WFP EVALUATION

Thematic Evaluation of Supply Chain Outcomes in the Food System in Eastern Africa from 2016 to 2021

WFP
World Food Programme

SAVING LIVES
CHANGING LIVES

Decentralized Evaluation Report

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Executive Summary

E1. This a thematic evaluation of supply chain outcomes in the food system in Eastern Africa. It spans the period from January 2016 to December 2020 and was commissioned by WFP Regional Bureau for the East and Central Africa in Nairobi (RBN). The evaluation took place over the period September 2021 - May 2022, with data collection taking place between January and March 2022.

E2. The rationale for this evaluation is that the RBN is in the process of refocusing its approach to the alleviation of food insecurity with an increased emphasis on the development of national and regional food systems to meet the needs of food insecure households. The primary objective of this evaluation is to identify and assess the nature and extent of the effects of supply chain activities on food systems and their components, and to differentiate effects according to gender or other groups when appropriate. This will contribute to a greater awareness of these effects that can inform the design of future interventions to support the development of national and regional food systems. The primary users of the evaluation are the WFP RBN, the Strategic engagement team in the Supply chain Operations Division in WFP Rome (HQ-SCOE), and the WFP country offices (COs) across the region. WFP HQ, RBN and the COs have an interest in learning from the evaluation to inform decision making and future programme design.

E3. The evaluation covers all nine COs supported by WFP RBN in Eastern Africa, namely Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda. It includes urban, peri-urban and rural areas where supply chain activities have been implemented. As this is a broad regional-level evaluation, it has not been feasible to go into the same level of depth or analysis for each country. Therefore, a broad regional-level assessment, complemented by three focal country case studies in Kenya, Somalia and South Sudan, was agreed upon in the Inception phase.

E4. East and Central Africa are two of the most food and nutrition insecure regions of the world. The region faces frequent shocks, including conflicts and presence of displaced persons, climate shocks such as droughts and floods, desert locust infestations, and most recently the global Covid-19 pandemic. These have all weakened food systems' resilience and increased food insecurity.

E5. The regional food system is characterized by areas of significant surplus, including much of Uganda, parts of Sudan, and Ethiopia, and deficit, including Somalia and Djibouti, that are linked to varying degrees by limited transport infrastructure. Production is predominantly smallholder-based, giving rise to issues of aggregation, standards, and traceability as well as post-harvest losses (PHL). At the same time, market information is often diffused poorly and asymmetrically between stakeholders promoting the suboptimal and inequitable allocation of profits along the value chain. The movement of food from surplus to deficit areas is hindered by conflict, inadequate infrastructure, limited transport capacity and cultural barriers. The potential for improvements in efficiency, reduced transaction costs and consequent enhanced food security remains significant throughout the region.

E6. The subject of this thematic evaluation is the wide range of supply chain activities implemented by procurement and logistics teams in collaboration with programmes within WFP RBN. As a thematic evaluation, this exercise cuts across that range of activities and focuses on the relevance, results, and factors affecting outcomes in the cross-cutting area of food systems of WFP supply chain activities. Transfers of food and cash are at the core of WFP supply chain work and have the ability to affect food systems. Specific activities supporting and enabling these transfers and other programmatic priorities that impact the wider food systems and local economies that are led by WFP supply chain functions are also included under this evaluation. Women are key agents of the food system, producing up to 70 percent of the food in some systems, and yet are those that are affected most by food insecurity. More than 60 percent of the female workforce in sub-Saharan Africa are employed in agriculture[1]. However, there is a gender gap in accessing key inputs, including land, finance and education, which means that women's productivity remains 20 to 30 percent lower than men's. A key concern related to food system development is that with increasing commercialization, women experience diminishing access to the returns from

[1] UNSCN, 2021

their substantial investment in crop production. Gender equality and equity, human rights, and wider inclusion are major challenges across the region and an important focus of this evaluation. In all respects however, it is the outcomes of WFP activities that are the primary focus of the evaluation. Whether these outcomes have been anticipated or unanticipated, the result of focused interventions or the side effects of WFP's presence alone is immaterial. Reported and observed outcomes have formed the basis of this evaluation.

E7. This evaluation has used a mixed methods approach, centred around open-ended enquiry in alignment with the learning perspective of the Terms of Reference (ToR). Key evaluation questions were developed during the inception phase, to reflect an outcome-focused perspective that emphasized food system outcomes and the ways that they might be affected by factors such as context and stakeholder groups, as well as the nature of their linkages to WFP supply chain activities. The methodology and the structure of this report have been influenced by the need to balance the very large number of interventions that might be assessed and a necessary focus on outcomes rather than performance. To address these issues, the evaluation grouped activities into thematic areas and identified significant outcomes by asking WFP staff in each CO to identify those outcomes that they considered to be most important and best supported by available data. These were subject to further investigation and triangulation. It is important to note that in the context of this evaluation, the term "outcomes" does not relate solely to the outcomes that might be specified in a results framework or log-frame analysis. Rather it includes all possible outcomes, both expected and unexpected arising from WFP supply chain activities.

E8. **Smallholder interventions**: WFP interventions to reduce PHL are effective and potentially very significant, especially since WFP operates at a scale that could influence grain supply markets, but the commercial vulnerabilities of the hermetic storage system have yet to be addressed. With the exception of interventions in Rwanda, where cooperatives are strongly endorsed by the Government, WFP interventions to enhance market linkages for staple commodities have not yet resulted in the expected increases in sales through those linkages. Some increases in fresh produce sales have been reported in Kenya and Somalia.

E9. An assessment of the outcomes of direct purchase from smallholders and commercial procurement practices suggests that both have strengths and weaknesses. Direct purchase from smallholders may increase the extent to which improved technologies are adopted but has shown little overall benefit from the perspective of income generation. Moreover, the process has added costs of investment by WFP in the institutional development required to achieve reliable quality and performance. Conversely, commercial procurement may require less investment by WFP, but tends to favour a small number of traders and thereby to strengthen their negotiating capacity with wholesalers.

E10. **Procurement:** WFP procurement tenders have promoted the development of the large-scale trading sector, but benefits to smaller traders and producers are less evident. Instead, although wholesalers have increased in number, the processes tend to reinforce existing dynamics within staple food systems and in particular the dominance of larger wholesalers. While WFP procurement prices may exceed market prices, there is no evidence of increased prices to producers.

E11. **Food Processing:** WFP promotion and procurement of processed foods has resulted in significant investments in production capacity and sustainable change in this particular aspect of food systems. Procurement by the supply chain unit has leveraged WFP programme and nutritional expertise and the combination of skills has catalysed changes in standards and regulations that effectively now embed improved nutrition within the food systems of some countries.

E12. **Transport:** With specific exceptions (such as Rwanda), there is little robust evidence that WFP has contributed to an increase in national transport fleet performance in the rest of the Region. For example, a recent WFP intervention in conjunction with the Ethiopian Government potentially resulted in a 10 per cent increase in the volumetric capacity of break-bulk carriers travelling the Djibouti-Addis road. Nevertheless, while that output could be clearly described by WFP staff, its anticipated outcomes in terms of reduced congestion and enhanced performance were less evident, and without controlled comparison would be almost impossible to assess. In general, the overall effects of WFP supply chain operations on the transport sector are not easily discernible. While the Local Economy-Wide Impact Evaluation (LEWIE) study modelled and predicted significant multiplier effects of WFP's activities under specific circumstances, this evaluation did not find the multiplier effect had any direct implications on investment in this and other service areas at this point in time. As a result, while WFP involvement

may create initial conditions for the multiplier effect, longer-term national capacity improvements in sub-sectors such as transport are not guaranteed. Further investment by firms is key for this change to take hold.

E13. At a local level, WFP has stimulated transport capacity when Cooperating Partners have required small trucks to move food to remote distribution points. There is similarly little evidence of significant investment in storage capacities. Nevertheless, the provision of supply chain services out of the Humanitarian Logistics Base in Djibouti has been effective and appears to be financially sustainable. WFP engineering interventions in Port Sudan have also helped to improve bulk cargo discharging, allowing for faster and cheaper delivery of food commodities from the port to the main rail station and customs dry port.

E14. **Storage capacity**: WFP activities require significant storage capacity and local storage facilities have been rented in many countries. In a manner similar to that of transport, there has been only limited large scale investment in storage to address the increased demand. WFP has had an input into national storage capacity and strategy development, but private sector responses are hard to discern.

E15. **Market Development:** Cash Based Transfer (CBT) using vouchers have led to significant increases in business for retailers and wholesalers connected to these schemes, but the role of the new technologies in WFP market development interventions has been mixed. While the MPOS and SCOPE cards appeared to limit the fungibility of cash received by clients/beneficiaries and may assist WFP in terms of internal accountability, the systems did not appear to lead to efficiencies nor a diffusion technological acumen nor a change in business amongst retailers and wholesalers. In some cases, issues around these technologies and WFP delays in reimbursement resulted in increased costs to retailers. Where WFP has provided CBTs using unrestricted cash transfers, these effects have been avoided, although the transfers have a higher degree of fungibilty.

E16. Additional investment by private sector stakeholders in WFP operational areas is limited and reflects the limited purchasing power of WFP beneficiaries. Banks operating in CBT areas reported that the business that could be derived from local stakeholders was minimal and had it not been for the WFP contracts, they would not be invested in the areas.

E17. **Development of infrastructure:** Rehabilitation of roads and waterways both reduces food distribution costs and stimulates economic development in hitherto inaccessible areas. Traders have followed WFP food distribution trucks and markets have developed in those areas to which access has been improved. Food systems have rapidly developed to the point where CBT can be used in place of food deliveries. The ongoing development with increased numbers of traders supplying these areas has meant that local food systems become more competitive and more resilient. This intervention is limited in its geographical scope, but the outcomes are highly significant in the areas where they occur.

E18. **Capacity Development:** Although the development of government capacity was frequently mentioned by WFP staff, robust evidence of outcomes from most capacity development interventions was difficult to obtain. The most common area for government capacity development has been in support of the development of food commodity standards and their assessment and regulation. This has contributed to significant changes in food systems in Kenya, but similar interventions have not yet achieved the same level of outcome elsewhere.

E19. **Collaboration between units:** The extent of both knowledge sharing and collaboration varies considerably according to the nature of supply chain interventions. In the case of both market development and the development of smallholder capacity to respond to direct purchase requests, there was close collaboration between programme and supply chain units and information was shared amongst all those involved. In the case of commercially orientated contracts with wholesalers and transport companies, there was no evidence of any collaboration.

E20. **Data collection and analysis:** Existing data collection systems are not adequate to inform a robust assessment of changes in food systems. The information collected by Monitoring and Evaluation (M&E) units is well suited to the specific purposes for which it is gathered but does not allow a comprehensive assessment of food systems development. In those areas where food systems indicators are measured, it is not possible to assess the significance of changes or to link such changes as may be significant to WFP interventions. The combining of existing programme and supply chain datasets does not provide an effective solution to these problems.

E21. Overall, while WFP supply chain and market development interventions have benefited women and youth, they have not done so in a way that could be considered to address the specific constraints that those groups face. Such benefits as have been achieved have been largely fortuitous rather than designed. In some specific areas, most notably commercial procurement, women and youth are generally excluded, and additional supports or affirmative actions are required if that imbalance is to be addressed. The same is also reflected in commercial transport and storage contracts.

E22. Conclusions drawn from these findings include:

- Outsourcing by WFP of transport and storage capacity has had little effect on either private or public sector investment in these areas but outsourcing the production of fortified and nutritious foods together with technical support for that production has resulted in significant investments in food processing capacity in a number of countries.
- There is an ongoing tension between WFP understandable commitment to low costs and efficient performance through its larger commercially orientated contracts, and its commitment to sustainable and equitable food systems development. This is reflected in commercial commodity procurement processes that favour wholesalers with access to finance and do not specifically empower either women or youth, while direct procurement processes which have a greater focus on equitable development lack commercial sustainability.
- As a consequence of the above, WFP supply chain systems are often gender-blind. There is no evidence yet of a comprehensive commitment to gender equality and women's empowerment (GEWE) and inclusion in this field of WFP work, despite the organisation's broader commitments in this regard.
- The development of physical infrastructure has the potential to generate some of the most direct, obvious and sustainable benefits for food systems. This essentially logistical intervention has fundamental implications for market development. Repeated reports of reduced distribution performance as a result of limited road access in other countries suggest that its relevance is not limited to South Sudan, provided WFP can establish a mandate to undertake the necessary works (which may not always be possible).
- The generic Theory of Change proposed in the inception report is broadly validated by observed outcomes but can be refined further to accommodate the dynamics of adoption (of improved technologies) and investment (in assets to enhance productivity and profitability) illustrated by observed outcomes. In the long-term, positive food system outcomes are largely independent of the scope and scale of WFP interventions and depend more upon perceived risk and potential returns on investment. In the areas in which WFP operates, both of these factors militate against positive food system developments.

E23. The following recommendations are made:

- WFP should consider promoting high levels of stakeholder participation in order to maximise the competitiveness of food systems. Such an approach would focus on the inclusion of stakeholders who would otherwise be precluded from commercial interactions with WFP by virtue of different constraints, but especially economies of scale, lack of commercial expertise, or lack of finance. Specific constraints may further restrict the participation of women and other disadvantaged groups and might be researched further. WFP Supply Chain might then incorporate measures within supply chain contracting and other measures to relieve the identified constraints.
- WFP RBN should consider the adoption at CO level of data collection and management systems specifically to monitor changes in food systems, addressing thematic areas of: a. procurement/market development, b. Transport and Storage, c). Market development, d). Processing, and e). Capacity Development. Monitoring of changes should cover regular value chain analyses, including the specific concerns of disadvantage groups within each area. It will be important to establish baseline data in each of these areas. In those instances where analyses are unable to generate data that is statistically robust, it is recommended to complement quantitative data assessment with occasional qualitative assessments when important changes become evident. The qualitative assessments would be designed to validate and explain observed changes and to suggest ways in which development could be strengthened. Monitoring of capacity development should be based upon the change in performance of the institutions supported, rather than the direct outputs of the intervention. This will require monitoring programmes tailored to the functions of the institutions supported. Assessment may not be possible on a regular basis (e.g., disaster risk and reduction management institutions can only be properly assessed by the nature of their performance in the event of a crisis) but will generally require baseline data against which any changes can be measured.

- WFP COs should consider mainstreaming infrastructural development and in particular the rehabilitation of trunk roads, feeder roads, rail and waterways as a component of market development.
- WFP COs should consider strengthening PHL reduction activities by advertising and paying a premium to smallholders for all grains delivered in hermetically sealed bags, to offset the cost of the bag. Additional benefits might be gained by developing commercial relationships with maize shelling businesses or establishing their own maize shelling operations to allow smallholders to reduce harvest time by delivering and selling unshelled maize cobs (as practiced by Kumwe Harvest and Africa Improved Food in Rwanda).
- WFP Supply Chain units should consider the regular estimation of the carbon footprint of WFP distribution exercises, for purposes of a) the comparison of different distribution modalities and b) emission audits undertaken to inform emission reduction strategies.

1. Introduction

1.1. EVALUATION FEATURES

1. This is a "**thematic evaluation of supply chain outcomes in the food system in Eastern Africa**", commissioned by the logistics unit in WFP Regional Bureau for East Africa in Nairobi (WFP RBN). The primary objective of this evaluation is to identify and assess the nature and extent of the effects of supply chain activities on food systems and their components, to differentiate effects according to gender or other groups when appropriate, and thereby to make recommendations to improve future interventions. To this end, the evaluation focuses on clearly discernible outcomes that are well supported by available evidence.

2. The rationale for this evaluation is that WFP Regional Bureau for the East Africa in Nairobi is in the process of refocusing its approach to the alleviation of food insecurity with an increased emphasis on the development of national and regional food systems to meet the needs of food insecure households. As part of that process, it is important to develop an awareness and understanding of the nature and extent of the outcomes of WFP supply chain activities on the food systems (and their stakeholders) within which those activities take place. It is important to note that in the context of this evaluation, the term "outcomes" does not relate solely to the outcomes that might be specified in a results framework or log-frame analysis. Rather it includes all possible outcomes, both expected and unexpected arising from WFP supply chain activities. The evaluation facilitates the design and direction of future interventions that look to enhance food system performance.

3. The evaluation spans the period from January 2016 to December 2020 and covers all nine country offices (COs) supported by WFP RBN in Eastern Africa, namely Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda. It includes urban, peri-urban and rural areas where supply chain activities have been implemented. As this is a broad regional-level evaluation, it has not been feasible to go into the same level of depth or analysis for each country. Therefore, a broad regional-level assessment, complemented by three focal country case studies in Kenya, Somalia and South Sudan, was agreed upon in the Inception phase. This enabled the evaluation to illustrate achievements, constraints, opportunities, or other specifics for the selected COs and across contexts in a feasible, cost-effective way to generate an evaluation that is relevant to all WFP COs in the region.

4. The primary users of the evaluation are the WFP RBN who commissioned and managed this evaluation, as well as the WFP COs across the region. Both RBN and the COs have an interest in learning from the evaluation to inform decision making and future programme design.

5. The evaluation was conducted by a team from Mokoro Ltd. and the Food Economy Group, led by George Gray. Country case-studies were led by Muriel Visser and Tikhwi Munyundo (Kenya), Stephen McDowell (Somalia), and George Gray (South Sudan). It took place over the period September 2021- May 2022, with data collection taking place between January and March 2022. The detailed timeline for the evaluation is at Annex 6.

1.2. CONTEXT

6. East Africa is one of the most food and nutrition insecure regions of the world and hence priority areas of focus for Sustainable Development Goal 2 (SDG2 - Zero Hunger). The State of Food Security and Nutrition in the World Report 2020 showed a 27.2 percent prevalence of undernourishment in Eastern Africa, compared to an Africa-wide average of 19.1 percent and worldwide average of 8.9 percent[2]. The same report shows that in 2019, 24.7 percent of the East Africa population were classed as severely food insecure, compared to a 21.3 percent average in Africa and 9.8 percent average in the World. Table 1 below shows details for specific countries in the region[3]. A full contextual overview of countries in the region, including relevant policies, is given in Annex 7.

[2] FAO, 2020a

[3] FAO, 2020a

Table 1 Key contextual data for RBN countries

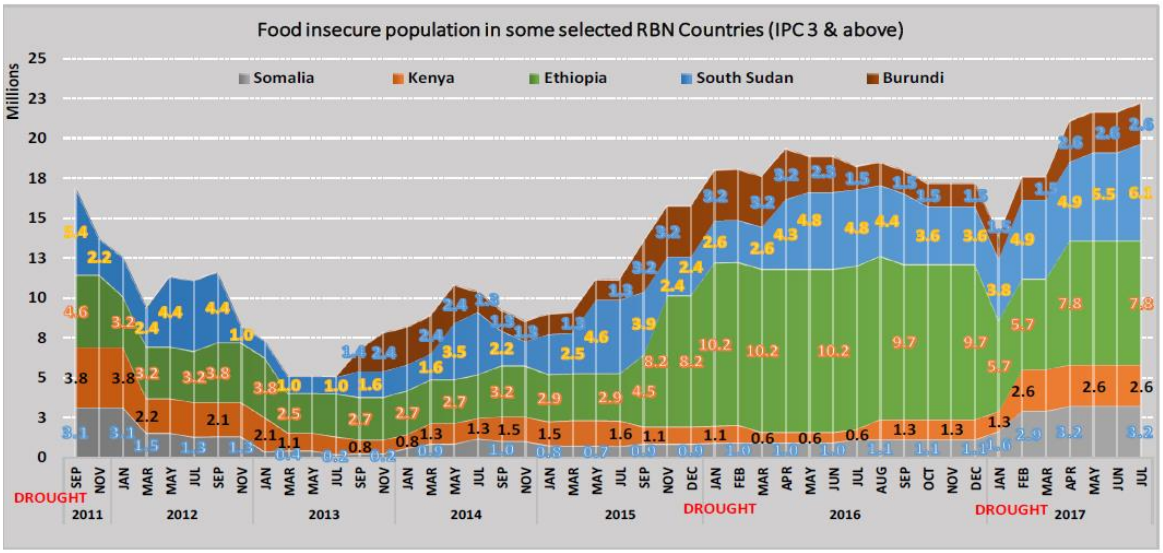
	Population (millions), 2020[1]	Prevalence of undernourishment in the total population 2019[2]	Prevalence of severe food insecurity in the total population 2019	Prevalence of chronic malnutrition [stunting in under 5s][3]	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)[2]
Burundi	11.9	n/a	n/a	54.0% (2019)	72.8 (2013)
Djibouti	1.0	n/a	n/a	33.5% (2012)	17 (2017)
Ethiopia	115.0	16.2	16.4	36.8% (2019)	30.8 (2015)
Kenya	53.8	24.8	n/a	36.8% (2019)	37.1 (2015)
Rwanda	13.0	35.2	n/a	33.1% (2020)	56.5 (2016)
Somalia	16.0	n/a	n/a	25.3% (2009)	68.6 (2017)
South Sudan	11.2	n/a	62	31.3% (2010)	76.4 (2016)
Sudan	43.8	12.3	16.8	38.2% (2014)	12.2 (2014)
Uganda	45.7	n/a	21	28.9% (2016)	41.3 (2016)

Source: Compiled from databases referenced in footnotes. Data presents latest available figures available.

