should work together to set up credible universal contract enforcement mechanisms.

Agricultural markets are considered to be very risky and frequently weak in Africa and farmers' potential to increase productivity and income is often inhibited by the deficiency of information about efficient agricultural production technologies and market opportunities. Quality data and information gathering, analysis and dissemination and easily accessible market information can inform better decision making along the entire value chain, including on the farm. Concerted efforts are also needed to simplify the rules of origin, reduce NTBs, the roadblocks and checkpoints that impede cross-border trade and address red tape at the borders. Much effort is still needed in order to design policies and investments facilities that help small farmers to add value to their produce.

8. Conclusions and recommendations

Farmers are the custodian of food systems. They play a key role in contributing to food system sustainability and collectivity; They are the largest investors in agriculture and any decision that is made in f system must incorporate the farmers' views. The farmers' voice should be well organized and heard in the food system governance and policy development especially the women's voice as they are the most involved at very sensitive stages of every value chain.

African Food Systems

Moreover, for the African food system to be efficient, it needs to have a degree of political voluntarism. Governments have to respect and implement the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods and invest in agriculture infrastructures from production, processing , marketing in relation with the priorities and needs of farmers. Financial institutions have to develop customized financial products that target the needs of rural farmers with acceptable and affordable interest rates and in addition to that , governments need to develop guarantee schemes to go together with financial products.

There is also a need for investing in agricultural research, digitalizing agriculture value chains, building the capacity of farmers' supporting organizations to be able to provide the required support to farmers, organizing farmers into cooperatives, SMEs, farmers business groups and facilitating them to integrate and benefit from the value chains. Customs duties/taxes for agriculture inputs need to be exonerated and last but not least the AfCFA need to be implemented as soon as possible in order to boost Intra-African trade.

Following are the specific recommendations for the Africa food systems to function effectively:

Mobilizing resources for demand driven research in agriculture: it is important that during the discussion organized by the National Agriculture Investment Plan under CAADP, it was pointed out that all players in the development process, including government, civil society, and private sector should come together and mobilize human and, financial resources for the demand driven agricultural research. Indeed political leaders do not necessary agree on the importance of

African Food Systems

research because it concerns primarily small land holders who have no power for pressure. Universities and research institutes are key partners with governments and the private sector in research in the agriculture sector. This is an opportunity for PAFO to play a major role in advocating for demand driver researches that answer farmers constraints and respond to their needs.

Encouraging innovative approaches to sustain agriculture project interventions: There is a big gap between the project cycle (term of project implementation) and the time to reach out to results defined in the capacity building component of the beneficiaries or the farmers. Indeed there is a level of understanding and change of mindset which need more time than it is defined in the project design. It is time to find another approach which implies a medium or long term solution such as community workers and empower them with necessary skills, coaching and tools to be able to take responsibility and continue to lead projects activities once the projects end.

Alleviating food insecurity in rural areas: The rural area where the food is produced is found to be the poorest with the highest rate of food insecurity. Civil society has to raise voice and speak out for this unfair situation.

Designing and implementing strategies that foster competitiveness of locally produced food: It is unfair that local food products compete with food imports. This situation affects negatively the sector, reduces opportunities such job availability for youth in rural areas and increases poverty. There is strategy developed by the AfDB

African Food Systems

(AfDB “Feed Africa strategy for Agriculture Transformation in Africa 2016-2025) call upon the Civil society to raise voice for the adoption of policies, setting infrastructure and other facilities to increase production and ease logistics and to ensure that African food sovereignty prevails.

Promoting inclusion of youth and women in agriculture: For Africa agriculture to prosper, the involvement of young people and women in farming and food systems is crucial. Women are predominately the face of smallholder farmers and a direct link to the nutrition and food security of African families and their sustainable livelihood conditions. Additionally, Africa has the youngest population in the world. The young workforce is keen to engage in innovative and gainful entrepreneurship and the growth of the food system value chain creates promising opportunities for youth. Investment in improved infrastructure, mechanization and technologies coupled with policies that boost attractiveness in the rural areas can play role as a catalyst to attract youth in agriculture. Agriculture and food systems must be treated as profitable and viable business to become more attractive to Africa’s growing youth and women. Civil society has a key role to play in changing the young generation’s mindset

Fostering enabling policies that break down barriers to securing land tenure: Land in Africa is still under the traditional regime in some countries and this situation creates a conflict between traditional and modern land rights. Civil society as well as Africa regional organizations have to play a major role in writing the land law where, in most cases, youth and women are left aside and to advocate for land registration and ownership for those both categories

African Food Systems

Encouraging funds mobilization under CAADP: there was mobilization from AU inviting governments for a contribution of 10% of their budget for agriculture (CAADP). Some governments are still lagging behind. Civil society has an advocacy role to play in convincing/ reminding governments to fulfill their commitments under CAADP.

Mitigating the climate change effect: all African countries face negative effects of climate change and environmental shocks and the most affected are rural communities including agricultural producers. The action to mitigate this situation will come from the world collaboration. Civil society has to mobilize their respective countries to come with one voice to represent the farmers in a world forum.