7. The region also faces complex insecurity and shocks, including conflicts and presence of displaced persons, climate shocks such as droughts and floods, desert locust infestations, and most recently the global Covid-19 pandemic. These have all weakened food systems'[4] resilience and increased food insecurity. Climate shocks have continued a negative effect on agriculture in the region, with a reliance in East Africa on rain-fed farming. In the region, unprecedented increases in food insecurity have been seen during extreme climate events of 2011, 2015, 2016 and 2017 (see Figure 1 below). These have a differential effect on women and women's empowerment.

8. The food system within the region is characterized by areas of significant surplus and deficit that are linked to varying degrees by limited transport infrastructure. Production is predominantly smallholder-based, giving rise to issues of aggregation, standards, and traceability as well as PHL. At the same time, market information is often diffused poorly and asymmetrically between stakeholders promoting the suboptimal and inequitable allocation of profits along the value chain. Areas of surplus exist within many countries (Uganda, Ethiopia, Sudan, South Sudan, Kenya, Burundi and Rwanda); Somalia and Djibouti are consistently food deficit countries, but deficit areas are found in all of the countries in the region. The movement of food from surplus to deficit areas is hindered by conflict, inadequate infrastructure, limited transport capacity and cultural barriers including language. The potential for improvements in efficiency, reduced transaction costs and consequent enhanced food security remains significant throughout the region.

Figure 1Food insecure population in some selected RBN countries (IPC3[5] and above)



Source: Food systems in the RBN: regional vision and priorities (2018 Priority Paper).

9. In 2021, food insecurity in the region ranged from severe to extreme in conflict-affected areas of Ethiopia and South Sudan. Weather shocks are a main driver of Crisis (IPC Phase 3) outcomes in the East Africa region. In the Horn of

[4] The definition for food system can be found in paragraph 28 below

[5] IPC 3 refers to the Integrated Food Security Phase Classification

Africa, for example, many households lost food and income due to the impacts of irregular rainfall on crop and livestock production throughout 2021. The recent Covid-19 pandemic has exacerbated pressures on food insecurity in the region. Although it is unlikely to have impacted food production, with farming and livestock production being important fall-backs during Covid-19, the measures taken by governments to reduce the spread of the pandemic, including restrictions on the movement of people and goods, have exposed the fragility of Africa's food systems[6].

10. According to International Labour Organization (ILO)[7], today's youth are the most educated ever, but they face a number of challenges in the labour market which require a determined and concerted action over time. Reports[8] have shown that youth face a number of obstacles to achieving food security, including production barriers, such as lack of access to available land, lack of agricultural technologies and farming techniques needed to increase overall production, lack of knowledge to properly utilize the food available, and lack of interest in pursuing agriculture as a career. They also face income generation barriers such as a lack of education, training and market access.

11. Women are key agents of the food system, producing up to 70 percent of the food in some systems, and yet are those that are affected most by food insecurity. More than 60 percent of the female workforce in sub-Saharan Africa are employed in agriculture[9]. However, there is a gender gap in accessing key inputs, including land, finance and education, which means that women's productivity remains 20 to 30 percent lower than men's[10]. A key concern related to food system development is that with increasing commercialization, women experience diminishing access to the returns from their substantial investment in crop production. The Global Entrepreneurship Monitor 2018/2019 Women's Entrepreneurship Report[11] notes that as early-stage entrepreneurs, women in Sub-Saharan Africa are represented at levels that are comparable, if not higher than those for men. However as established entrepreneurs, African women are active at about 85 percent of the level of men. These average figures suggest a level of gender equity that is not actually reflected within regional food systems. In addition, although small food retail outlets are largely dominated by women, this does not reflect their empowerment, but rather the fact that the capital investment in small retail is minimal, so that the occupation is one of the few that women with limited finance can access. The proportions of women who are active in activities that require higher levels of investment such as processors, wholesalers or hauliers, are all significantly less than 50 percent.

12. Gender equality and equity, human rights, and wider inclusion are major challenges across the region. In the 2019 Human Development Index (HDI), the nine countries covered by this evaluation all ranked in the lower half of the Gender Inequality Index, demonstrating the immense disparities faced by women and girls in these countries. Furthermore, with the exception of Kenya, the eight other countries ranked in the bottom 30 of the HDI, highlighting their poor human development.

Table 2 HDI and GII Ranks

Country	HDI Rank	Gender Inequality Index Rank
Kenya	143	126
Uganda	159	131
Rwanda	160	92
Djibouti	166	n/a
Sudan	170	138
Ethiopia	173	125
Burundi	185	124
South Sudan	185	n/a
Somalia	n/a	n/a

Source: 2019 Human Development Report

13. There has been varying progress in gender, disability and inclusion. Each country makes its own commitments to gender, disability and inclusion through legislative and policy reforms undertaken by their government, as well as through regional and international conventions and protocols. However, the adoption of international conventions and protocols is not comprehensive throughout the countries of interest in this evaluation. Some countries, such as Rwanda, have displayed a strong commitment through the ratification of regional and international conventions

[6] FAO, 2020b

[7] ILO, 2019

[8] E.g. Feighery, 2011

[9] UNSCN, 2021

[10] FAO and African Union, 2018

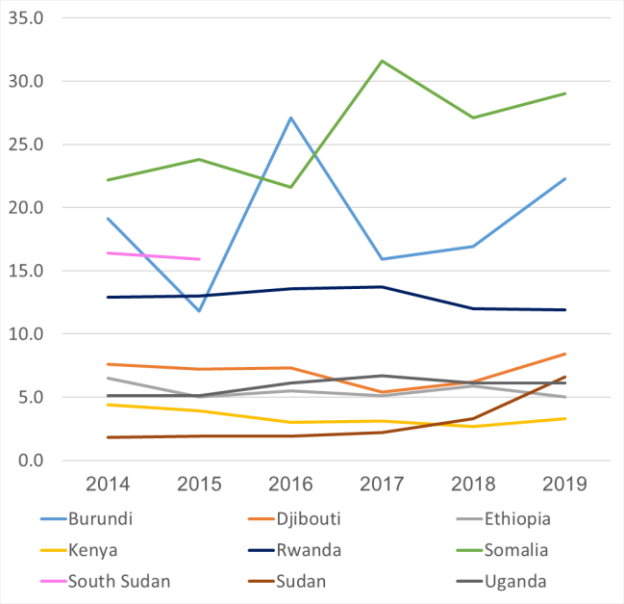
[11] Elam *et al*, 2019

and protocols on gender equality, women's empowerment and numerous legislative and policy reforms.[12] Conversely, the humanitarian focused response in some countries, such as Somalia and South Sudan, means that a shift to nexus/development programming and the subsequent promotion of gender equality, human rights, and wider inclusion is challenging. Ultimately, the varying nature of country contexts across East Africa has resulted in a lack of coherent regional policy approach.

14. Eastern African also hosts a significant number of internally displaced people (IDPs) and refugees. As of March 2022, there are 4.98 million refugees and asylum-seekers and 12.34 million IDPs in the East and Horn of Africa and Great Lakes Region[13]. The total number of refugees in the region has risen by 360 percent from 1.4 million in 2011. South Sudan, Sudan, Somalia, and the Democratic Republic of Congo (DRC) account for the largest refugee populations in the region, mainly displaced due to conflict and instability. Uganda hosts the largest refugee population in Africa (1.58 million in March 2022[14]). Due to funding constraints, WFP has been forced to implement ration cuts for refugees in many countries in the region: South Sudan (50 percent); Uganda (40 percent); Kenya (40 percent); Djibouti (23 percent); Ethiopia (16 percent) and Rwanda (8 percent). This has resulted in growing food and nutrition and protection-related risks for the refugees.

15. More broadly, the East Africa region is still highly dependent on international assistance as reflected by Official Development Assistance (ODA) as a percentage of Gross National Income (GNI) for countries across the region shown in Figure 2 below. Some countries, including Somalia, Burundi, South Sudan and Rwanda have a higher dependence on ODA than other countries in the region. Somalia, for example, is highly aid dependent with Net ODA received as a percentage of GNI at 28.96 percent in 2019.

Figure 2Net ODA received as percentage of GNI, by country



Source: World Bank Open Data, accessed April 2022

1.3. SUBJECT BEING EVALUATED

16. The subject of this thematic evaluation is the wide range of supply chain activities implemented by WFP procurement and logistics teams, often in collaboration with programmes within Eastern Africa. As a thematic evaluation, this exercise cuts across that range of activities and focuses on the relevance, results, and factors affecting outcomes in the cross-cutting area of food systems of WFP supply chain activities. The evaluation adopts a macro-perspective but supports the broad theme with specific evidence collected through decentralized evaluation to develop robust findings that can identify good practice and inform future improvements.

17. Transfers of food and cash are at the core of WFP supply chain work and have the ability to affect food systems. The volumes of food and value of cash distributed by WFP in the region have been substantial, as indicated by the data for 2020 in Table 3 below. In some countries (notably Djibouti, Somalia and South Sudan), WFP in-kind food deliveries in 2020 were substantial compared to national production and would be expected to affect cereal food

[12] UNDP (2018) Gender Equality Strategy: UNDP Rwanda (2019-2022)

[13] UNHCR (2022). UNHCR Operational Data Portal. https://data2.unhcr.org/en/situations/rbehagl

[14] UNHCR (2022). UNHCR Operational Data Portal. https://data2.unhcr.org/en/situations/rbehagl

systems. On the basis of annual volumes alone, food systems might also be expected to be affected in Burundi, Rwanda, Sudan and Uganda, where the increased availability of food might have some effect on local prices. Additional outcomes might result from WFP local procurement activities in Ethiopia, Kenya, Rwanda, Sudan, South Sudan, and Uganda, while further effects could be anticipated from the disbursement of cash (or vouchers), the bulk of which can be expected to be channelled into local food systems with potential inflationary consequences.

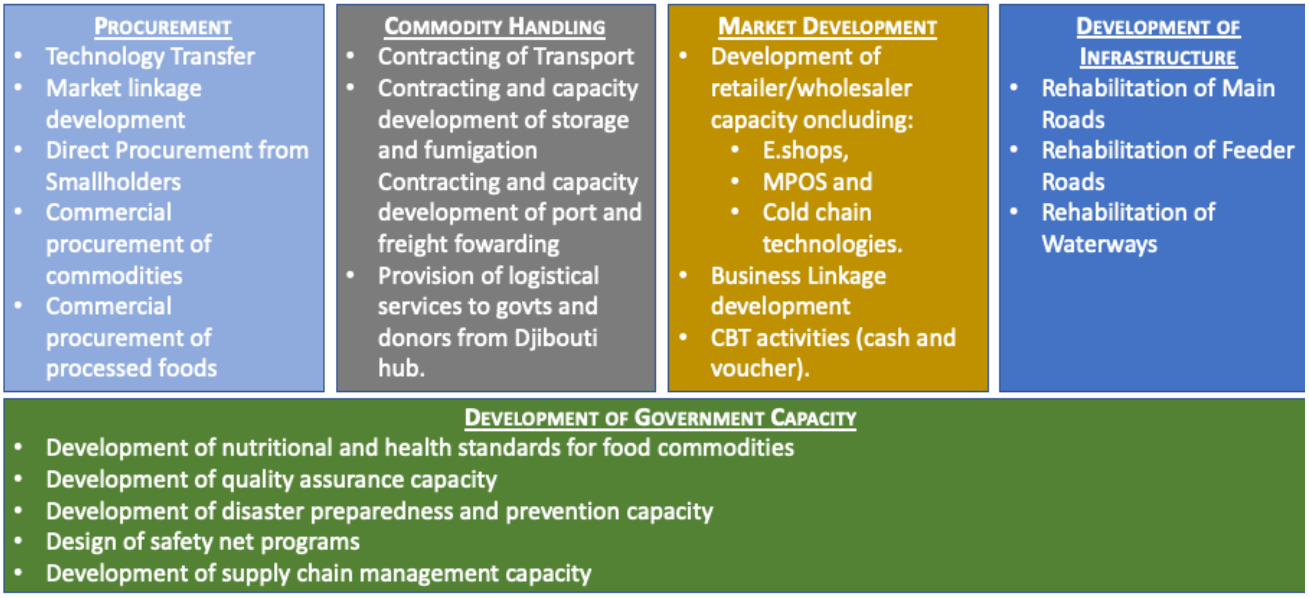
Table 3 Volumes of food and values of cash distributed by WFP, 2020

Country	2020 Cereal Production ('000 tons)	2020 WFP Food Transfer ('000 tons)	WFP Food Transfer (% of Production)	2020 WFP Cash Transfer (US$ millions)
Burundi	446	25	6	1.2
Djibouti	0.017	6	>100	4.3
Ethiopia	28,303	370	1	22.2
Kenya	4,870	65	1	49.3
Rwanda	754	5	1	12.7
Somalia	170	99	58[15]	98.6
South Sudan	874	270	31	57.7
Sudan	8,056	154	2	74.4
Uganda	3,612	172	5	49.7

Sources: WFP 2020 Annual Country Reports; FAO Global Information and Early Warning System (GIEWS) database

18. However, activities supporting and enabling these transfers and other programmatic priorities that affect the wider food systems and local economies are also being supported by WFP supply chain functions. A summary of those found in the Country Strategic Plan (CSP) for each country is presented in Table 13 (Annex 8). This illustrates that there are a very large number of interventions that might be considered for evaluation. The evaluation has developed a grouping of activities into thematic areas, based on those initially drafted in the ToR, which represent activities where the most significant outcomes have been seen across the region. An overview of these groupings can be found in Figure 3 below.

Figure 3 Thematic groupings of supply chain activities



Source: Adapted by the Evaluation Team

Theory of change

19. There is no regional level theory of change (TOC) for supply chain activities. However, the ToR for this evaluation included a draft theory of change (Figure 5; Annex 4) which describes a process by which interventions, broadly categorised under four headings of: a. Capacity strengthening and Technical Support, b. Supply, c. Transport and Trade, and d. Consumption, may lead to a series of outputs. The outputs relate to the capacity of systems and stakeholders, which are generally expected to be enhanced or broadened as a result of the activities. The outcomes of those developments are expected to be four-fold i.e.:

[15] The high percentage of production shown for Somalia reflects the small amount of grain produced locally.

- Supply chains will become more resilient
- Supply chains will become competitive
- Food PHL and waste will be reduced
- Safe, quality and nutritious food is available affordable and accessible (to all[16]).

20. During the Inception phase, the evaluation team (ET) reviewed the initial thinking around a possible TOC and developed a generic TOC that describes how new systems or technologies can be successfully introduced, adopted and become systemic within food systems (Figure 6; Annex 4). This has been revisited in this evaluation and a modified TOC that both reflects and explains observed food system developments is presented as a final conclusion.

Partners

21. In addition to a wide range of partners in each country, including WFP donors, government entities, United Nations agencies, civil society and beneficiaries, of particular importance to this evaluation is that WFP supply chain activities affect food systems through the contracting of third-party stakeholders including wholesalers, hauliers, storage agents and distributors, who respond to the timing, scale, nature, terms and conditions of WFP contracts. The scale of WFP operations is such that its contract interventions can potentially affect the dynamics between third-party stakeholders, introduce new practices, and support the development of new systems. The outcomes of these interventions can be potentially positive, facilitating the development of more resilient and effective food systems, or negative, creating inefficiencies and distorting markets. Different third-party actors include:
    - Consumers who buy food from areas where WFP either procures or distributes commodities
    - Retailers, aggregators, wholesalers, and brokers of food in WFP procurement and distribution areas
    - Producers of food in WFP procurement and distribution areas together with their associations and/or cooperatives
    - Hauliers and freight agents both working for WFP and working independently to transport food into deficit areas
    - Representatives of food processing companies especially those producing foods purchased by WFP
    - Warehouse and silo owners and managers (including public sector actors)
    - Representatives of government agencies regulating food quality
    - Representatives of financial agencies including commercial banks, microfinance institutions, savings and loan schemes and other agencies.

Overview of analytical work

22. Within the region, existing evaluations on the evaluation subject are minimal, although there is also a substantial amount of supply chain data collected by WFP to support the management and auditing of activities, such as data on volumes and prices of food procured, food distributed, stock levels, wholesalers, and transporters, and this data often feeds into programmatic evaluations conducted in the region. In addition, the programme and VAM teams within each CO collect regular data that may inform supply chain and food systems work. These included retail performance monitoring and market functionality data, which are used to inform specific market assessments, value chain analyses and retail performance assessments conducted to inform interventions. An overview of assessments collected by the evaluation team are given in Table 14 (Annex 8).
23. The RBN has also completed an Assessment of World Food Programme Expenditures in East Africa. This uses general equilibrium modelling of the Global Trade Assistance and Production 2004-2014 database to estimate the broader economic impacts of WFP interventions in the region, under two theoretical scenarios. The results take the form of production multipliers for each sector in each country that are interpreted in terms of employment.
24. There has been limited gender analysis done by COs specifically related to WFP supply chain activities. However, the WFP Kenya CO is in the process of completing a gender analysis of supply chain services[17] in Kenya and all countries across the region have ensured gender perspectives are mainstreamed through monitoring and evaluation processes.

[16] The qualifier "to all" is included by implication, since it is an important element of the Strategic Goal.

[17] This analysis was not available to the Evaluation Team at the time of data collection.

1.4. EVALUATION METHODOLOGY, LIMITATIONS AND ETHICAL CONSIDERATIONS

25. This evaluation has used a mixed methods approach that is centred around open-ended enquiry in alignment with the learning perspective of the Terms of Reference (ToR). Twelve key evaluation questions (EQs), with sub-questions (Box 1 below), were elaborated in an evaluation matrix (Annex 3), which was guided by a generic Theory of Change (ToC) (Figure 6; Annex 4). These questions were refined during the inception phase, based on questions presented in the ToR, to reflect an outcome-focused perspective to the evaluation, as well as on internal WFP ways of working. Evaluation questions focused on food system outcomes included ways that they might be affected by factors such as context and stakeholder groups, as well as the nature of their linkages to WFP supply chain activities. An elaborated methodology can be found in Annex 2.

26. The methodology and the structure of this report have been influenced by two factors. On the one hand, there are a very large number of interventions that might be considered for evaluation and on the other, the exercise is focused on both intended and unintended outcomes rather than on performance. To address these issues, the evaluation has used the initial grouping of activities into thematic areas, as described in the ToR, seeking evidence of the most significant outcomes in each of these thematic areas in each of the countries assessed. The thematic areas were modified to focus on supply chain activities as shown in Figure 3 above Annex 10 provides an assessment of outcomes by thematic area by the Evaluation Team.

27. Broadly following an Outcome Harvesting approach, the identification of significant outcomes was achieved by asking WFP staff in each CO to identify those outcomes that they considered to be most important and best supported by available data. These were subject to further investigation and triangulation. The findings of these investigations comprised a heterogeneous dataset that included many exceptions and variations according to context. These are listed for each of the thematic areas in Figure 3 and in Annex 10. Responses drawing on these findings are provided to each of the EQs based upon the findings described.

Definitions

28. For the purpose of this evaluation, the following definitions have been used:

- **Supply chain** is defined as the conceptual totality of all of the activities undertaken by WFP in order to transfer food, cash or vouchers to beneficiaries. These include procurement, transport, processing, storage and distribution, as well as the development of stakeholder capacity.
- **Food system** is defined as the entirety of the processes, structure and stakeholders that are involved in the production, transformation, marketing, distribution and consumption of any food within and between countries. A food system can be considered as a single entity or as a combination of different food systems, characterized on the basis of country or of commodity.
- **Supply chain outcomes in the food system** consist of the direct and indirect changes that occur to any aspect of the food system as a result of supply chain activities. Specifically, this does not include the impact of supply chains on direct beneficiaries, although such impacts remain an important consideration. The subject of the evaluation is therefore an assessment of the intended and unintended outcomes (including indirect outcomes) of WFP supply chain activities on local, national and regional food systems and their individual components.
- **Aggregators –** those purchasing small volumes of grain from farmers for sale to traders. Some aggregators may also be farmers, and some may be agents of traders.
- **Traders –** those that purchase grain from producers for sale. Traders may buy directly or through aggregators, some of whom may be financed by the traders themselves and are thus effectively those traders' agents. Traders often operate warehouses where grain is bulked and may be cleaned and re-bagged.
- **Merchants –** those buying grain in large volumes from traders for export or sale to institutions such as WFP. Merchants rarely hold grain and generally purchase only when they have secured a sales contract.
- **Wholesalers –** those that sell grains and food commodities to retailers. Wholesalers may also operate as traders or may buy from traders in other areas.
- **Retailers –** those buying lots of grain from wholesalers, which are then subdivided into smaller volumes for sale to the general public.
- **Transporters –** those who make a business from the transport of grain throughout the value chain from the farm to the retail market.
- **Processors –** those who add value to grain by changing its physical or chemical composition (e.g., millers and fortified food manufacturers).

Evaluation questions and criteria

29. As noted above, the evaluation is required to answer twelve EQs, with associated sub-questions (Box 1). The evaluation uses the evaluation criteria of relevance/appropriateness, effectiveness, efficiency, impact (contribution) and sustainability.

Box 1 Evaluation Questions and Sub-questions

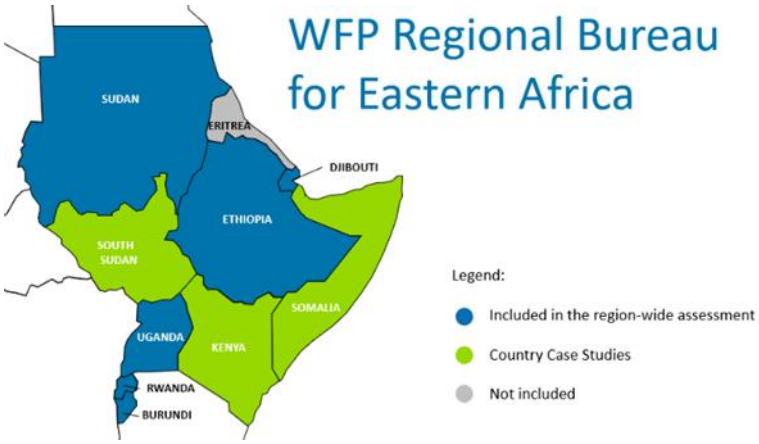
1. **To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks and gender analyses?** (*Relevance/appropriateness)*
    a. To what extent and how have the above analyses been most useful to WFP supply chain teams and activities?
2. **To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?** (*Relevance/appropriateness)*
3. **What are the most significant outcomes of supply chain activities?** (*Effectiveness*)
    a. How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment
    b. How have activities and identified outcomes contributed to reduced food losses and improved competitiveness and resilience?
    c. How have activities and identified outcomes contributed to efficiency gains in the food systems affected by supply chain interventions?
    d. How have outcomes been influenced by internal factors and external context?
4. **To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?** (*Effectiveness*)
5. **What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?** (*Effectiveness*)
6. **To what extent is there collaboration between supply chain, engineering, and programme units?** (*Effectiveness/Efficiency*)
    a. How are outcomes affected by such collaboration?
7. **Are supply chain capacities and capabilities effectively leveraged to achieve desired outcomes and contribute to wider systems level change?** (*Effectiveness/Efficiency*)
    a. What, if any, efficiency gains have been realized through WFP supply chain interventions? How or why?
8. **To what extent have supply chain activities and identified outcomes contributed to wider food system impacts (including intended and unintended effects on local economies, upon resilience and inclusiveness of food systems, and upon access and availability of affordable nutritious foods)?** (*Impact (contribution)*)
    a. What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?
    b. How have outcomes varied according to gender, financial capacity, disability, or youth?
    c. What opportunities exist to further strengthen WFP supply chain activities, identified outcomes, and more widely to improve food systems?
9. **How do the outcomes of supply chain interventions vary with the scope and scale of the interventions? In particular, how does the scale of interventions affect the extent and sustainability of systemic change?** (*Impact (contribution)*)
    a. To what extent do reported outcomes of supply chain activities contribute to a reduction in consumer prices?
10. **How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?** (*Impact (contribution)*)
11. **To what extent are results from supply chain interventions sustainable?** (*Sustainability*)
12. **In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?** (*Sustainability*)
    a. To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?

30. During the inception phase, the evaluation team developed an evaluation matrix (Annex 3) which elaborates on specific measures or indicators of performance with regard to each sub-question; sources of information; data collection methods; and assumptions made. This was used as the basis of the analytical process and provides the structure for the presentation of findings in Section 1 below.

Data collection

31. The data collection schedule is shown in Annex 6 below. The exercise comprised two components that together support the overall evaluation. The first component consisted of three case studies in which the evaluation team visited three countries (see Figure 4 below) and interviewed WFP supply chain actors and food system stakeholders. The second component was a region-wide assessment of food system outcomes based upon remote enquiry.

Figure 4Map illustrating WFP RBN countries and each country's involvement in the evaluation



Components of the data collection

32. The **three case-study countries** selected were Kenya, Somalia and South Sudan. Fieldwork in three case-studies formed a key component of the evaluation. This involved fieldwork by two team members in each country, with country case-studies serving to validate and elaborate outcomes observed during the wider regional assessment. Country selection was made during the inception phase, on the following criteria:

    - Ease of access to third-party stakeholders.
    - The nature of supply chain activities undertaken in each country.
    - The availability of secondary data to support findings.
    - The level of interest of each CO to participate in the evaluation.
    - The capacity of each CO to support and facilitate the evaluation.

33. A schedule for each of these case-studies is found in Annex 6. An overview of the focus of each of these case-studies is provided in Table 4 below. The areas of focus were defined during detailed discussions with the WFP country focal points and wider supply chain teams in each country before fieldwork commenced. The evaluation sought to examine a representative cross section of procurement and logistics activities and outcomes across the countries, and also to focus on areas where it would be possible to identify outcomes and find robust qualitative and quantitative evidence to understand the contribution of WFP supply chain activities towards the outcomes. This included ensuring that supply chain interventions were selected that have been implemented over the evaluation period 2016-2021.

34. Across the three case-studies, 182 individuals were reached through Focus Group Discussions (FGDs) and interviews, as shown in Table 15 below and elaborated in Annex 9. The main groups of stakeholders engaged in the evaluation were identified at inception phase through a stakeholder analysis. The key groups participating in the case-studies were:

    - **WFP CO staff**, including Field Office staff. This included staff from across supply chain, logistics and procurement teams, as well as relevant programme staff and cross-cutting teams, including Vulnerability Analysis and Mapping (VAM), M&E and gender.
    - **Government agencies** who have observations on the extent to which outcomes have been seen across the food system as a result of WFP interventions. During the evaluation, the Government agencies engaged have included port authorities, those responsible for refugee affairs, and those responsible for setting food standards.
    - **Third-party private sector stakeholders,** which covers a very broad range of actors and includes those than not only interact directly with WFP supply chain activities, but also those who are indirectly affected by

them. Those interviewed through the fieldwork included traders, wholesalers, retailers, transporters, financial service providers, port operators and other port service providers.

35. Full reports for the case-studies are provided in three supplemental evaluation products.

Table 4 Country case-study areas of focus

Country	Areas of focus
Kenya	1. Mombasa port operations: a. Capacity strengthening (warehouse management; freight forwarders; private sector partners; Government departments) b. Contracting and impact on local market c. Introduction of technology that enhances efficiency d. Innovations (disposal of oil) e. Environmental control/protection (safe disposal of damaged commodities) f. Economic development impact through job creation, WFP presence at the port, revenue stream for the Government of Kenya. 2. Kakuma operations (refugees and host population): a. Local production (including livelihood diversification) and procurement from smallholder farmers b. Changes to transport infrastructure c. Market strengthening and retail engagement activities d. Food safety and quality e. Capacity strengthening (market actors, government, private sector).
Somalia	1. Berbera port operations a. Contracting of transporters and impact on micro and small businesses around Berbera port b. Berbera corridor operations (transport of goods from the port into Ethiopia) and outcomes for transporters c. Employment by port services firms 2. Dollow e-shop initiative a. Outcomes for food retailers, delivery agents and wholesalers involved in the e-shop initiative.
South Sudan	1. Bor operations a. Smallholder production and local procurement b. Transport contracting c. Development of infrastructure: rehabilitation of roads and waterways. 2. CBT activities, Gorom (refugees) and Juba a. CBTs and market development activities (Juba and Gorom).

36. The evaluation also conducted **additional remote studies** across the region to collect further evidence on food systems outcomes in response to WFP supply chain interventions, as well as evidence on collaboration and information sharing between programme and supply chain units and limited investment analysis. As with case-studies, areas of focus were defined during detailed discussions with each WFP focal point in Burundi, Djibouti, Ethiopia, Rwanda, Sudan and Uganda. The selection of areas of focus depended on a. the extent to which third-party food system outcomes have been clearly observed in response to WFP supply chain interventions, and b. the extent to which qualitative and quantitative data was available, so that the description of each outcome and the contribution of WFP supply chain activities towards it can be considered robust evidence that will allow the development of meaningful conclusions. With agreement from each country focal point, the following intervention areas were the focus of each remote assessment:

- **Burundi**: Transport (Lake Tanganyika corridor operations)
- **Djibouti:** Transport and distribution (Humanitarian Logistics Base (HLB)); cash assistance for refugees (market development and retail initiatives)
- **Ethiopia**: Local procurement, food processing and local production of Corn-Soya Blend (CSB) and other fortified foods, government capacity strengthening (commodity management, transport, supply chain management, warehouse infrastructure and food storage practices), infrastructure, fresh food markets (digital vouchers and retail engagement and training)
- **Uganda**: Local procurement (local grain distribution to schools through Karamoja Feeds, local production of nutritious commodities and access to markets (Agricultural Market Support Programme), maize and cooking oil fortification, contracting requirements and food standards
- **Rwanda:** Local production and fortification, smallholder farmer market integration, food safety and quality, capacity strengthening support to Government and local institutions (supply chain optimization, food safety and quality, local production and fortification)
- **Sudan:** Local procurement, post-harvest loss, Cash-Based Transfers (CBT) (retail and market performance).

37. Across the six remote case-studies, 56 individuals were reached through FGDs and interviews, as shown in Annex 9. The primary participants in remote data collection were WFP staff due to the restricted scope of these studies. However, for the Rwanda case-study it was possible to arrange remote discussions with two production companies, Africa Improved Foods (AIF) and Minimex.

38. A summary of the remote study findings is provided in Annex 11.

Data collection methods

39. Each of the following approaches were applied on both a regional basis to remote studies and within the case study frameworks.

40. **Outcome harvesting** was selected during the inception phase as the main way in which outcomes would be identified and assessed. The outcome harvesting methodology is designed to capture the full range of outcomes due to an intervention through the use of open-ended questions to stakeholders who may be potentially affected by that intervention[18]. It is a qualitative method that relies upon the subjective perceptions of respondents[19]. Although the open-ended nature of the outcome harvesting methodology limits the extent to which questions can be predefined, a template outlining the nature of questions asked was developed during inception phase. This can be found in Figure 6. Both remote and in-country interviews and FGDs followed the outcome harvesting approach. To facilitate remote group discussions, the interactive presentation software, Mentimeter, was used to encourage broad participation from everyone in the meeting and collect quick feedback in survey form on key outcomes observed as a result of supply chain outcomes and the stakeholders that have been involved.

41. **Economic analyses**, including both value chain analysis and investment analysis, were expected to be incorporated in the evaluation. Value chain analysis was to be used to assess the financial dynamics within food systems and hence determine the extent to which different groups of stakeholders are able to benefit from a given value chain. It was evident that the available market information and the market assessments conducted by WFP and VAM while comprehensive and detailed, raised as many questions as they answered. The detailed analysis provided by the market development unit in South Sudan suggested that significant profits were being made within the sorghum value chain but could not identify where. It became clear that while prices at each stage of the value chain could be determined with some confidence, a much greater level of effort was needed to identify the costs incurred at each stage. As a result, the profits made by each stakeholder could not be assessed with any confidence, this approach was discontinued. Investment analysis was undertaken on a qualitative basis to assess, from both direct actors and from financing institutions, the extent of current investment and potential future investment in food systems, as an indicator of food system resilience. This included interviews with direct stakeholders including bank representatives in case-study countries to determine how their level of investment in a value chain has changed.

42. **Conventional enquiry** took the form of literature review, FGDs and field and remote interviews (see Annex 9 for a full list of participants). The EQs for which conventional enquiry is most relevant relate mainly to intervention design, including the extent of collaboration and information sharing in that process as well as opportunities for strengthened activities. For each country case-study and remote study a detailed document and dataset review was undertaken, with a comprehensive request shared with country focal points ahead of fieldwork. Guidelines for FGDs and interviews were put together at inception phase and can be found in Figure 6.

Gender and equity considerations

43. Attention was given throughout the evaluation process to ensure it was grounded on a sound gender and equity perspective. This included:

    - The team ensured gender and equity issues were integrated across all the evaluation tools, ensuring all lines of enquiry considered gender issues.
    - The team ensured the identification and selection of key informants to ensure an adequate gender balance and that the views of women were represented.
    - Where possible, unbiased responses were facilitated through disaggregated discussion groups.
    - Secondary data obtained from COs was requested to be disaggregated by gender where available. In most cases gender-disaggregated data was available, except in those instances where stakeholders were corporate entities.

[18] Wilson-Grau and Britt, 2012

[19] World Bank, 2014a

- All outcomes were assessed from a gender perspective, considering in each case whether differences exist in the nature and extent of each outcome for men and for women. Any differential outcomes have been clearly identified in reporting.

Data analysis

44. Data analysis was structured around the questions, sub-questions and indicators in the evaluation matrix. The evaluation team developed a standardized internal reporting template for case-studies and remote studies to ensure evidence responding to the EQs was consolidated and the responses structured in a way that facilitated triangulation. A key finding of this evaluation has been the limited extent to which the substantial volume of quantitative data made available to the team, has been appropriate to measure or evaluate changes in food systems and as a result, emphasis was placed upon qualitative responses. It is easier to perceive qualitative responses subjectively and to minimize subjective bias, particular emphasis was placed upon cross-checking and triangulating the information collected both within the team and with WFP stakeholders. The template also brought out detailed case studies of food systems outcomes, their linkages to supply chain activities, and the extent to which outcomes might be modified by different contextual findings. The team integrated its understanding and analysis from across the data collection and document review with a series of mini-workshop discussions to verify and triangulate emerging findings. Once emerging findings had been consolidated, the team presented them to the Evaluation Reference Group (ERG) in order to gain initial feedback and validation.

Limitations and ethical considerations

Limitations

45. Key limitations faced by the evaluation were as follows:

- **Challenges to stakeholder involvement**. During inception phase, the evaluation team and RBN engaged all COs through introductory meetings on the evaluation, and the inception report was disseminated to all COs to ensure the role of each country in the evaluation was understood. This was followed by an introductory meeting with focal points assigned from each CO to the evaluation at the start of data collection. These processes ensured full engagement from nearly all COs and full support in arranging fieldwork and introductions for remote interviews. However, the Evaluation Team was unable to engage the Burundi CO fully in the evaluation process and only managed to hold two introductory meetings as part of the evaluation. Therefore, evidence collected from Burundi is limited by the lack of interviews and data and documentation provided by the CO. In addition, the evaluation team found that in some COs there was more limited institutional memory across the full CO staff (particularly Sudan and Djibouti). In the case of Sudan, the team were able to mitigate this by speaking to a former staff member. In Djibouti, the team drew on documentation to understand activities earlier in the evaluation period.
- **Limitations of the corporate data.** Substantial amounts of data sets were made available to the evaluation team. However, trends in data are hard to assess because of the influence of changing and fragile contexts. Assumptions by the Evaluation Team are required to compensate for changing contexts and are inevitably subjective. In addition, the availability of data suitable for assessing change induced by supply chain activities was limited.
- **Boundaries on the scope of the evaluation**. As detailed in the methodology above, areas of focus for the case-studies and remote enquiry were defined in discussion with WFP ahead of data collection. These focus areas were required to ensure the evaluation team could focus their lines of inquiry within the budget and timeframe of the evaluation and ensure that the evaluation focused on supply chain activities for which robust examples of food system outcomes could be seen. This means that the evaluation has not been comprehensive in its assessment of all WFP supply chain activities across the region. It is also important to note that this collaborative approach in working alongside WFP to define the focus of the evaluation in terms of importance and significance of supply chain activities may result in bias towards areas where there are positive stories to tell. In addition, it is important to understand that findings have been drawn out of countries where contexts are very different. Therefore, the evaluation team have been careful with data aggregation or making generalized findings across countries. The report makes it clear when findings can only be evidenced from specific countries and where they have been found across all countries in the region.
- **External factors**. In South Sudan, security concerns limited the extent to which external interviews and focus groups could be held and it was not possible to interview the numbers of respondents that had originally been anticipated. The team were largely able to mitigate the impacts of Covid-19 on fieldwork and in-person fieldwork took place in all three country case-studies, with the necessary Covid-19 risk mitigation measures in place. However, as a result of Covid-19 risks, the international team member for Kenya was

unable to travel. This was mitigated with an additional Kenyan research assistant, as well as the introduction of remote team meetings and remote Nairobi-level interviews. For Somalia, the international team member was only able to travel to Berbera, and again this was mitigated with an additional team member for the fieldwork in Dollow, as well as regular remote team meetings to debrief in the evenings.

Ethical considerations

46. Implementation of this evaluation conformed to WFP and United Nations Evaluation Group (UNEG) ethical standards and norms. Mokoro Ltd took responsibility for safeguarding and ensuring ethics at all stages of the evaluation cycle. This included, but was not limited to, ensuring informed consent, protecting privacy, confidentiality and anonymity of participants, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups) and ensuring that the evaluation results in no harm to participants or their communities.

2. Evaluation findings

47. As described in section 1.4, this evaluation used outcome harvesting as the main process to identify and assess food system outcomes. That approach resulted in a focus on a limited number of thematic areas in each country in which supply chain interventions had clearly resulted in food system outcomes. These areas were investigated in more detail so that the nature, extent, sustainability, and scope of each outcome could be assessed, and the linkage between the intervention and the outcome could be determined. These results were compiled as findings, classified according to the thematic area in which each outcome occurred. That information has been used to inform the following section, which responds to each of the EQs. The outcome findings in their entirety are compiled in Annex 10. Where relevant, the outcome findings have been summarized in text boxes to support the responses to EQs that follow.

2.1. Responses to Evaluation Questions

EQ 1: To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks and gender analyses?

48. WFP supply chain interventions are generally implemented only after considering the nutrition priorities, market assessments, climate change risks and gender analyses that are relevant to the prevailing socio-economic context. The majority of these assessments are undertaken by or in conjunction with programme units. The breadth and level of detail of that consideration can vary considerably depending upon the criteria in question and the nature of the environment. Each of the individual criteria is considered below:

49. **Nutrition priorities** - Supply chain interventions are fundamentally driven by nutritional needs and are generally modified according to the specific requirements of beneficiary groups as specified by programme units. Standard rations or the cash/vouchers necessary to purchase the equivalent are provided most commonly, but high protein foods, therapeutic feeding products and other specific rations such as those designed for pregnant and lactating mothers, fortified with vitamin A and iron, are distributed to specific beneficiary groups according to programme requirements. At this level, the linkage between programme and supply chain activities is clear and direct. Implementation may be modified according to the availability of elements of the ration, but programme priorities remain a consideration for such modifications. Quality standards that reflect nutritional requirements are a critical element of the procurement process (in South Sudan where in-country laboratory testing facilities are limited, interviews indicated that delays associated with sending sample outside the country for quality assessment can sometimes be a constraint to cost-efficient procurement). At the most fundamental level, nutrition priorities appear to be well embedded within supply chain interventions.