Strengthening and improving inclusivity of agricultural value chains: Increasing productivity alone is not enough to enable smallholder farmers to access opportunities that emerge in food systems. Strengthening agricultural value chains and bridging the gaps between different elements of those value chains are critical. Those factors may include access to inputs and other production elements , such as storage and processing, or establishing adequate transport facilities to ensure that the products get to the right markets timely, i.e, Investing in strengthening the links within agricultural value chains actors from production, storage, processing and packaging through to transport and marketing, and building producers' capacities to respond to the changing of consumer tastes and to meet quality and safety standards. Such investments provide potential for creating more and better opportunities for both rural and urban people across agricultural value chains to take up business opportunities that may ultimately enhance the livelihoods and food security of groups who are often at particular

African Food Systems

risk of food insecurity and malnutrition in rural areas especially rural women and young people. Adopting a value chain approach and prioritizing strategic and complementary investments along the whole value chain is needed. Governments and development partners need also to build farmers' capacity in terms of understanding contract farming clauses, negotiation skills, food safety , compliance with contracts requirements etc... Public institutions need to set up enforcement mechanisms.

Promoting value addition: The value addition through strong linkages between producers, aggregators, processors, distributors, transporters, retailers and consumers with low transaction costs and increase of supply has to be advocated by civil society to alert the public institution, private sector to support small farmers using contract farming and PPP approach.

Increasing access to financial services: Increasing access to financial services such as credit, insurance and financial saving mechanisms can help all farmers but particularly smallholder farmers that are more susceptible to risk and do not have alternative sources of private capital. Financial services can help increase on-farm productivity and development of businesses along the entire food system value chains by providing a mechanism for managing risks, investing in improved technologies, mechanizing farm systems or expanding into more viable business.

Besides, insurance services could help farmers and businesses to manage risks, particularly those associated with weather conditions, crop diseases and other unpredictable factors in farming. There are

African Food Systems

synergies between insurance and credit. With insurance, farmers may be more willing to take out bank loans and banks more willing to grant the loans. Pilot projects could be implemented to test insurance services and access mechanisms that are customized to the needs of African farmers and rural businesses. Farmers' organizations need to play a key a role as facilitators in identifying, testing and selecting the best models that tailored to the farmers' needs. Additionally, governments and the private sector can help promote those services and remove the constraints and barriers that limit availability and access to them.

Improving access to information for all actors in agriculture value chains: quality data and information gathering, analysis and dissemination can inform better all the actors along the entire value chain, including farmers. This situation includes weather projections, market values, soil mapping, insurance and financing rates, demographic data and much more information critical to agriculture and food systems. Governments, the private sector and development partners can work together to promote and invest in improving Information availability, dissemination and accessibility.

Public and private sector partnerships can play an important role in developing systems that make data more simplified and accessible to farmers and other key actors. For instance, mobile telecommunications technologies have been proven to be particularly transformative by providing ready access to extension information and banking. Mobile technology is helping farmers to overcome the limitations of long distance banking and supports local agribusinesses. Partnerships across sectors are needed to replicate and scale these systems and tools for the benefit of all market actors. Farmers' organizations need to work with other stakeholders to make sure that information and tools are accessible, customized and simplified to meet farmers 'needs.

African Food Systems

Investing in market infrastructures: Investment in rural roads is key for the development of strong linkages between producers, aggregators, processors, distributors, transporters, retailers and consumers with more accessible transaction costs and increase of food supply. Mobilization and sensitization of governments are important to give priority of funding those interventions. Development partners need to move from a production-centric approach to a holistic and take a multi sectoral approach that integrates supply, demand, and market infrastructure. Governments should also incentivize private sector investments in the food systems chains to help promote the storage, processing and delivery of agriculture and food products.

The emerging of e-commerce and e-markets is contributing to solving some of market infrastructure problems. Government purchasing or government-facilitated market platforms (like commodity exchanges and auction houses) can be an important market, especially for key staple food and cash crops, respectively.

Reducing regional trade barriers: There is a huge potential to expand regional markets and encourage intra-African food trade with AfCFTA. This trade agreement has the potential to significantly boost the volume and value of intra-African agricultural and food trade. This state of affairs will be possible if AfCFTA's objectives of removal of tariffs and non-tariff barriers are strongly supported and properly implemented by the signatories. Poor governance and corruption are also big constraints that need to be addressed. Customs requirements need also to be streamlined to expedite clearance transactions.

African Food Systems

Regional harmonization of product standards would also help to establish basic quality requirements for goods and create a level playing field for traders and consumers and contribute to a more consistent market environment more likely to incentivize producers, processors and suppliers.

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Appendix 1: Questionnaire

1. What is the role of following stakeholders in the food systems in your regional?

- Farmer's organizations, cooperatives?
- Development partners
- Government
- Private sector

2. What do you think about land regime in Africa? Do you see it as an issue?

3. Is the Contract farming an effective tool strengthen the business relations/ linkages between farmers, cooperatives and buyers in Africa? Are there enforcement mechanisms to ensure that the parties respect the term of the contract?

African Food Systems

4. Why most African countries rely on rain fed agriculture?
5. What do think about competition between cash crops (for export) and staples crops?
6. Competition between local produced food and imported food is it an issue?
7. Food systems to be effective require access to inputs, skills/knowledge infrastructures (roads, storage facilities, consolidation area, cold chain, electricity, retailers, wholesale markets , contract farming etc), access to finance, access to information, conducive business environment etc.. What is required for the entire system to function effectively?



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