50. It was clear from interviews that other concerns identified by programme unit activities such as ease of grinding or preparation time do inform procurement decisions but may be overridden by more fundamental considerations such as availability. The same would be true of local consumer preferences. Supply chain staff in almost every country were aware of local preferences for cereals and pulses, even though the preferred commodities could not always be provided. These situations were often more complex than initial perceptions might suggest in that the monetization of less preferred commodities could provide the resources to purchase greater quantities of cheaper, but nutritionally equivalent foods (e.g., in Ethiopia, some traders reported purchasing wheat from beneficiaries, who would use the proceeds to buy cheaper maize).

51. At another level, despite an emphasis on fortification at the programme level that is reflected in the specifications of contracts for processed flours, there is no evidence of any incentives to growers to supply the bio-fortified varieties of maize, sorghum and other cereals bred by the Consortium of International Agricultural Research to be rich in Vitamin A, iron or zinc. Considerations such as these may be covered by the Local and Regional Food Procurement Policy (LRFPP), which allows for the payment of premiums to local suppliers, including smallholders, in order to encourage specific groups (including suppliers of specific commodities) to participate in the supply chain.

52. **Market assessments** - The capacity of markets to respond to cash or voucher-based transfers is clearly a fundamental driver of WFP supply chain activities. Specific tools such as the Market Functionality Index (MFI), Retail Performance Management Assessments, and bespoke market assessments, have recently been introduced in a number of countries including Sudan, South Sudan, Kenya and Somalia to assess this capacity. These tools are generally employed by programme units, whose subsequent analyses can inform the design of the most appropriate supply chain interventions. The work builds upon the market information system (MIS) work regularly done by VAM.

53. In those situations where cash or vouchers are provided, ongoing monthly assessments of key commodity prices can be used to enable the rapid alteration of transfer values so that the amount of cash or value of vouchers can accommodate inflation or other price variations. This was observed in a number of countries, but not in Ethiopia where WFP has provided cash under the Ethiopian Government's Productive Safety Net Programme (PSNP) and the value of the transfer is subject to administrative constraints.

54. **Climate change risks -** Considerations of climate change risk mitigation do not feature prominently in the design of supply chain interventions. Globally, there is little emphasis on the sourcing of commodities from low-carbon emission food production systems, and there is no evidence in the East African region of any such initiatives. Local purchase contracts include no incentives to use low input production systems that might limit nitrous oxide or methane emissions. The potential climate impacts of triple layer polyethylene/polypropylene hermetic storage bags do not appear to be a consideration in promoting their use for PHL reduction, and there are no procedures to encourage recycling of the bags.

55. The transport of commodities using internal combustion engines inevitably results in the generation of carbon dioxide and it is fortuitous that the relative costs of air, land and water transport are aligned with the relative amounts of CO_2 emitted by each mode of transport so that financial pressures reinforce the use of the least emissive mode of transport in each case.

56. Beyond these simple aspects, there is a widespread awareness of the need to provide commodities that require minimal cooking so that deforestation caused by the use of firewood or charcoal for cooking can be reduced, but this consideration is overridden if suitable commodities are unavailable.

57. The limited consideration of climate change mitigation within WFP supply chain interventions reflects the WFP climate change policy of 2017. This describes a range of activities designed to promote adaptation, resilience and disaster readiness, but relatively few that focus upon the mitigation of climate change. Amongst the former activities, supply chain interventions might include the construction and maintenance of roads and waterways that could reduce the impact of flooding upon local communities, but it would have to be recognized that such activities are designed as much to increase the capacity of WFP to reach and pre-position food within local communities as to increase the resilience of the local community itself.

58. It is generally recognized that a household's vulnerability to potential climate change impacts is inversely proportional to its social and economic capital. Almost any intervention that can reduce poverty will thus enhance capacity to adapt to future changes in climate. From this perspective a wide range of interventions designed to increase smallholder productivity, reduce PHL, or improve the profitability of small businesses might be considered to support potential adaptation to climate risk, although most would be implemented for the more immediate purposes of enhancing food security or poverty alleviation.

59. Overall, it was difficult for the evaluation team to identify any extent to which supply chain interventions were actively informed by climate change risk assessments derived from programme activities. It was evident that supply chain actors were aware of potential impacts of climate change, but there was no evidence that interventions incorporated any climate change mitigation measures to address these impacts.

60. **Gender analyses** - Supply chain interventions are predominantly commercially driven and as such contain few accommodations for gender. There are some exceptions to this generalization, all of which relate to engagement at a small-scale level with either individuals, small businesses or women's groups. E.g., WFP Kenya has a focus on women's and disabled people's empowerment through progressive inclusion among the pool of CBT local retailers/ traders within its refugee operations, as well as supporting the refurbishment of premises for small-scale female traders and traders with disability. At a larger commercial scale, there is no evidence of any dispensations within commercial contracts for companies owned or managed by women in the areas of procurement, transport, processing or distribution. It appears to be tacitly assumed that at such a level, the gender of business owners or management is of no consequence.

61. Such an approach belies the fact that women are not well represented amongst larger commercial companies and are unlikely to benefit to the same extent as men from any of the main elements of the WFP supply chain activities. This does not necessarily represent a lack of communication between programme and supply chain units in that there are few gender analyses undertaken amongst the larger commercial entities that respond to WFP tenders. The primary focus of programme unit analyses tends to be the constraints faced by women in starting business activities, rather than in growing the businesses that they have successfully begun. Nevertheless, the clear difference between the substantial proportion of women owning or running nascent and small enterprises, and

the much smaller proportion of women engaged in larger and established businesses,[20] suggests that women face real hurdles in the course of business expansion that are as yet largely undocumented and certainly not addressed within the context of large-scale commercial supply chain activities.

EQ 1a: To what extent and how have the above analyses been most useful to WFP supply chain teams and activities?

62. As outlined above, the evaluation findings suggest that the most fundamental assessments of nutritional requirements and market capacities are critical to the design of supply chain interventions. Beyond this point however, it is difficult to see how other analyses, especially those related to climate change and gender equity have been actively incorporated into the mainstream of these interventions. Instead, they have remained as significant aspects of small-scale development activities, but insignificant elements of the bigger picture.

63. Analyses have nevertheless been useful to the design of development activities that, although not currently central to supply chain interventions, might possibly assume greater significance in the future. Such interventions would include the local purchase of grains from smallholders and smallholder groups, involving, amongst other elements, the introduction of technologies to increase production and reduce PHL that could help to increase resilience, including resilience to climate change. Other market development interventions promote the participation of women in group and business management, including an emphasis on financial inclusion within the retail sector. Nevertheless, no similar small-scale focused interventions could be identified between the two ends of the supply chain. The wholesale trading, transport and processing sectors of food systems appear to have been excluded from any similar consideration.

64. The usefulness of non-traditional analyses (especially gender analyses) was indirectly commented on in a number of interviews (South Sudan, Sudan, Somalia, Uganda), where it was noted by WFP respondents that women were poorly represented in a range of activities, so that questions relating to women's empowerment were largely irrelevant in these areas. Nevertheless, in other areas, especially food production, retail, and purchasing, the role of women was well recognized and reflected in intervention design. The usefulness of climate change analyses was rarely commented upon by respondents and it would appear that more immediate concerns dominate the design of most supply chain interventions.

EQ2: To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?

65. The relevance and appropriateness of interventions vary considerably according to context. In some instances, interventions are highly relevant and appropriate and might possibly be spontaneously replicated. In others, especially those that are commercially focused, potential market distortions limit appropriateness.

66. Most evaluations assess relevance from the primary perspective of beneficiary needs, but in this instance, beneficiaries are not the focus of the evaluation. Instead, local food systems and the effects of supply chain interventions upon them are the primary focus. In this context relevance/appropriateness might be considered to be the extent to which interventions respond to the needs of the food system stakeholders, who interact from the point of production through to consumption.

67. At a local level, supply chain interventions can vary in relevance according to context. Thus, local procurement processes which require the quality of grain to be confirmed by laboratory analysis before payment could be made, were potentially more onerous in South Sudan than in Kenya. In the former country, which lacked suitable laboratory facilities, grain samples had to be sent to Kenya for analysis. This meant that the payment process for grain was lengthier in South Sudan than it was in Kenya, where samples could be analysed directly. Similarly, the reimbursement of vouchers collected by retailers during CBT was also reported to be subject to delay, resulting in increased costs to retailers. In the former case, the impact of delay was almost certainly offset by higher prices, but in the latter, retailers had little recourse but to absorb the cost.

68. Interventions designed to enhance productive capacity or reduce PHL of smallholders appeared to be relevant and appropriate to the needs of the targeted stakeholders, but data suggested that interventions designed to link producers to markets were significantly less so as indicated by the numbers of smallholders selling through supported linkages, and volumes of grain sold. Only in Kenya were significant volumes sold under the F2MA

[20] Global Entrepreneurial Monitor (2021) Women's Entrepreneurship 2020/21: Thriving through Crisis. Global Entrepreneurship Research Association (GERA), London Business School.

programme. Elsewhere, data suggested that substantial majorities of smallholders preferred to dispose of their surplus grain through other channels.

69. In some instances, interventions to develop retail capacity appeared to result in little additional investment by retailers. It was observed that quite substantial levels of remuneration to retailers participating in the "retail in a box" programme in Gorom (South Sudan) did not necessarily result in their purchase of increased or more diverse stocks for sale to refugees. Indirect evidence suggested that the monies were invested elsewhere in potentially more lucrative markets. The observations suggested that while the programme was appropriate to ensure that the market in the refugee camp was adequate to sustain CBT interventions, it was not appropriate to any further market development.

Box 2 Appropriate technologies

Interviews with stakeholders raised concerns over two technologies used by WFP. The evaluation found that in Somalia, the mobile point of sale (MPOS) system contributed to the operational efficiency of CBT from WFP perspective but was perceived as a contracting requirement necessary to get WFP business by retailers. It did not result in any increase in their income or any change in their digital acumen. Rather, from the retailers' perspective, the MPOS system appeared to be associated with additional work and (in South Sudan) delayed payment. This was not the case in Somalia, where retailers were reimbursed within a week.

Also in Somalia, beneficiaries reported difficulties using the e-shop technology that enabled them to order and pay for food by messaging on their mobile phones. A lack of familiarity with mobile phone technology required them to engage the services of young people to place orders on their behalf. At the same time, some retailers had difficulty in compiling the electronic orders for delivery and again required the services of others (generally young people who charge USD 1.00 per order) to do this. These concerns prevailed despite the fact that WFP does provide training in the use of the technology. While this system provided some benefits to youth, it was nevertheless inappropriate for some older beneficiaries.

70. At a national level, procurement contracts that favour the development of monopsonies amongst traders, thereby reducing the capacity of producers to negotiate for better prices, may be considered inappropriate. It was observed that this is less likely to happen in those countries that have a well-established market infrastructure, such as Kenya or Ethiopia, than a country such as South Sudan where the number of traders is still quite small. Similarly, the specification within procurement contracts of food standards that require additional investment to achieve, but which exceed the needs of the broader market can be problematic for traders. It was reported on Uganda, that the additional cost involved in the aggregation and preparation of grain to meet WFP standards could not be recouped on the local market if the grain was not purchased by WFP. As a result, traders were reluctant to prepare stocks for delivery to WFP until contracts had been awarded.

Box 3 Procurement of transport

The impact of WFP procurement of transport on that subsector's capacity, efficiency and competitiveness has been difficult to discern.

- In Ethiopia, WFP worked extensively with the (former) Federal Transport Authority on a dedicated fleet project by engaging more transport capacity, including a large Sudanese transporter. The results of the intervention are nevertheless uncertain. How did the engagement of the Sudanese transporter affect national capacity to move food? How did the project affect the efficiency or competitiveness of food transport in the country? Did it encourage or discourage investment in the sector? The answers to these questions cannot be determined from either WFP data or from national statistics with any degree of rigour.
- In another intervention, new arrangements encouraged by WFP between Ethiopia and Somaliland for the contracting of transport along the border corridor did not appear to have increased the income of truck operators.
- Interviews with the Somaliland transport union (Tawfiq) indicated that, outside WFP contracts, business may be improving but businesses that accept WFP contracts did not make a profit; contracts with WFP were often avoided[21]. Conversely, WFP in Somalia report a robust response to tenders for transport and no shortage of potential contractors, suggesting that the tariff rates offered are quite competitive.

[21] Truck owners and Tawfiq reported that rates being paid by WFP were lower than in the past. In 1998 fuel was USD 33 per barrel and operators were paid USD 45/MT to Jijiga. In 2021 fuel was USD 165 – USD 180 per barrel and the rate offered was USD 35/MT to Jijiga. (The evaluation team was not able to assess claims of reduced rates).

- In South Sudan, one large transport company was ambivalent about winning a WFP contract, while another considered it an opportunity to expand the business.

The range of responses suggests that this is a complex area in which context is critical, and that further study is required if the development of transport capacity is to be a focus of WFP policy.

71. Context is also critical with regard to capacity development. There have been successful capacity development interventions in conflict-affected areas such as Ethiopia, where WFP has provided support to develop Government food management capacity. Nevertheless, the fact that WFP works so much in conflict or destabilized zones increases the difficulty of success in sustainable institutional development. In practice, however, it was observed that for the most part, supply chain interventions are very responsive to national context. Institutional capacity development initiatives are focused primarily on those countries that are sufficiently stable to use them, while in those areas such as Ethiopia, Somalia, Sudan, and South Sudan, less emphasis is placed on such interventions and more attention is paid to the pragmatic implementation of solutions within the existing imperfect environment. This would appear to be wholly appropriate.

EQ3: What are the most significant outcomes of supply chain activities?

72. The evaluation identified a number of significant outcomes, including increased market activities resulting from road and waterway rehabilitation, increased retail and wholesale capacity where CBTs were implemented, increased numbers of traders responding to local and regional purchase tenders, and especially, increased investment in food processing capacity. Conversely, outcomes from smallholder purchase activities were limited and the effects of supply chain activities on national transport and storage capacity were hard to define.

73. The definition of significant is inevitably subjective, but for the purpose of this evaluation, a significant outcome is one that is sustained and has a noticeable effect upon the operations of one or more groups of stakeholders. Significance is even greater if the outcome is replicated beyond those who are directly affected by the intervention.

74. From this perspective, the most significant outcomes of supply chain activities vary from one country to another, but in general, the following were especially pronounced:

Box 4 Road and Waterway Rehabilitation.

WFP reports indicate that almost all countries have experienced problems related to road access[22]. In four countries[23] WFP has implemented programs to rehabilitate feeder roads, and in one (South Sudan) there has been ongoing work to repair main roads and waterways in order to reduce the use of expensive airdrops of food.

The rehabilitation of roads and waterways by the WFP engineering unit in South Sudan has demonstrated how access is critical to food system development and that relatively modest expenditures on the repair of choke points along roads, and in the clearing and dredging of waterways could not only substantially reduce the cost of delivering food but would also stimulate economic development in the hitherto inaccessible areas. Respondents reported increases in the number of wholesalers and retailers, and in the volume and diversity of goods available, and reductions in the prices of goods. There have also been increases in some services (including the return of one commercial bank), transporters, taxis and porters and the return of significant numbers of residents. Food systems in these areas have not only become more resilient but generally more competitive. Transaction costs (especially transport costs), have reduced to the point where CBT has become a viable option to support beneficiaries, allowing distribution costs to be dramatically reduced. Market development experts have used the Market Functionality Index to monitor market development so as to determine when CBT might become appropriate.

The positive outcomes of road and waterway rehabilitation are largely confined to those areas that are prone to regular flooding and the populations that move into them. There are large areas of the Nile flood plain in both South Sudan and Sudan where this type of intervention is particularly appropriate. In other countries the scope for positive outcomes may be more limited. Nevertheless, based on the above observations, it is suggested that the construction ethos developed in South Sudan might be relevant to other countries that have reported difficulties in accessing beneficiary communities.

75. The most fundamental outcomes are those derived from enhanced access to otherwise isolated areas as a result of WFP road, bridge and waterway maintenance/rehabilitation activities. These activities are undertaken primarily to reduce the need for expensive food delivery systems, (i.e., air drops or use of Sherps), which can be replaced by standard 40 ton trucks or large barges. Even if such access is not year-round, it can still permit a substantial increase

[22] Only Uganda has not reported issues of access in the period under review.

[23] Somalia, Kenya, Rwanda, and Djibouti.

in prepositioned volumes of food, thus reducing overall costs of delivery and carbon dioxide emissions (both of which would be significantly increased if air drops were required). As far as food systems are concerned, the outcome is of a different nature. Increased access has made it easier for traders to bring foodstuffs and other commodities into the hitherto isolated areas, stimulating market development. Initially markets have been small and supplied by retailers themselves using small trucks, but this has often been followed by the appearance of wholesalers and markets have become increasingly resilient. In some cases, this has reached the point where CBT interventions have been able to replace in-kind food deliveries.

Box 5 Voucher-based CBT Outcomes amongst Wholesalers and Retailers

Case study observations of outcomes relate to 14 retailers in Dollow (Somalia), about 300 in South Sudan and 250 in Kakuma (Kenya). The gains observed were all linked to WFP voucher-based cash disbursements. The total value of the changes in the three locations visited would be expected to be equivalent to the value of the CBT, divided by the number of registered or contracted retailers. For the retailers in Dollow, it was estimated that their revenue might be in the order of USD 20,000 per annum and they order between USD 1.5 and 2M per annum from their wholesalers. Changes observed occurred within what appears to be a parallel food system, developed by WFP to serve their clientele. As these are closed systems, dependent on WFP CBT, it was not surprising that the extent of the changes is limited to retailers working with WFP. There was no indication that the changes in revenue, technology or demand affected the retail food system outside the WFP schemes.

For the wholesalers supplying CBT retailers, the outcome was a concentration of finance into a limited number of businesses. In the case of Bor, (South Sudan) one wholesaler supplied almost 90 percent of the retailers working as CBT agents. In Dollow there were more wholesalers, but the concentration effect was the same. In the limited number of cases that were observed, any increase in income from CBT experienced by retailers was dwarfed by the additional income received by wholesalers.

76. Where in-kind food distribution activities have been implemented, traders reported reductions in the retail prices of food commodities in Ethiopia[24] as well as Kenya and South Sudan[25]. Where measured, these outcomes have been minor - of the order of 10 percent - and of no more than two to four weeks duration. They appear to have had little long-term impact on local trading or production capacity. One exception to this has been the importation to Ethiopia of 250,000 tons of wheat by WFP in 2016 in response to the drought of 2015. That volume contributed to the overall importation of 2.5 million tons of wheat by the government and donor community, which caused the national average price to decline by 30 percent in 2017, although the impact lasted no more than the year.

77. Where cash or vouchers have been distributed it has been common[26] for retail capacity to increase as a result of the increased turnover of food and other items. The impact on wholesalers tends to have been as great if not greater. The increases have been reflected in the purchase of larger stocks and renting of larger premises, but less often has there been significant permanent investment or new entrants into either retail or wholesale activities.

78. Conversely, where WFP has engaged in the local purchase of commodities there has been an increase in the numbers of traders responding to tenders who could meet due diligence requirements, and an increase in the volumes that could be purchased. As an example, the numbers of traders supplying WFP in South Sudan increased from 13 in 2017 to 23 in 2021. Nevertheless, such increases do not necessarily reflect the development of food systems (although, in South Sudan where civil war ended in 2017, that was most probably the case). In other countries the trends may reflect the ongoing penetration by WFP of existing markets.

79. There have been robust outcomes in response to one specific aspect of WFP local/regional purchase activities, namely the promotion and facilitation of private sector or Public/Private Partnership (PPP) capacity to produce processed foods. This was observed in Rwanda, Kenya, Ethiopia and Somalia, where WFP had provided the original stimulus for investors to build processing facilities for specific commodities (such as vitamin-fortified or high protein content foods) that would be purchased and distributed by WFP. In almost all cases, the investments had expanded beyond WFP as a sole client, to other NGOs and the private sector. These examples presented the strongest evidence of WFP potential impact as a force in the commercial market. Sustained production of limited volumes of fortified foods is a significant outcome of itself but has the potential to catalyse even broader change. Not only can other investors determine the commercial viability of the process and potentially replicate it, but governments can then legislate standards for fortified foods on the basis that they are now locally produced, thereby embedding the process and products in the formal food system. This has occurred in Kenya and is ongoing in Rwanda and Ethiopia, where private sector stakeholders are actively seeking engagement with WFP to produce nutritious foods. From

[24] USAID Ethiopia (2019) Bellmon Analysis 2019/20

[25] Reported during key informant interviews.

[26] This was observed in Somalia, Kenya, South Sudan, and reported in Sudan.

this perspective, WFP nutritional and programme capacities may be more broadly leveraged by this intervention than by any other.

Box 6 Direct Purchase from Smallholders

Over the period 2016-2021, this supply chain intervention has been implemented in all the countries in the region with the exception of Djibouti, Rwanda and Somalia (Ethiopia ended direct procurement in 2017). The proportion of locally procured grains that were sourced from smallholders or smallholder cooperatives reached a maximum of 35 percent in Ethiopia in 2016, but has generally been less than 10 percent. The intervention has developed out of the earlier Purchase for Progress (P4P) programme that was piloted in 2009 and extended to 2015. The WFP evaluation of the pilots in El Salvador, Ethiopia and Tanzania showed that direct procurement had no significant impact on smallholder income or welfare, but a subsequent analysis of Ethiopian data alone[27] suggested that results were in fact heterogeneous and that elite capture within cooperatives meant that while many households experienced no benefits, well connected households experienced increases in income of 15 to19 percent. Overall, the literature would suggest that outcomes from direct purchase in terms of smallholder benefits are small and variable.

80. There have been limited outcomes in terms of direct local purchases from smallholders which have stimulated the development of some farmer groups, and in the transfer of post-harvest loss reduction technologies which have proved effective in the short term but have yet to demonstrate sustainability. Similarly, some retail capacity development interventions such as the e-shop initiative have resulted in immediate gains for participating retailers, but the overall impact has been limited and sustainability is again yet to be demonstrated (see EQ 11).

81. Although the transport and storage of food commodities have been critical components of WFP supply chain activities, outcomes in this area have been mixed. In many countries within the region, state-owned and/or private storage facilities have been available for rent, and with a few exceptions (such as the facility developed by WFP itself in Djibouti), there has been little need to invest in new storage capacity. On the other hand, WFP has supported the rehabilitation of national silos in Gedaref in Sudan and has played a consultative role in the development of national storage capacity in Ethiopia, although the actual outcomes in either instance are not yet clear. WFP has also developed an important role as a provider of logistical support to other donor agencies from its Humanitarian Logistics Base (HLB) facilities in Djibouti. In this role, it has improved the efficiency of food aid corridor operations from Djibouti to Ethiopia and South Sudan, which, in both countries, currently represent significant components of national food systems.

82. With regard to transport, this evaluation did not find national fleet development to be a clear outcome of WFP supply chain activities, although the business provided by WFP must have contributed to the incomes of transport companies, it is difficult to detect a clear line of contribution to capacity development. This is not surprising given that, with the exception of Djibouti, Sudan and South Sudan, the volumes moved on behalf of WFP represent only a small proportion of overall volumes produced in any country in the Region (Table 3). The absence of a definitive positive outcomes in the areas of transport and storage is superficially at odds with the results of the Local Economy-Wide Impact Evaluation (LEWIE) study [28] that was undertaken for the region. That study used a multi-country applied general equilibrium model to predict economic impacts at a subsectoral level, of WFP spending in different countries, under two theoretical extreme situations. The value of that approach is predicated on the assumption that the real situations in each county will lie somewhere between those extremes and hence the model might at least predict the boundaries of anticipated impacts. The LEWIE model predicts that under conditions of unconstrained labour and capital, there would be significant multiplier effects in the transport and storage subsectors, but that these would considerably reduced if labour and capital were both constrained. These results are quite reasonable and reflect the movement of WFP's financial resources through each national economy. They do not however reflect the level of investment in either subsector, i.e. the extent to which WFP's patronage of local capacity might have stimulated investors to risk capital to expand capacity. That is the aspect that this current evaluation has focused on, on the basis that such investment is an essential of food system resilience (see also Para 90 below).

83. Notwithstanding the above, where WFP has supported operations in an area, there have been clear local outcomes[29] due to increased demand by Cooperating Partners (CPs) for transport of food from secondary

[27] Gelo, D., Muchapondwa, E., Shimeles, A., and Dikgang, J.(2019) Welfare Effect and Elite Capture in Agricultural Cooperatives Intervention: Evidence from Ethiopian Villages. IZA DP No. 12495.

[28] Corong, E., Kagin, J., Taylor, E., and van der Mensbrugghe, D.(2022) Economic Assessment of World Food Program Expenditures in East Africa. WFP RBN.

[29] Examples would include the increased purchase of small trucks reported in South Sudan and Somalia, as well as the investment in canoes in the more remote areas of South Sudan.

distribution points and evidence of investment in trucks and other forms of transport to move food in those areas where large (20-40 ton) trucks are not appropriate. There has also been significant capacity development (as in Mombasa) when WFP has worked with companies at ports to increase operational efficiencies. Conversely however, outcomes of broader transport interventions may be less discernible. For example, a recent intervention in conjunction with the Ethiopian Government led to the importation of 150 trucks from Sudan. While the national fleet was thus increased by only 0.02 per cent, the specific output of the exercise in terms of the volumetric capacity of break-bulk carriers travelling the Djibouti-Addis road may have been increased by up to 10 per cent. Nevertheless although that intervention output was clearly described by WFP staff, its anticipated outcomes in terms of reduced congestion and enhanced transport performance were less evident, and without controlled comparison would be almost impossible to assess.

EQ 3a. How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment?

84. A business enabling environment (BEE)[30] might be considered enhanced if it became more conducive to increased and equitable business activity. This could be a result of many different factors including streamlined regulations, more efficient administrative procedures, enhanced transport and communication, more timely and effective dispute resolution, and enhanced access to finance. In the case of WFP supply chain interventions, there have been few examples of BEE enhancement at scale, but a number of specific interventions have definitely enhanced the BEE at a local level. This would include Business to Business (B2B) activities, activities in Mombasa Port, where WFP management standards and practices have been adopted by the wider business community, and more broadly, those cases where WFP has rehabilitated roads and bridges, effectively opening up previously isolated areas to business. This activity is the most definitive example of BEE enhancement, but WFP work in developing food production and marketing in and around refugee camps has also depended upon communication between producers, transporters and retailers and has resulted in the creation of a business environment where none existed before.

85. The aspect of inclusivity is considered in more detail under other EQ responses, but it was observed that interventions which involve small-scale producers or small business development are generally more inclusive than large scale commercial activities. However, there is little evidence of any change in the inclusivity of the BEE in either case.

EQ 3b: How have activities and identified outcomes contributed to reduced food losses and improved competitiveness and resilience?

Box 7 Post-Harvest Loss Prevention

The use of triple layered grain bags and silos, hermetically sealed to reduce PHL has been promoted in Sudan, Rwanda, Kenya, Ethiopia (pilot) and Burundi. WFP data shows how this technology has reduced losses to levels of approximately one percent, as compared with levels in unprotected storage which can exceed 30 percent.

Hermetic storage has been trialled amongst smallholders for more than 25 years. The technology has been proven to work in more than 20 African countries, but with the exception of its use for the storage of cowpeas in West Africa, the system has been slow to achieve sustainability at a smallholder level. Apart from social issues associated with bulk storage in silos, the main constraint has been identified not as the cost of the bags, (which is only about USD 1.3 for a 50kg bag), but as the limited profitability of the triple-layer bag as a stock item for agri-dealers, who, since they make little money selling the bags, prefer to stock and sell other inputs instead[31]. This constraint will need to be addressed before the technology can become self-replicating and sustained.

Given the scale of its procurement needs, WFP could enhance the uptake of grain bags by smallholders and product acceptance by agri-dealers if it were to require all small lots of grain to be supplied in hermetically sealed bags. This does not appear to be happening. It was not evident from interviews or literature review that there is yet any intent to leverage the purchasing capacity of WFP to stimulate uptake of hermetic storage technology. This might be an area for enhanced collaboration between programme and supply chain units.

[30] The Business Enabling Environment Incorporates the policy, institutional, regulatory, infrastructure and cultural conditions that govern formal and informal business activities.

[31] Nouhoheflin, T., Coulibaly, J.,D'Alessandro, J., Aitchédji, C.C., Damisa, M., Baributsa, D., and Lowenberg-DeBoer J. (2017) Management lessons learned in supply chain development: the experience of PICS bags in West and Central Africa: Industry Speaks. International Food and Agribusiness Management Review In Press: DOI: 10.22434/IFAMR2016.0167.

86. Within the region, activities that contribute to reduced food losses at the smallholder level currently focus on hermetic storage solutions, while at a commercial level, WFP has supported the development of fumigation capacity to reduce warehouse losses. The former is an effective innovative technology, but dependent upon the supply of storage bags to be sustainable. That supply is not necessarily commercially viable, and even though the technology definitely does reduce smallholder losses within the limited context of WFP interventions, the long-term outcome of those interventions at scale is uncertain. The latter (fumigation) is a more widely used approach of proven effectiveness that is scalable, and in the long-term likely to achieve greater impact in terms of system wide loss reduction. Unfortunately, as already noted, data to confirm such hypothetical claims is not available and would require specific experimental designs to validate.

87. For the purpose of this evaluation, competitiveness is considered to be a measure of the efficiency of operations within a food system that reflects the extent of transaction costs between production and consumption. The competitiveness of food systems does not appear to be affected consistently by supply chain interventions. Some interventions, especially those at a local level, can result in reduced transaction costs and consequent enhanced competitiveness of supply chains (WFP improvements to roads and waterways in South Sudan being one clear example, the introduction of new operational technologies at Mombasa port and their adoption by independent agencies being another). Others, especially those at a national and generally more commercial level, may require stakeholders to compete to win WFP tenders, but do not necessarily affect the competitiveness of the supply chain itself.

Box 8 Costs of Direct Local Purchase for WFP

In terms of WFP food systems, interviewees reported that direct procurement tended to increase the cost of commodities due to a number of factors including especially the cost of cleaning grain to meet WFP standards, and of non-performance (especially when contracted grain was sold to another trader). There was also the additional cost of the programme support of smallholders and smallholder institutions that has normally been put in place where WFP has contracted to purchase grain. From this perspective the outcome of direct procurement as regards WFP food system could be assessed as a reduction in efficiency and competitiveness as compared with conventional procurement. At present however, since the volumes procured locally are relatively small, such negative outcomes are of limited significance.

88. Thus, outcomes might be expected to include slight declines in competitiveness due to reduced competition between retailers participating in voucher-based CBT schemes operating at fixed prices, while unrestricted cash has been reported to result in increased competition (as indicated by increased numbers of traders in CBT areas). In both cases however, CBT interventions do not appear to result in an increased number of wholesalers trading in the area, but instead tend to reinforce the dynamic between existing wholesalers and retailers, so that there is no discernible effect upon competitiveness at the wholesale level. At a commercial level, it was reported in South Sudan that the tariff system[32] of transport procurement tends to reduce competition between transport companies in responding to WFP tenders, while the non-tariff system resulted in more intense competition, but since the latter system enhanced the dominance of a limited number of companies, there might be a decrease in competitiveness within the food system itself.

89. Ideally WFP interventions might result in increased efficiencies and increased competitiveness of transport and storage sectors. In practice, although WFP itself could demonstrate competitive contracting costs, no reductions in costs or enhanced competitiveness of transport or storage were reported on a sectoral basis. This is not unexpected. Although such changes might have occurred, they would almost certainly be obscured by variations in prices caused by other factors, including fuel price, and both supply and demand.

90. The resilience of a food system is determined by the extent to which it can continue to function in the face of adverse circumstances, including disruptions to supply, transport or processing capacity or the loss of key stakeholders (e.g., through bankruptcy, or in the case of WFP, through withdrawal). The continued function of a food system is important to investor confidence - a producer will not want to invest in inputs if there is no market for produce because access to markets has been blocked. A trader will not invest in warehouse capacity if supply is not consistent, and a processor is perhaps the most dependent of all stakeholders upon the continuity of both

[32] The WFP tariff system establishes a pool of contractors who provide transport services at a fixed rate. The single rate is normally calculated from the prices bid by contractors and is intended to reflect fair market conditions. Work is then allocated amongst all participating contractors willing to operate at the fixed rate. This type of contracting mechanism is used where no single transporter has enough capacity to satisfy needs but restricts both the scheduling of work and the profitability of each contract for individual contractors. In contrast, non-tariff contracting generally allocates larger volumes of work to a small number of lowest bidders. This allows individual contractors greater profits and greater self-determination but may increase the risk of non-performance.

supply and demand. Hence continual and increasing levels of investment are a useful indication of stakeholders' perceptions of resilience.

91. **Some WFP supply chain interventions have been associated with an increase in the resilience of food systems**, as indicated by stakeholder investment in different aspects of production (e.g., at Kakuma in Kenya), storage (e.g., by the Agricultural Bank of South Sudan), transport (e.g., by haulage companies in Ethiopia) and processing (e.g., by AIF in Rwanda). In each instance it has been the initial effects of WFP interventions, either as a client (e.g., purchasing fortified flour) or by injecting capital into a market through CBT, that provided the impetus for each investment. These effects are generally not widespread, but individual examples are nevertheless readily observed in specific locations in almost all countries in the region. While the LEWIE study (2022)[33] suggested that WFP's interventions might result in some degree of multiplier effect in specific subsectors, this evaluation suggests that WFP intervention does not guarantee that an investment will be associated with increased resilience, which is generally developed only when the investment broadens its scope to include other clients or sources of income (it is not resilient to be dependent solely upon WFP for business). Nevertheless, WFP initial involvement creates the initial conditions for such increased resilience to be developed.

EQ 3c: How have activities and identified outcomes contributed to efficiency gains in the food systems affected by supply chain interventions?

92. Gains in the efficiency of food systems can include increased productivity and reduced PHL, higher returns to capital through increased utilization of fixed assets and reduced transaction costs, including the costs of transport and communication. WFP has implemented supply chain interventions in each of these areas with different outcomes, some of which might be considered to constitute gains in efficiency.

93. At the smallholder level, WFP promotion of various production technologies, including irrigated production, as observed in Kenya at Kakuma, does result in positive food system outcomes. These are well recorded in the annual reports of different countries, but for the most part they are limited in geographic scope and in replicability. On the other hand, the promotion of hermetic storage bags to reduce PHL (as reported in Sudan) may have a significant positive outcome if it can achieve successfully self-replication. Certainly, the promotion of proper fumigation practices is a more prosaic, but nevertheless effective intervention that has resulted in the wide adoption of the technology and must have contributed to the prevention of many thousands of tons of storage losses.

94. Interventions resulting in the more efficient use of assets include training in warehouse management systems and voucher-based CBT partnerships with retailers (which have benefitted both retailers and wholesalers), although these tend to have been closed system interventions for which positive outcomes, when they have occurred, are restricted to participants and their immediate wholesalers. Direct contracts with WFP (e.g., for transport or storage have allowed greater utilization of fixed assets, but the outcomes in terms of increased profit are less evident and may well be expressed as investment outside of food systems.

95. Transaction costs have probably been reduced through the promotion of standards, facilitation of B2B meetings, and programmes designed to enhance linkages between farmers and markets. In specific instances, there are clear gains. The construction of markets at Kakuma, in conjunction with training activities and other supports have increased the number of retailers supplying the refugee market there and potentially reduced costs. In practice however, there is very little evidence that the majority of these interventions have caused significant or sustainable increases in food system efficiency. In marked contrast however, the development of road and waterway infrastructure to provide access to otherwise remote areas has led to substantial reductions in transport costs, increased volumes sold, and increased numbers of stakeholders in those areas. Within those areas, such engineering interventions (which in most COs are made by engineering units at the request of Supply Chain) make the most important contribution to the enhancement of food systems.

96. Transaction costs have also been reduced through WFP promotion of investment in local food processing capacity has also increased the efficiency of the food systems insofar as the supply of processed products has been concerned.

EQ 3d: How have outcomes been influenced by internal factors and external context?

97. Both internal factors and external context were found to play critical roles in determining the nature and extent of outcomes. As a result, it is almost impossible to generalize as to outcomes of different types of interventions, except in the broadest sense. In almost every case, successful outcomes have been a result of appropriate and intentional

[33] Corong, E., Kagin, J., Taylor, E., and van der Mensbrugghe, D.(2022) Economic Assessment of World Food Program Expenditures in East Africa. WFP RBN.

design - as concluded in response to EQ2. Important examples of contextual effects are described below, but since every outcome is affected by context to some extent, the list cannot be comprehensive.

98. Internal factors can play an important role in affecting intervention outcomes. Such factors include the size of tenders, which can influence the number of traders who might be able to respond, and the nature of the tendering process itself (e.g., the difference between outcomes to tariff and non-tariff tenders for transport). As an example of the importance of internal factors, it was observed in South Sudan that CBT voucher systems could be beneficial to some traders who suggested that their businesses had expanded as a result of the increased turnover. Nevertheless, it was also reported that where the reimbursement of vouchers had been delayed, retailers were obliged to seek credit from wholesalers in order to maintain their stocks. In addition, the terms of such credit could be onerous, to the extent that analysis by the payment agency suggested retailers' profits were being almost entirely appropriated by the wholesaler that they all depended upon. In this case, the outcome of the CBT for beneficiaries was unchanged, but for the retailers, the outcome could be completely reversed according to the efficiency with which the intervention was implemented.

99. In terms of commercial grain procurement, the production, season, and degree of competition from other sources all affect the prices that might be offered and the consequent impact of the tender process on the market as a whole. Direct local purchase from smallholders is slightly different in that price is not a critical outcome and will have little effect on the broader market, but overall performance is still subject to the same concerns, with additional considerations such as the cost and availability of adequate cleaning and inspection capacity which can determine how successful such interventions might be.

Box 9 Linking Smallholders to Markets.

WFP has implemented a range of activities under this heading include the strengthening of co-operatives in terms of management processes, facilitating access to finance and facilities (bagging, cleaning, weighing and storage) and providing business management training as well as sensitization of farmers. The intention being to assist smallholders to market their produce more effectively and to benefit from economies of scale. The outcomes from this type of intervention have been variable, but generally limited. In Kenya and Burundi, sales through enhanced linkage systems in 2020 were less than baseline, while in Uganda and South Sudan, only 1,690 tons 1,204 tons respectively were marketed through these systems. In Rwanda, however, where 88,000 farmers sold 11,682 tons through cooperatives, the interventions have had more significant outcomes[34]. In Rwanda, the cooperative movement is strongly encouraged by the Ministry of Trade and Industry, and it is difficult to determine the extent to which WFP support has contributed to this result.

100. With regards to market development activities, the evaluation found examples where outcomes have varied according to the level of general economic activity within an area, as well as the availability of finance, and perception of risk (see Box 14 and Box 17). All of these factors can affect the extent to which stakeholders might be willing to invest and respond to WFP market development activities so that similar interventions have resulted in quite different outcomes.

101. The same is true of capacity development interventions. Private sector capacity development has occurred where counterparts have seen the commercial benefit of the WFP systems and technologies, which they have then adopted themselves[35]. Public sector capacity development is less clearly motivated. While it can definitely be beneficial, it can also be subject to abuse when used for rent-seeking purposes.

102. Other smallholder development interventions, including PHL prevention and the development of linkages between farmers and markets, are highly context-dependent in that the former requires the sustained availability of the hermetic grain bags, while the latter depends on the prevailing socio-political context.

EQ4: To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?

103. At a broad food systems level, the outcomes of supply chain interventions do not demonstrate any greater inclusion or representation of women, youth or vulnerable actors than would otherwise be found within the typical food systems prevailing under the general socio-economic context of each country[36]. This is to be expected given the

[34] There have been no interventions in this category in Ethiopia, Sudan, or Djibouti during the period under review.

[35] As was reported by freight agencies at Mombasa.

[36] Although specific figures vary amongst different countries, the general pattern is of a substantial predominance of women amongst informal petty traders, with a reduction in the proportion of women actors as the size of trading enterprises increase, so that less than 5 percent of large trading enterprises are owned or managed by women.

commercial nature of the majority of supply chain interventions that do not differentiate on the basis of age or gender.

104. At a finer resolution, within the context of specific elements of food systems, there is some evidence of outcomes that imply increased empowerment of women and of youth. These include:

- The development by women of small businesses to transport food aid to beneficiaries in canoes for CPs in remote parts of South Sudan.
- The e-Shop concept that has been taken up strongly by women retailers in Somalia and has provided employment for some young people who assist those unable to use the system.
- The empowerment of women's cooperatives in Kenya and South Sudan.
- The selection of sorghum rather than maize as a commodity for distribution in Sudan and South Sudan, not only because it is a preferred staple, but because it requires less effort for women to pound.

105. It is evident, however, that these illustrative examples are limited in extent, context dependent and uncertain in terms of replicability. Moreover, with the exception of the e-shop example there was no evidence of food system outcomes specifically empowered youth or vulnerable or disabled actors as stakeholders at either the macro or the micro level of food systems.

106. The overarching conclusion is that neither women, youth, nor vulnerable actors are specifically empowered by the broader sweep of supply chain interventions. Nevertheless, it is worth considering the converse outcome, i.e., that women, youth and vulnerable actors might be disadvantaged as stakeholders in food systems as a result of WFP supply chain interventions. At the macro level, there would appear to be some evidence to suggest that this might be the case, especially with regard to WFP interactions with traders and processors, and to a lesser extent transporters. In each of these situations, capacity to respond to WFP commercial tenders is to some extent dependent upon access to finance, and in the majority of cases, women and youth have poorer access to finance than older men. E.g., in Ethiopia, it was found that 65 percent of micro trading enterprises (with a capital of USD 3,000 or less) were run by women, as compared with 26 percent of small traders (capital of less than USD 30,000) and only 10 percent of medium traders (capital of more than US$30,000)[37]. As a result, the most competitive responses to larger tenders for transport and commodities tend to be submitted by male-dominated companies, while in those cases where WFP is implementing CBTs, the wholesalers underwriting the exercises tend also to be almost exclusively male. It can be argued therefore that despite a willingness to promote inclusivity at the micro-level of food systems, WFP larger interventions do not only not support inclusivity but might militate against it.

107. There is very little evidence that WFP supply chain interventions have contributed to an increased level of inclusiveness within food systems. There have been a small number of interventions that have focused on women's participation or provided opportunities that have been taken up by women or youth, but these have been in the margins of supply chain activities. Outcomes of the core aspects of supply chain interventions, including procurement, transport and storage, as well as the distribution of cash or food, have remained largely unaffected in terms of either increased or reduced participation of disadvantaged groups in the associated food systems.

EQ5: What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?

108. One of the most consistent aspects of this evaluation across countries has been the limited extent to which available data is suitable for the monitoring of change induced by supply chain activities. This is to be expected given that most of the data collected by supply chain units is intended to support the auditing of activities themselves rather than assessing the changes that occurred, let alone the changes that occurred amongst third-party stakeholders.

109. The aspect of change is important. A substantial volume of supply chain data does exist that relates to the characteristics of food systems. Volumes and prices of food procured, numbers of wholesalers, costs of transport, profiles of transporters and other stakeholders are regularly collected, together with programme unit data including market functionality indices and retail performance monitoring scores, and VAM data on household on market prices provide snapshots of many different aspects of food systems. It is nevertheless difficult to interpret changes in that data in terms of development in food system supply chains and WFP contribution to that development without making assumptions about the datasets. E.g., an increase in the price of food in the Bor market could reflect increased demand due to CBT, an increase in the local population, a reduction in local supplies of food reaching the market, increased local taxes, or general inflation. An increase in the number of retailers might reflect increased purchasing power amongst smallholders, enhanced access to markets, reduced cost of capital, or

[37] Aregaw, T. (2016) Trade as a tool for the economic empowerment of women. Women's Affairs Mainstreaming Directorate, Ministry of Women & Children Affairs, Federal Democratic Republic of Ethiopia.

changes in local regulations – or the impact of other donor or government interventions. Unless such factors can be properly taken into account, it is difficult to use existing data to draw inferences on the outcomes of WFP interventions.

110. Quantitative data can be meaningless, or indeed deceptive if it lacks statistical significance or has been analysed incorrectly without allowance for context. The socio-economic context in which WFP operates is rarely stable and many aspects can shift dramatically from year to year. This renders the identification of trends especially difficult. Floods, drought, conflict, and economic factors such as inflation or fluctuating exchange rates are not unusual and can obscure or inflate trends in raw data confounding the interpretation of changes. In theory, there is enough contextual data available (including both economic and physical factors, collected by VAM and programme units) to allow some of the confounding factors to be removed through regression analysis, but in practice this appears to be difficult for two reasons:

- The analysis requires a priori assumptions as to the relevance of contextual factors and their linkages with any observed changes.
- There is often more than one external factor to be considered in a WFP CBT area, but analysis of those trends should allow for inflation, changes in local population levels, local productivity, changes in security, and changes in interest rates before the trends could be interpreted effectively. Ideally, the exercise would be conducted with a control population (and strengthened with matching pairs analysis) if robust results are required.

111. In order to monitor and inform food system development going forward, a chimeric database drawn from existing supply chain and programme databases is unlikely to be adequate. Nevertheless, even if appropriate and robust data collection procedures have been put in place, it is only possible to confirm that a "treatment" effect of a supply chain intervention exists, but not why it may do so. For this reason, it will be necessary to complement the quantitative data collection exercise with regular qualitative analyses that can use open-ended enquiry to provide the information necessary to complete the analysis.

EQ6: To what extent is there collaboration between supply chain, engineering, and programme units?

112. Significant collaboration was observed between supply chain, engineering, and programme units, but the extent varied amongst the different countries. Collaboration was most evident in the areas of smallholder procurement and market development. Little collaboration was evident in commercial supply chain activities.

113. The extent of collaboration between the supply chain, engineering and programme units varies considerably from one CO to another. Collaboration can include participation in the same development agenda (when knowledge is shared and priorities jointly determined), or joint implementation of the same intervention. It was observed however that collaboration was greatest at both ends of the supply chain (i.e., where interventions were focused on the development of capacity of smallholders at the production end or small businesses (retailers) at the other end of the value chain). In these situations, supply chain units operated in close conjunction with programme staff. The goals of each intervention were well understood by all parties and both programme and supply chain units contributed their experience to the design and implementation of activities. Such interventions included direct smallholder purchase, PHL reduction and cooperative development activities as well as support to retailers through B2B activities, fresh vegetable marketing and e-shop systems. In each case, there was a clear developmental (programme) component supporting a commercial (supply chain) activity.

114. In contrast, the larger commercial activities that involved engagement with traders or wholesalers lacked any developmental component and were entirely supply chain focused (this is understandable given that the overarching purpose of most supply chain activities is to deliver food or cash cost-efficiently). This was also evident in the procurement of transport and in port activities (as at Berbera). There was no evidence of WFP interventions to encourage the participation of smaller businesses or businesses owned by women or minority groups. Business counterparts appear to be selected on the basis of commercial principles alone.

115. There are some exceptions to this. In the course of road development, the engineering unit in South Sudan does collaborate with programme staff to ensure that the enhanced access will be beneficial and in particular will not promote conflict between groups that would otherwise remain separate. There is also close collaboration between WFP nutrition and supply chain staff when contracting supplies of collaboration is processed or fortified foods. These are areas where collaboration is obviously necessary and regularly achieved.

116. The sharing of information is fundamental to the effectiveness of collaboration, and mechanisms for sharing information might be considered important. In practice, it was observed that in those situations where programme and supply chain worked together, information sharing was implicit within the design of each intervention and was normally facilitated by close day-to-day contact and informal discussion. Information sharing is lacking (irrespective

of any mechanism) in those areas where programme and supply chain activities do not conventionally meet - specifically the commercially driven activities of procurement and distribution. In these areas, there is no expectation of collaboration - possibly because the commercial principles underpinning these activities tend to crowd out developmental concerns.

Box 10 Knowledge sharing and collaboration

This evaluation was tasked to assess the extent of collaboration between programme and supply chain units. It was observed that both these aspects varied considerably according to context.

In terms of information sharing, it was evident that supply chain units were generally aware of programme unit concerns in the areas of inclusiveness, climate change and nutrition, but of those, only nutrition had any clear impact on supply chain interventions. Nutritional concerns drove supply chain distribution activities in terms of commodity selection and volume, although decisions were still constrained by logistical issues of commodity availability. It was also evident that in many cases, supply chain units were aware of more nuanced concerns such as the shorter cooking time of lentils as compared with Phaseolus beans which meant that the distribution of lentils could reduce the use of charcoal and deforestation, or the greater level of effort required to pound maize as compared with sorghum, so that distributing sorghum could reduce the burden on women. Nevertheless, these issues were secondary to the primary considerations of cost and availability.

There was no evidence that the mitigation of climate change was a consideration in the design of supply chain interventions. The stated aim of replacing air-drops of food with overland convoys might reduce carbon dioxide emissions but that is entirely secondary to the goal of reducing costs. The potential climate impacts of triple-layer polyethylene/polypropylene hermetic storage bags do not appear to be a consideration.

In some interventions, especially those relating to market development, programme and supply chain units worked very closely together and effectively shared implementation responsibilities. WFP staff on the ground had good knowledge of the interventions and were able to explain the different aspects of the programmes, including both progress and problems, irrespective of their unit. This was particularly evident in Kenya and South Sudan. Similar collaboration was evident in the case of direct procurement from smallholders where supply chain relied to a considerable extent on the experience of programme units (working through CPs) to ensure that smallholder and cooperative performance was adequate to meet WFP requirements.

Collaboration is least evident in those instances where commercial principles are most dominant, i.e., in the procurement of transport and storage as well as in regional and local procurement of grains and fortified foods. In distribution, and in the development of infrastructure. In these cases, supply chain units generally operate without input from any programme unit other than nutritional input regarding the selection and distribution of commodities. Nevertheless, even here considerations other than cost can be important. E.g., In Ethiopia, food deliveries were planned collaboratively according to the exigencies of conflict avoidance and the political landscape.

EQ 6a: How are outcomes affected by such collaboration?

117. In those areas where collaboration between different units has occurred it has tended to broaden the scope of interventions in such a way as to increase their chances of success at a local level.

118. Collaboration does not appear to have affected the scalability of interventions. In fact, scalability appears to be reduced in those situations where programme input has been most evident. This is particularly relevant to direct purchase interventions which were initially of limited success generally, but eventually became more effective as the scope of the intervention was increased to provide all of the supports necessary to enable smallholders to respond to WFP purchase requests. Nevertheless, the cost of the broad scope limited the extent and speed with which such direct purchase interventions could be scaled up, so that they have remained well below the target of 30 percent of local purchases that was originally envisaged for this type of intervention.

119. Collaboration between programme and supply chain units has certainly been beneficial to local interventions. The inclusion of programme elements within wider (national level) supply chain activities might provide similar benefits, especially in terms of broadening the stakeholder base and thereby potentially increasing the competitiveness and resilience of national food systems. At present, the commercial ethos of such supply chain activities largely precludes a development component so that collaboration is limited.

EQ7: Are supply chain capacities and capabilities effectively leveraged to achieve desired outcomes and contribute to wider systems level change?

120. In general, this question presupposes that a set of desired outcomes has been identified. It is implied that such outcomes should be part of wider systems level change and it is therefore important to identify what that change might be and what outcomes might contribute to it. EQ 3 suggests that systems level change should include increased competitiveness and resilience and reduced food losses, while EQ 8 below adds the aspect of inclusiveness, as well as the (presumably enhanced) access and affordability of nutritious foods. The evaluation seeks to assess the extent to which supply chain capacities and capabilities have been effectively leveraged towards the achievement of these ends.

121. To answer this question, it is also necessary to determine what specific capacities and capabilities of supply chain units might be brought to bear in order to achieve these goals. This evaluation considered the following different capacities of WFP Supply Chain Units:

- The capacity to sustain substantial deliveries of financial resources and food commodities.
- The capacity to administer and manage the procurement of commodities and services.
- Logistical capacity, including warehouse management capacity.
- Engineering capacity.
- Development capacity.

122. Each of these elements are considered briefly below:

Food Distribution and CBT

Box 11 CBT-based Supports to Retailers

WFP Supply Chain in South Sudan, Somalia and Kenya contract retailers to sell food to recipients of WFP-provided cash payments. Retailers register sales and are reimbursed through different mechanisms. Programme units from WFP Kenya and South Sudan provide complementary support, all of which aims to improve the volume, quantity, quality, and diversity of food available to WFP cash recipients.

WFP South Sudan (Bor) and Somalia (Dollow), contracts retailers who must establish an account with a WFP appointed financial services provider. Each retailer must record sales to WFP clients/beneficiaries with a proprietary mobile point of sale (MPOS) mechanism. MPOS recorded transactions are settled monthly, by payment into the retailer's account. Transactions through the MPOS require the use of WFP SCOPE charge cards held by WFP cash recipients that can be remotely replenished. In Somalia, the MPOS is also linked to an online ordering app, e-Shop. It was an optional convenience available to clients/beneficiaries prior to COVID-19, which became mandatory at the outset of the pandemic. In Kenya (Kakuma), payments are made through a Kenyan mobile money system (M-Pesa) to registered retailers, through an initiative called, Bamba Chakula (Swahili-based slang for 'get your food'). As well, Supply Chain in Kenya undertakes additional activities to promote retail sales. They contracted for the construction of market stalls, provision of umbrellas and the development of a fresh produce cooling system. The Programme team also trains local Kakuma retailers and authorities on compliance with Kenyan small business regulations.

123. There is a large body of anecdotal evidence to suggest that while impacts upon targeted beneficiaries may be very positive, the food system outcomes of food aid distribution are generally negative, although rigorous analysis would suggest this is generally misconstrued[38]. In contrast, substantial changes in economic activity can clearly be discerned from WFP CBT activities and this has resulted in a number of different interventions designed to ensure that CBT does not disrupt the markets in those areas where it is implemented. The evaluation observed a number of supply chain activities designed to ensure that markets can meet the needs of CBT beneficiaries. This would include partnering with selected retailers and wholesalers, who are contracted to provide commodities in exchange for vouchers and trained in the use of MPOS technologies, as well as the provision of additional services such as the e-shop and delivery service and chilling capacity to enhance the supply of fresh vegetables. The selection process is based upon capacity as determined by rapid profiling. It is gender-neutral and does not favour youth or other vulnerable groups. From that perspective, this specific capacity of WFP serves the specific purpose of providing adequate supplies of food but does not serve any broader developmental purpose.

[38] Abdulai A., Barrett, C.B., and Hoddinott, J.F.F. (2005) Does food aid really have disincentive effects? New evidence from Sub-Saharan Africa. World Development 33(10): 1689-170. DOI: http://dx.doi.org/10.1016/j.worlddev.2005.04.01

Procurement of commodities and services

124. WFP procures substantial volumes of food and has equally large transport and storage requirements that are tendered out to private and in some cases parastatal or government institutions. In the majority of cases, there is no developmental leverage of WFP large capacity requirements in these areas. Contracts are tendered and managed on a commercial basis that is designed to promote cost effective and efficient performance. Developmental outcomes are generally fortuitous with the exception of one critical area. In the case of nutrition, WFP has been able to leverage its substantial demand for protein-rich and fortified foods to promote investment in processing capacity with significant impacts on local food systems. The processing plants constructed in response to WFP demand have not only developed the capacity to produce nutritious food for WFP but have in many cases[39] diversified their client base to achieve sustainability, while increasing demand for locally produced inputs. In a similar manner, WFP grain standards have required wholesalers (producers and traders) to develop the capacity to produce clean grain at appropriate moisture levels. This has generally resulted in increased costs that might not be sustainable under some local circumstances[40], but for those markets that can bear the cost (such as commercial mills, where higher grain quality translates to improved milling out-turn), enhanced grain quality has been made available as a result of WFP purchasing requirements in countries such as Kenya, Uganda, and Sudan.

Box 12 Leveraging WFP Procurement Capacity to Increase Smallholder Participation

In 2019 WFP adopted a policy to expand the benefits of local procurement to smallholders[41] through the use of indirect contracts. The system would operate through commercial wholesalers rather than purchasing directly from farmers' cooperatives and would require wholesalers to pay registered prices to smallholders. The system was piloted in four countries[42] in 2017/18, when 15,000 tons of grains were purchased. Nevertheless, it does not address the constraint of limited access to finance, and it is dependent upon the introduction of new technologies to ensure the traceability necessary for verification. An alternative approach might be to reduce the volumes of contracts that could be won by any single entity, and to increase the number of lots tendered. This would have the effect of reducing the financial requirement for participation, thereby enhancing inclusiveness. It would also increase the extent of competition between wholesalers for grain, thus enhancing the negotiating position of smallholders and smaller traders. In some countries it may be difficult initially to attract enough bidders, and for this reason it will be necessary to undertake programmed interventions to develop trader capacity, with particular emphasis on facilitating the participation of women through such activities as B2B conferences, training in computer literacy and tender procedures, and financial management. All of this would increase operational costs but would also enhance the inclusivity of the process and the extent to which smallholders might benefit from it.

Logistical Capacity, including Warehouse Management Capacity

125. In this case, there has been some leveraging of WFP capacity to promote improved logistical capacity amongst partner institutions, including freight forwarding and warehouse management companies in Mombasa as well as warehouse management and fumigation companies in other countries. In such cases, WFP has actively promoted improved technologies through the training of counterparts, resulting in more efficient commodity management and potential loss reduction.

Engineering Capacity

126. WFP engineering capacity has been effectively leveraged by logistics and market development units to take advantage of the enhanced access that has resulted from WFP construction and rehabilitation of roads, bridges and waterways. In South Sudan, these interventions have often resulted in economic development in the hitherto isolated areas. This has been monitored by market development units, who have been able to design and implement CBT and support activities when appropriate. In this way, WFP has been able not only to reduce the cost of its supply chain activities but also to promote market development at the same time. The examples of such leverage are not widespread except in South Sudan and Sudan, where roads are poorly developed but do represent robust leverage of WFP capacity.

[39] E.g., AIF in Rwanda or GUTS in Ethiopia.

[40] WFP staff in both South Sudan and Ethiopia have reported that grain from smallholders needed additional cleaning to meet the required standard and that the cost ranged from US$4-US$15 per ton depending upon the grain and method used but was roughly equivalent to a 5 percent increase in price.

[41] WFP/EB.2/2019/4-C (WFP Executive Board Second Regular Session November 2019.

[42] Zambia, Honduras, Tanzania and Malawi.

Developmental Capacity

127. WFP has accrued considerable expertise in different aspects of food system development, and this has been leveraged to increase the supply of grain to WFP by smallholders and smallholder groups. It has also been used to stimulate the direct marketing of vegetables to retail outlets. In these and similar cases, the cost of the programmes has constrained their extent, and leverage has been limited to specific locations. The rationale for such interventions must be that if successful they can be replicated either by other institutions (including governments) or spontaneously by smallholders themselves. It is not clear that either has happened to any significant extent.

EQ8: To what extent have supply chain activities and identified outcomes contributed to wider food system impacts (including intended and unintended effects on local economies, upon resilience and inclusiveness of food systems, and upon access and availability of affordable nutritious foods)?

128. The thematic summaries of outcomes in Annex 10 demonstrate the considerable variation in both the outcomes of supply chain interventions and the extent to which those outcomes affect local economies, wider food systems and such critical characteristics such as resilience, competitiveness, inclusiveness and the components of food security. Each of these aspects is considered in turn below:

Wider food system effects

129. There are relatively few instances of interventions that have had well-documented outcomes beyond the immediate area of intervention, but the following two examples show clearly how some interventions (especially in the processing sector) can have broader effects.

130. In Rwanda, according to key informants, prior to WFP engaging with Agricultural Improved Foods (AIF), the transport sector lacked capacity, particularly in terms of the regional movement of food. With the local and regional procurement of lipid-based nutrient supplements increasing from 2016 to 2019, reaching 63 percent of the total quantity of supplements procured globally in 2019, the introduction in 2017 of the first African supplier, AIF, led to increased regional procurement, reaching 34 percent in 2019[43] and a positive effect on investment in commercial transport capacity. The number of registered trucks in Rwanda has grown progressively every year since 2015[44].

131. AIF now relies on many transporters to collect raw materials from farmers and to distribute their products regionally. This has created business opportunities for local transporters both in and outside Rwanda. Similarly, when the milling company, Minimex, started working with WFP and AIF, they purchased approximately 30 percent of grain from smallholder farmers; this volume had increased to 80 percent in 2021[45].

132. In Ethiopia, WFP contracted a special nutritious foods (SNF) factory at Bahir Dar as a supplier. This has generated strong private sector interest and WFP has been approached by many local manufacturers asking for guidance on how to comply with WFP requirements. This suggests a need to identify more factories that can specialize in SNF production[46].

Box 13 Issues with Mobile Point Of Sale (MPOS) Technology

The mobile point of sale system, together with delays in either reimbursement to retailers or disbursement to clients/ beneficiaries, was reported to undermine gains to retail businesses. In Bor, retailers complained that they were made vulnerable to exploitation by wholesalers if the reimbursement of funds was delayed. They were able to obtain goods on credit at reasonable rates from wholesalers on the basis that loans would be repaid at the end of the month following disbursement by WFP. In the event of delayed reimbursement, retailers were obliged to seek an extension of credit with additional credit to restock and continue their business. The rates of the extended and additional credit were generally much higher, which significantly eroded the retailers' profits to the point where one analysis suggested that retailers were scarcely covering their costs. Somewhat differently in Kakuma, when payments by WFP to refugees are delayed, some refugees request credit from retailers, who in turn take credit from the wholesalers. As beneficiaries default on their repayments, consequences are felt throughout the supply chain. One refugee wholesaler is owed millions of shillings. It is reported that some refugees take credit and leave their WFP cards as collateral. They then report the card as missing. They are then issued another card by WFP

[43] WFP 2020, Update on Food Procurement, Executive Board Annual session

[44] In 2015, Rwanda registered 4,933 trucks and 2020 this had grown to 9,680 trucks.

[45] Quarit Agro-processing PLC, Amhara, Bahir Dar industrial zone

[46] Specific outcomes from the intervention were not available to the evaluation team.

which they use to make purchases from another trader. The first trader is never repaid. In fact, from the retailers' perspective, the MPOS may be associated with losses. No such problems were reported in Dollow.

Box 14 Effect of Scale of WFP Operations on Outcomes at Berbera Port

The Government of Somaliland in conjunction with DP World began an expansion of Berbera port in 2018. That expansion has caused a significant increase in economic activity in the area. In this changing economic dynamic, WFP plays a contributory but significant role aligned with the Government of Ethiopia's National Logistics Strategy. WFP is an important client of Berbera port. It contracted approximately 7,000 lorries in 2021 and spent approximately USD 2.3M on port services, accounting for 6 percent of port business by volume. Observations suggest that they may make a commensurate contribution to the revenues of businesses outside the gates to the port.

In this area outside the port there may be 25 to 35 restaurants and 10 to 15 small kiosks. Berbera may have 10 to 15 wholesalers (some large shops serve as wholesalers to small ones). Annual Incomes of restaurant and kiosk owners might be of the order of USD 10,000 and USD 2,000 respectively, including a significant increase (40 to 50 percent) in the last 3 to 4 years. Like the retailers in Dollow, this marks a significant and positive improvement for a relatively small number of facilities. One key difference is that changes in Berbera are not contingent on WFP interventions and are rather embedded in wider economic and social growth. Dahabshil, the largest financial service provider, has borne witness to the enormous changes in the town and has equally benefitted with more clients who are moving up the financial ladder – whether corporate, personal or micro services. It can be reasonably assumed, based upon throughput that WFP supply chain activities may have contributed about 5-10 percent of this growth.

Local economic effects

133. Supply chain interventions can have direct effects on local economies in terms of commodity prices, but these are generally limited in extent, geographical location, and duration. Such outcomes can be in response to the distribution of food (decreasing prices) and cash (increasing prices). The outcomes of each case may be opposite in direction but are broadly similar in extent. The LEWIE study (2022)[47] also predicted that WFP expenditure across the region would have multiplier effects in the transport and storage subsectors where employees and the businesses that they might patronise would all derive immediate benefits from the injection of finance. Nevertheless, apart from these observations and despite anecdotal reports of business disruption, it is hard to identify any long-term outcomes within local food systems, still less at national levels.

134. Nevertheless, CBT interventions can result in the transfer of significant amounts of cash into local economies that accrue mainly to a limited number of retailers and wholesalers. These stakeholders have benefitted from the enhanced turnovers that the CBTs have generated insofar as increased profits have allowed them to expand their operations. Although some service providers associated with food systems (such as porters and taxis) had anecdotally benefited from increased demand, there is little direct evidence of any other economic development resulting from voucher-based CBT, with the exception of financial service providers (FSPs) contracted by WFP to reimburse retailers.

Box 15 CBT Outcomes for Financial Service Providers

Financial service providers interviewed in South Sudan (Bor) and Somalia (Dollow) reported that contracts to service retailers engaged by WFP for voucher-based CBT had been profitable for the banks themselves. Amal Bank in Dollow said that they had no profile and very little business before they were contracted by WFP, but the contract had led to significant increases in their clientele and business. Nevertheless, in Bor the manager of Kush Bank reported that while each retailer was required to open an account, few had used their accounts for any other purpose than to receive reimbursement. In particular, the concept of building savings at the bank was appreciated by very few and most moneys received from CBT were rapidly withdrawn. As a result, most of the additional income earned by the bank was due to the service charge to WFP. This could be substantial since the volume of transactions was considerable (e.g., Kush Bank disbursed USD 420,000 to 136 retailers in Bor each month).

These are also economically marginal regions where the presence of WFP cash disbursements has a significant effect on the local economy. Amal said that the withdrawal of WFP would have enormous negative effects on their business. Even a competing bank in Dollow said that much of the current wealth in Dollow that is banked with them derives from WFP cash disbursements. Amal Bank felt that WFP contracted wholesalers were evolving their

[47] Corong, E., Kagin, J., Taylor, E., and van der Mensbrugghe, D.(2022) Economic Assessment of World Food Program Expenditures in East Africa. WFP RBN.

awareness and use of financial services. Likely, the MPOS/e-Shop experience would have contributed to that evolution. Amal's competitor equally noted that many of their clients who were directly contracted by or dependent on WFP have evolving financial service needs.

Resilience and Inclusiveness

135.Resilience is addressed under EQ3b, while inclusiveness is considered under EQ4.

EQ 8a: What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?

136.The main factors affecting outcomes were found to be:

- **The scope of interventions**, in that interventions that are broad in scope are more likely to result in clear outcomes at the local level. In general, these interventions have a stronger developmental element (often involving the joint participation of programme and supply chain units) and have been designed to ensure that most potential constraints have been addressed through different components of the intervention (e.g., direct purchase interventions can include training in production, enhanced access to finance, training in producer management, storage and responding to contract requirements). The broad scope provides a greater chance that the overall intervention will be successful in its objectives.
- The **scale of supply chain interventions** is important, especially since many are implemented at a scale far greater than can be achieved by any other agency (except governments). The scale of CBT interventions in particular can generate increased economic activity within local food systems, including retailers, wholesalers, and even financial service providers. Other interventions, such as procurement, can stimulate the development of local trading sectors. Nevertheless, scale appears to have little effect on outcomes in transport and storage sectors of food systems. Similarly, the scale of supply chain interventions does not appear to have increased the participation of women, youth, or disabled groups in food systems.
- **Local context** can affect the extent and nature of supply chain outcomes at both macro and micro levels. At a national (macro) level, cultural norms can affect the extent to which women or youth participate in different aspects of food systems so that outcomes in terms of inclusiveness can vary from one country to another even though the interventions may be fundamentally similar. Within countries, many micro-level factors can affect outcomes. For example, market development activities in South Sudan resulted in the development of a wholesale sector and reduced consumer prices overall in one town, but was marked by an absence of wholesalers and higher consumer prices in another town that was similarly located. The difference between the towns related to the conditions along the roads that supplied them. In one case, the road was unimpeded and wholesalers used it regularly. In the other case, the road was subject to regular roadblocks at which informal levies were charged specifically to wholesalers (who were perceived to be well off). As a result, few wholesalers would supply the town and retailers were obliged to travel back to Juba themselves to obtain stock. The retailers also suffered the predatory levies (albeit to a lesser extent than wholesalers) and this together with their lower economies of scale obliged them to increase prices to levels that were significantly above those in the first town. Contextual factors can significantly affect the outcomes of supply chain interventions so that the nature and extent of outcomes can often be variable and uncertain.
- One contextual factor that is not always appreciated appears to be the **timescale of interventions**: many outcomes are not immediate and take time to develop. Traders' responses to new procurement opportunities have grown over a number of seasons as individual businesses have become more confident that they can benefit from supplying WFP.
- The **characteristics of the local population** are also critically important to the nature of outcomes. Low-income residents of refugee camps can drive a market response that can be very different to that observed in more economically active communities. Retailers and wholesalers may be reluctant to increase their investment in the former situation and may redirect the resources gained from participation in development programmes to other more lucrative areas.

Box 16 Capacity and Context

Outcomes of capacity development interventions are highly context dependent. Support for the development of commodity and food standards will only result in positive outcomes when standards can be applied objectively and responsibly rather than to facilitate rent-seeking behaviour. The development of laboratory testing capacity can be considered in the same way. An effective testing system can have a positive effect on market efficiencies, but that effect depends upon the context. If the service is co-opted as an income generating opportunity by select

individuals or interest groups, the outcome can change to reduced efficiency and competitiveness. Unfortunately, this too can be a sustainable outcome under the appropriate circumstances. One solution might be to promote private sector participation and competition in the provision of such services.

137. All of the above contextual factors combine to create a level of background spatial and temporal noise that can easily mask trends in outcome data. Analysis of different data sets reveals apparent positive trends that can be attributed to inflation, and negative outcomes that have been due not to supply chain interventions, but to unrelated factors such as conflict or flooding.

EQ 8b. How have outcomes varied according to gender, financial capacity, disability, or youth?

138. There is considerable evidence to suggest that the financial capacity of stakeholders has played a significant role in generating positive feedback to supply chain interventions, especially in terms of procurement, and wholesalers' response to CBT interventions. The dominant trend has been for stakeholders of greater financial capacity to be disproportionately represented amongst those contracted by WFP or amongst those supplying markets where WFP has injected cash. This trend reflects two different phenomena. On the one hand, WFP procurement systems are most cost-effective and efficient if they can take advantage of economies of scale to reduce the number of supply contracts to a manageable number of lots of a minimum size, and can oblige bidders to provide performance guarantees, both of which create barriers to entry for smaller businesses of lesser financial capacity. On the other hand, those wholesalers who have the financial capacity to extend credit to retailers are well placed to capture a larger proportion of the almost instantaneously expanded market created by the introduction of CBT to an area.

139. The effect of financial capacity on outcomes in the transport sector is less evident, possibly as a result of the tariff-based contracting system that reduces the advantages of larger companies and increases opportunities for smaller businesses to provide transport services. The shift by WFP South Sudan to competitive bidding is a move away from what might be considered to be a more equitable system and towards one that could favour the larger, potentially regional companies that could reduce any effect on domestic transport capacity. It can also be argued that the tariff system, while more equitable, failed to stimulate any investment in new capacity, whereas competitive bidding that concentrates the advantages of winning large contracts amongst a limited number of companies may actually result in reinvestment and growth in the sector. As yet, however, it is too early to predict the outcomes of this change.

140. Amongst the developmentally focused supply chain interventions that have supported smallholder producers and retailers, financial capacity is less important to effective participation. Interventions commonly include elements of subsidy and support that permit the participation of a broad range of stakeholders. Notably, however, that support does constrain the extent to which such interventions can be scaled up.

141. In terms of inclusivity, it is quite evident that women, youth and disabled groups generally experience the same constraints as stakeholders of reduced financial capacity, (since this is in fact the main constraint that they all share). Women, youth and disabled groups are often well-represented amongst small-scale interventions, but they are increasingly absent as the financial requirements to participate in supply chain interventions increase (e.g., the tender process is considered to be gender neutral, but in practice, the number of women responding is small - only 2 out of 23 in South Sudan and none in Sudan). This is not the only constraint that these groups face. There are also issues of financial and computer literacy, business management experience and networking capacity, all of which need to be addressed in conjunction with financial capacity if these groups are to be more equitably represented as stakeholders within the overall food system.

EQ 8c. What opportunities exist to further strengthen WFP supply chain activities, identified outcomes?

142. Overall, WFP supply chain activities that have had positive outcomes include both market-related interventions and physical infrastructure development. The former can be strengthened by a greater emphasis on the inclusion of both smaller businesses and disadvantaged groups. The latter, while more limited in application may nevertheless be expanded in a number of countries where trunk and feeder road conditions restrict access to markets.

143. Drawing on the responses to EQs 8, 8a and 8b, it would appear that commercially focused supply chain interventions tend to promote the participation of a limited range of stakeholders in a way that does not enhance inclusivity, resilience or competitiveness. Conversely, interventions that focus more upon the development of smallholders and small businesses tend to generate positive outcomes but are limited in the extent to which they can be scaled up. To address the first of these issues, it may be necessary to broaden the scope of commercial interventions to include a range of supports, as listed under EQ 12. Such supports would not only address the issue of limited financial capacity but would also enhance the extent to which women, youth and other vulnerable groups would be able to take advantage of supply chain interventions. The issue of limited scalability is more complex.

Given enough resources, it is possible to achieve positive development outcomes under almost any circumstances; in order to guarantee successful outcomes, most development projects try to provide the support required to cover all eventualities as far as budgets allow. This is not an unreasonable practice, since successful outcomes achieved under ideal circumstances can provide a basis for the future refinement of an intervention including the reduction of unnecessary supports.

144. While it is possible to identify broad types of interventions that might enhance the outcomes of WFP supply chain activities, it is difficult to be specific. Ideally, since broad intervention by WFP across all small-scale food system participants would clearly be impossible, successful interventions would result in outcomes that would be both self-replicating and self-sustaining. One example of a potentially self-replicating intervention is the promotion of hermetic grain storage bags. This technology has proved at least partially successful in the past, and it is conceivable that WFP interventions might reveal an appropriate method to encourage its sustained use in the future. Another example is almost the opposite approach - the reduction of PHL by purchasing maize from smallholders on the cob, and shelling and drying it commercially. This technology has been developed over the last four years by Kumwe Harvest, a key supplier of AIF in Rwanda. Both PHL reduction technologies have the potential to enhance food systems and represent opportunities for WFP. These and other interventions (including some that relate to commercial business practices as reported amongst service providers to WFP Mombasa) may have similar potential, but that cannot be assessed until they have been tested. For this reason, a continued focus on small-scale business interventions can be justified, even if many do not achieve replication or sustainability. Nevertheless, the general principle of the TOC is that replication and sustainability are dependent upon the alignment of intervention outcomes with the needs of the market. It is difficult to justify the implementation of an intervention that does not clearly meet this criterion.

145. A third area of opportunity is that of infrastructural development. Specifically, low-cost road rehabilitation based upon the identification and repair of choke points. This type of intervention has resulted in definite positive outcomes in affected areas in South Sudan, but a number of other countries also report issues of access that have hindered food deliveries, suggesting that the approach could be more widely relevant than might initially be supposed.

EQ 9: How do the outcomes of supply chain interventions vary with the scope and scale of the interventions?

146. Some supply chain interventions are relatively limited in scale, but broad in scope. As an example, the direct purchase of grain from smallholders tends to require a broad range of interventions including assistance in the management of producers, facilitation of finance, and technical assistance in grain cleaning and handling to the standards required by WFP. Nevertheless, the interventions have been limited in scale, working with small numbers of farmers' groups and purchasing relatively small volumes of grain (generally less than 10 percent of local purchases from commercial traders and government institutions). From the perspective of the stakeholders directly involved, the outcomes of such broad but small-scale interventions can represent substantial and potentially important changes to the local food system, but that is one perspective. From the perspective of the national food system, the outcomes are relatively insignificant unless they can be replicated across the wider market.

147. This phenomenon is common to a number of WFP supply chain interventions. They are undertaken with adequate scope to succeed and do achieve the intended outcomes within a limited context but are implemented at a scale that renders them relatively insignificant from the broader perspective. The perception of those involved in such interventions is of successes that need only to be scaled up to achieve sustained development.

148. In practice, WFP (or indeed almost any development agency) lacks the resources to undertake widespread food system development interventions. The theory of change that underpins development projects assumes that the limited interventions will act as catalysts to the spontaneous adoption of the preferred practices by a wider range of stakeholders, leading to crowding in, replication and the eventual internalization of the preferred practice by the food system. On this basis, interventions that may have very little significance from a national perspective are nevertheless potentially important, if it is possible that they may be automatically replicated to such an extent that they become a significant component of the food system.

149. The majority of WFP supply chain activities that focus on development fall into this category, being of adequate scope to generate clear positive outcomes, but depending upon external factors to achieve the scale necessary for the outcomes to achieve significant and sustained change to broader food systems. That process of scaling up can take time to be achieved and it is possible that other factors (inflation, conflict, drought or other disasters) could derail the process in the meantime.

150. One context in which WFP interventions have been of sufficient scale to achieve broad outcomes is the procurement of fortified foods in Rwanda. That example is typical of similar interventions in Kenya, Ethiopia, and

Somalia. In all of these countries, initial broad-scope interventions by WFP that included both the provision of technical expertise and procurement of processed foods were enough to stimulate commercial investments with outcomes that reached beyond the interventions themselves.

EQ 9a: To what extent do reported outcomes of supply chain activities contribute to a reduction in consumer prices?

151. There is little evidence that consumer prices are in any way reduced by WFP supply chain activities. There are certain exceptions to this general observation, specifically:

- Traders reported that WFP food distribution activities resulted in reduced retail prices within the distribution area for a limited time. This is a relatively standard market behaviour that is commonly anticipated by traders.
- Transporters reported reductions in border crossing times leading to overall reductions in transport costs due to enhanced border procedures for which WFP had contributed support. This meant that the prices of goods could be reduced at the point of sale, but the extent of any such reductions is undocumented.
- Retailers participating in value-based voucher CBT schemes have been asked to maintain prices of selected commodities at agreed levels and to post those prices in a standard format. This would imply a price ceiling for those commodities irrespective of the status of the client (beneficiary or non-beneficiary), but the extent to which these stipulations have been met is uncertain.
- Retailers and beneficiaries reported that prices of most commodities were substantially reduced when access to markets was facilitated by WFP road and waterway construction and rehabilitation activities.
- Of these, the outcomes of increased access appear to have resulted in the most robust reductions in consumer prices, although these tend to have been localized within the newly accessible areas. Apart from these specific incidences, there is very little evidence of reduced consumer prices as a result of supply chain activities.

EQ 10: How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?

152. Supply chain activities appear to reinforce the dominance of larger traders and wholesalers over smaller businesses, farmers and retailers. This effect is more pronounced amongst disadvantaged groups.

153. There is a consistent effect of most WFP commercial supply chain interventions which is best exemplified in its commodity procurement activities. When procuring grain and other commodities, WFP engages in the production and aggregation aspects of food systems, which are often perceived to be inequitable and in need of streamlining. In almost every developing country, some agencies will describe traders as exploitative, and producers as underpaid for their produce. Innumerable programs have been put in place to reduce this exploitation by "cutting out the middleman". Indeed, WFP direct purchase activities have often been developed with that purpose (among others) in mind.

154. There is no doubt that asymmetries in the market, especially of price information and of access to finance, tend to favour traders over producers when negotiating prices. As a result, traders may be able to achieve a greater margin on the transaction than actual value-added, but this does not mean that they add no value at all. In fact, traders can provide valuable functions within the value chain and rather than eliminating traders from the chain, the most effective support to producers would be to facilitate trading so as to increase the number of traders operating in any given area, increasing the competition between them and thereby increasing prices to the producer and reducing prices to retailers and consumers.

155. There is little evidence that WFP commercial procurement activities promote such increased competition between traders. The perception of WFP staff is that any benefits derived from premium prices paid by WFP accrue mainly to the traders, and little benefit is passed to producers.

156. The same dynamic can be observed in reverse in the case of CBT. When (as in South Sudan) retailers are obliged to accept prices offered by a small number of wholesalers, the benefits of each monthly cash injection accrue mainly to the wholesalers rather than the retailers. This situation can be biased even further in favour of wholesalers if retailers are not reimbursed for CBT voucher-based transactions in a timely manner - in which case, retailers are obliged to seek extended credit from wholesalers on unfavourable terms. In Somalia, this is avoided by an “orders to cash” system that ensures payment within seven days to maintain retailer liquidity. Under these circumstances it appears that some WFP supply chain interventions serve to reinforce the existing dynamic and increase the dominance of traders and wholesalers over producers and retailers respectively.

157. Set against this perspective is the experience of transport companies working for WFP under the tariff system that specifically allocates work to a large number of contractors. This might be considered an equitable procedure that actively promotes competition and efficiency. It has also been suggested however, that when work is divided up under the tariff system, individual companies are denied both the certainty of work, and sufficient volume of work to justify investment in additional capacity.

158. Clearly there is a balance to be struck between the promotion of a few large businesses at the expense of their smaller wholesalers and clients, and the division of food procurement contracts into units that are so small as to create an administrative burden. Nevertheless, the observed tendency within the region at present is towards the large contract paradigm. This approach is aligned with operational principles of efficiency, reduced overheads, security and performance. It makes sense to do due diligence assessments of wholesalers to ensure that they have the financial and management capacity to perform as expected. It also makes sense to limit the number of food procurement contracts to that which can be effectively managed by available staff. Nevertheless, that approach is not necessarily optimal for the development of resilient and competitive markets.

159. These considerations also apply to women and other groups of supply chain actors, such as youth. To the extent that they are represented at all as commercial clients of WFP, women and youth tend to operate smaller businesses and to benefit comparatively less than men or male-dominated companies. There are few examples of trading, wholesale or transport companies run by women who have increased their participation in the market as a result of WFP interventions.

160. There are at least three different developmental interventions that could be incorporated as adjuncts to supply chain interventions to reduce the reinforcement of male dominance within some parts of food systems. These would include business management training (including specific training in internet-based responses to WFP tenders); support for low-cost marketing information platforms (such as G-Soko and E-Soko); and the facilitation of finance to potential wholesalers, potentially through the provision of credit guarantees. Such interventions could all help smaller traders and wholesalers respond to WFP commercial supply chain interventions and thereby promote the development of resilient and competitive supply chains rather than maintaining or possibly enhancing inequitable oligopolies.

161. In general, this evaluation did not find supply chain interventions that focused specifically on youth or had youth-specific outcomes. With the exception of casual employment opportunities for loading and offloading trucks and assistance in the operation of E-shops in Somalia, youth are not addressed except as part of the general population.

162. There was no evidence of supply chain interventions that focused on other disadvantaged groups, including the disabled or elderly. Similarly, there were no definitive outcomes for these groups.

EQ 11: To what extent are results from supply chain interventions sustainable?

163. This is a major concern of the evaluation, but there is no simple answer. Evidence to date suggests that the sustainability of outcomes can be strongly affected by context, so outcomes of similar interventions may differ in the long term according to the circumstances under which they were implemented. A thorough and rigorous assessment of sustainability could only be undertaken when interventions have been concluded and would require more resources than were available to this evaluation Nevertheless, the following general observations can be made and should be interpreted in the light of the limited coverage of the evaluation in the field.

164. The sustainability of different supply chain interventions depends upon their nature. Such interventions result in the transfer of assets in the most general sense of the word. Those assets can include food, cash and other commodities as well as technologies, and systems for business and institutional management. Most importantly, they can also include physical assets, especially roads, bridges and waterways created to enable supply chain interventions, but transferred to national or local communities upon completion. The sustainability of outcomes is assessed for each of these categories (transfers of cash or food, capacity development and development of physical infrastructure) in the following three subsections:

Transfers of Cash or Food

165. Transfers involving food or cash tend to have a consistent outcome of localized and temporary inflation that is often imperceptible and could never be considered to be sustained. Nevertheless, the ways in which cash transfers in particular are channelled through the local economy could result in sustained change, especially if they lead to the acquisition of assets.

166. At the retail level, positive outcomes of CBT and associated training can be seen in the local growth of some groups of retailers. It is quite feasible that after CBTs as "cash in envelope" transfers have ended, some retail outlets will sustain the levels of operation that they were able to achieve during the CBT interventions. Provided the level of

purchasing power is also sustained, there is no reason why they should not. But what happens if purchasing power is not sustained? Under such reduced circumstances, the majority of small-scale retailers, who operate out of rented premises and whose capital is invested almost exclusively in stock, can cut back, divest and diversify into other more lucrative businesses, (where such exist). It is only those retailers who have invested in assets such as vehicles, buildings and to a lesser extent, human resources and social capital, who would be resistant to such a reduction.

167. Essentially, enhanced business activity is no guarantee of sustainable retail sector development. Investment in capacity beyond stock alone and especially in physical assets is a necessary indicator of sustainability. This evaluation found limited evidence of such investment. In many cases, CBT had enhanced business turnover and promoted some expansion into larger premises, but few instances were reported where businesses had invested in productive assets as a result of CBT interventions.

168. The same can be said of voucher-based CBT interventions, except that the element of sustainability is weaker still. While participating in voucher-based CBT programmes, retailers effectively enjoy a captured market that can be divided up between those engaged in the programme, all of whom enjoy a fixed price that has been determined to ensure profitability (provided the scheme operates efficiently). This has allowed participating retailers to expand their businesses through the additional risk-free CBT clientele. Once the CBT has ended, that additional clientele is no longer tied to the CBT participant retailers and will go wherever prices are lowest. Only those retailers who have used the increased turnover to invest in additional productive capacity and increased efficiency will be able to demonstrate any sustainability. This perspective applies to any other systems that have supported exclusive groups of retailers, including the e-shops in Somalia where delivery agents showed no willingness to continue to provide services according to the WFP modality once the intervention had ended.

169. The overarching conclusion is that the sustainability of retail development is best demonstrated by investment in assets that enhance productivity/efficiency and that investment is not evident in any of the instances of retail market development considered by this evaluation.

170. It is worth considering why this should be the case. There are at least three reasons:

1. **Timeframe** - Time would be required not only to accumulate capital for investment but also to develop confidence in the sustainable profitability of the sub-sector. It is possible that investment in productive assets requires more time than the duration of existing WFP interventions.
2. **Dilution** - by working with a large number of retailers, WFP effectively limits the capacity of any one retailer to accumulate the necessary capital for investment - and extends the time required to do so. A notable exception to this dilution effect was the "retail in a box" intervention at Gorom, South Sudan, where it was reported that six retailers were able to make a profit of in excess of USD 1,000/month. Nevertheless, although this was almost certainly being reinvested, there was no evidence that it was being reinvested in the retail sector at Gorom.
3. **Risk** - the retail sector is one of the easiest for an entrepreneur to access. A retail business can be started with limited capital and expanded as profits allow. As such it is a low-risk activity, and often the first economic activity to develop in areas that have become unstable due to conflict, migration or natural disaster. Unstable circumstances are also a common aspect of WFP supply chain interventions, and it is reasonable to expect that the retail operations affected by WFP interventions face higher levels of uncertainty than businesses elsewhere. Under such conditions, it is to be expected that retailers facing higher perceived risks would be more reluctant to commit to long-term business development by investing in physical assets that could not be readily repurposed or liquidated.

171. Overall, it would appear that while supply chain interventions may result in positive outcomes for some retailers, this evaluation found little evidence that those outcomes are sustainable, and this may be due to the limited timeframe and uncertain circumstances over which the interventions have been implemented.

172. At a trader/wholesaler level, the effects of cash transfers either through cash or vouchers redeemed by retailers can be greater, for the simple reason that the flow of cash is concentrated as it passes from beneficiaries through retailers to their wholesale wholesalers. As a result, wholesalers reported more substantial benefits from CBT than retailers and were more likely to develop their businesses as a result of their increased profitability. Nevertheless, if economic conditions deteriorate upon the cessation of CBT, traders are also well placed to redeploy their assets elsewhere so that while sustainable growth might have occurred, it would not be evident in the immediate area of the intervention. If on the other hand, economic conditions were to remain favourable and local purchasing power was sustained, then it is probable that the observed expansion of traders' businesses would also be sustained.

Box 17 E-Shop Delivery Agents in Somalia

It was reported by representatives of the two e-shop delivery agents who had the contracts, that they indeed found the contracts lucrative. One agent was large, a construction contractor and supplier based elsewhere and serving many parts of Somalia. The second agent was also based elsewhere in Somalia and operates a consumer goods online order and delivery service. They bid on the Delivery Agent contracts in Dollow. Neither firm continued with food delivery after their contract ended, nor did they continue to use WFP technology. The online consumer goods order service continued with its own technologies and modalities. Drivers reported no change in their income – with or without the WFP contracts. Rather, they were employed by the firm that supplied the transport and drivers to the two agents who won the WFP contracts.

While profitable for both firms who won the delivery agent contracts, the extent of the benefit was limited to them and the local Dollow agent who supplied the vehicles and drivers. Disappointingly, no evidence of the emergence of a new food delivery service was seen. Rather, clients reported a preference to shop in person, except when they get their WFP money, when they buy in bulk. At that time either they organize transport themselves, or retailers will organize transport for WFP clients whom they feel to be needy.

173. Some traders and retailers reported one outcome of CBT to be a concentration of business capacity amongst those wholesalers who have been best placed to take advantage of the cash injected into local economies, because their businesses were larger, or they could access finance easily. This tendency towards the development of oligopolies is inherently self-sustaining.

174. The procurement of transport was sometimes observed to stimulate the development of local haulage capacity, although it is difficult to isolate the WFP contribution to this development from increased overall demand for transport services. Nevertheless, at national levels, some transport companies reported the purchase of new vehicles and the evaluation found more definite examples of such expansion where the influence of WFP could be more plainly discerned in some specific local areas. In most of the countries in the region, GDP has increased each year. Such economic growth would suggest an increased demand for transport that might sustain the growth in capacity stimulated by WFP. It is probable therefore that where WFP has indeed contributed towards increased transport capacity, that increase has been broadly sustained.

175. Finally, transfers of cash underpin procurement interventions, which can be of three different types:

- Commercial procurement of commodities.
- Commercial procurement of processed foods.
- Direct purchases from smallholders or smallholder agencies (cooperatives and farmers associations).

176. The ideal outcomes of commercial procurement interventions would be enhanced productive capacity together with a more competitive and resilient supply chain in which a multiplicity of traders compete to both buy and sell grain. There is little evidence that productive capacity at a commercial scale has been stimulated by WFP purchase activities. Nevertheless, there is a considerable body of evidence to suggest that WFP procurement tenders do influence market prices. Wholesale traders are generally very responsive to WFP tenders and successful bidders are able to profit from the exclusive market that a contract with WFP bestows.

177. Whether this sort of response represents a sustainable outcome is less certain. The fundamental requirement to be able to respond to a WFP procurement tender is to have the financial capacity to purchase the required commodity. Linkages with producers and aggregators, as well as access to storage and processing facilities, are also essential, but can be acquired through agents, or rented. Wholesale trading capacity can therefore be essentially transient. There are few barriers to entering or exiting the sector and the finance invested in trading one season can be turned towards other enterprises such as hotel construction the next. Unless traders invest in the development of physical infrastructures such as collection depots and warehouse capacity, there is no reason to suppose that the outcomes of WFP market procurement interventions are necessarily sustainable. This evaluation found that the extent of concrete investment by wholesale traders varied considerably. In some instances, traders are constructing collection depots and rehabilitating warehouses, while in others, local circumstances (including both taxation regimes and economic uncertainty) militate against such investment. Overall, it appears that while WFP procurement interventions have the potential to stimulate wholesale market development, the sustainability of that development depends more upon external circumstances than upon WFP interventions.

178. The same considerations apply to the procurement of processed foods, but in this case, the level of investment in fixed assets required of the supplier is generally much higher, so that the sustainability of any capacity development would be expected to be greater. Investors may initially respond to WFP procurement tenders but wisely then diversify into other markets where they can. This move away from reliance upon WFP contracts would *ceteris paribus* enhance sustainability.

179. The purchase of commodities directly from smallholders or smallholder organizations is invariably more than a simple supply chain procurement intervention. It has almost always required WFP to provide support in terms of the arrangement of finance, supplier management and the technical oversight of quality control. As such, these interventions represent development activities as much as supply chain interventions. Moreover, WFP has operated not only as a market development agent but has also provided the additional support of a guaranteed market for the selected groups of smallholders, who have often been offered a premium price in order to participate in the supply programme. Conditions for sustainability are therefore dependent not only upon the successful development of management capacity amongst smallholder groups but also upon the continued availability of a premium price. It is unlikely that continued participation could be guaranteed if smallholders were obliged to accept prevailing wholesale market prices. In general, it would appear that direct purchase interventions have as yet demonstrated little potential for sustainability.

Box 18 Factors Affecting Adoption

There is a body of evidence[48][49][50][51][52] that suggests that enhanced production technologies lack sustainability amongst smallholders not because they are unaware of the benefits of those technologies, but because the perceived risk associated with failure is too great to justify the additional investment that they almost inevitably require[53]. Specifically, if smallholders lack the resilience to sustain a crop failure (for whatever reason), then they will be unwilling to incur any additional investment cost beyond the minimum requirement for subsistence. The corollary of this is that both adoption and dis-adoption of new technologies are dynamic processes, which are affected by smallholders' resilience. If that resilience is reduced (e.g., by disaster) then dis-adoption of high-cost technologies will occur.

Capacity Development

180. Supply chain interventions include capacity development, involving the transfer of technologies and systems for business and institutional management. Many of these are undertaken in conjunction with programme partners and would include activities such as PHL prevention as well as support for testing laboratory development, fortification and the development of food standards.

181. For all of these interventions, sustainability is fundamentally dependent upon context. The PHL intervention demonstrates this well. In this instance, WFP is promoting the use of hermetic grain storage systems to reduce PHL. The technology has been developed in various forms for at least 35 years. It is highly effective, reducing losses to less than two percent and relatively cheap (approximately USD 1.75 per 100 kg of grain). Nevertheless, a number of studies over the last ten years have shown that the uptake of the technology is highly variable, depending not so much on farmers' awareness of the technology and its benefits as on the extent to which the supply chain for the bags (or bins) themselves has been developed. This is in turn dependent upon the availability of a local manufacturer as well as the willingness of local agro-dealers to commit working capital to stock the bags on the basis that they can return a gross margin comparable with other agricultural inputs. These aspects are by no means assured, and as a result, even though hermetic grain storage technology has been introduced into more than 25 African countries, it has yet to become a significant method of small-scale grain storage in any of them. In the case of this example, the sustainability of the intervention and its positive outcomes will be absolutely dependent upon the extent to which the overall marketing environment allows the supply chain for bags to develop, i.e., upon the future context which may vary from one country to another in ways that are effectively impossible to predict.

182. Where they have occurred, enhancements of transport capacity (as in Rwanda) or of storage capacity (as in Sudan) consist mainly of investments in fixed assets. As such they are generally sustainable unless the volumes of

[48] Smale, Melinda; Byerlee, Derek; Jayne, Thom. 2011. Maize revolutions in Sub-Saharan Africa. Policy Research working paper; no. WPS 5659. World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/3421

[49] Dercon, S. and Christiaensen, L. (2011) Consumption risk, technology adoption and poverty traps: Evidence from Ethiopia, Journal of Development Economics, Volume 96, Issue 2, Pages 159-173, ISSN 0304-3878, https://doi.org/10.1016/j.jdeveco.2010.08.003.

[50] Elbers, C., J. W. Gunning, and B. Kinsey. (2007) Growth and Risk: Methodology and Micro Evidence. The World Bank Economic Review 21 (1): 1-20

[51] Spiegel, A., Britz, W. and Finger, R. (2021) Risk, Risk Aversion, and Agricultural Technology Adoption — A Novel Valuation Method Based on Real Options and Inverse Stochastic Dominance. Q Open at: https://doi.org/10.1093/qopen/qoab016

[52] Liu E.M. (2013). Time to change what to sow: risk preferences and technology adoption decisions of cotton farmers in China. Review of Economics and Statistics, 95: 1386–403

53 Weeks, John (1970) 'Uncertainty, risk, and wealth and income distribution in peasant agriculture', Journal of Development Studies, 7: 1, 28 — 36

commodities consumed in each country decline significantly. Otherwise, demand is likely to be sustained by public, donor, or private agencies. Other interventions to develop transport capacity such as in Ethiopia, where an external transporter was introduced, have been assumed to be positive in outcome, although there is little clear evidence of changes in competitiveness, efficiency or capacity across the broader food transport sector (i.e., beyond WFP contracted transport).

Development of Physical Infrastructure

183. At Kakuma, Kenya, WFP has subsidized the construction and maintenance of an irrigated horticultural scheme. While the scheme is currently operating successfully, there appear to be no mechanisms yet in place to ensure sustained operation in the absence of WFP continued management. Irrigation schemes, and particularly those which are communal and for small, poorly equipped producers, are notoriously complex to manage. In this instance, while it would appear that irrigated horticulture is a commercially viable livelihood, it is also evident that resources are increasingly captured by local elites,[54] so that the most vulnerable households are excluded from participation. The food system is basically sustainable, but the beneficial outcomes for poorer households are not.

184. Supply chain interventions that result in the construction or rehabilitation of physical infrastructure in order to facilitate operations were observed to generate the most sustainable outcomes. The enhanced access that such infrastructure provides facilitates both externally driven (by NGOs), and endogenous local market development while permitting local production to reach external markets. These positive outcomes are largely independent of context and can be sustained for as long as the infrastructure remains effective.

185. In this regard, it is notable that some of the most impactful road and waterway development (in South Sudan) is of limited sustainability. Construction standards have been set so as to achieve maximum short-term benefits rather than to create a permanent fixture. This does not mean that the outcomes are necessarily unsustainable. Rather that it will be necessary to institute a programme of regular maintenance managed by an appropriate institution and funded by appropriate taxes or tariffs in order to achieve long-term sustainability. The relatively low costs of these construction and rehabilitation works[55], suggest that such an approach is quite feasible.

EQ 12: In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?

EQ12 a: To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?

186. EQs 12 and 12a are closely related and are answered together here. They concern capacity strengthening amongst government, private sector stakeholders and more specifically, women and youth. Amongst governments, some degree of capacity development was reported in the areas of food standards, quality assurance, storage and infrastructural development. The capacity of different supply chain actors has been affected to varying extents. Transporters and warehouse operators show little clear benefit but retailers and wholesalers in CBT areas have developed increased financial capacity. Technical innovations have had mixed results in terms of adoption by stakeholders. While WFP supply chain and market development interventions have benefited women and youth, they have not done so in a way that could be considered to address the specific constraints that those groups face and such benefits as have been achieved have been largely fortuitous rather than designed.

Government capacity

187. WFP has worked closely with governments in some countries where responsive government and quasi-governmental institutions exist. There have been three main areas where such capacity development is particularly significant:

- The most common interface between WFP and government institutions (other than the programming of distribution activities) is the area of food quality standards, in terms, especially, of quality assurance. WFP has worked with national and local governments to develop local testing capacities, including both mobile test kits and complete laboratory facilities and training in sampling procedures. This has accelerated WFP procurement and payment processes while strengthening government capacity to apply appropriate food standards across broader food systems. The outcomes of this type of capacity development appear to be sustainable, provided first that governments can provide the fiscal resources required to sustain operations,

[54] Akall, G. Effects of development interventions on pastoral livelihoods in Turkana County, Kenya. *Pastoralism* **11,** 23 (2021). https://doi.org/10.1186/s13570-021-00197-2

[55] The road development programme for 2021 cost only USD 6 million for the rehabilitation of 284 km of roads)

and secondly that any rent-seeking abuse of such capacity can be prevented. This is more likely in some contexts than in others.

- Governments in some countries continue to be indirectly engaged in the purchase, storage and sale of grain, mainly for purposes of market stabilization. In this capacity some level of interaction with WFP as a client for grain is common, and in some cases has led to the upgrading of storage and handling facilities in order to supply WFP efficiently. Support has involved both physical rehabilitation and the introduction of improved management systems. These are inputs that can be expected to have a sustainable positive effect upon the capacity of state-owned storage to support national food systems, but there is no direct evidence of any outcomes to date.

Box 19 Rehabilitation of the Agricultural Bank of Sudan

Following a review[56] in November 2019 of the Agricultural Bank of Sudan's (ABS) capacity, WFP supported the ABS' request for assistance to rehabilitate grain silos in Gedaref, as their outdated equipment has been a major constraint to increased efficiency and effectiveness of operations. The silo rehabilitation project started in 2021 with an assessment of technical needs. The aim being for the silos to provide a better platform for food grading and bagging, as well as efficiency and quality to support food exports and national market supply. The project has also considered food market supply chain interventions including micro finance and potential to organize small farmer cooperatives that would encourage finance providers to deliver services (building on WFP original P4P model). The overall intent being to connect farmers to markets in a more structured manner.

- WFP road and waterway construction and rehabilitation activities result in the direct enhancement of national infrastructure and strengthen capacity to access human and natural resources. This is an area where cooperation with government can be important but does not always occur when the relevant institutions are insufficiently developed to act as counterparts for capacity strengthening. Nevertheless, in some countries these activities do represent strengthening of national capacity and further support is necessary to develop the institutional capacity for ongoing maintenance so that the beneficial outcomes of these interventions can become sustainable.

Supply Chain Actors

188. Amongst supply chain actors and institutions in general, WFP supply chain interventions have developed capacity in a number of key areas:

- Profits derived from contracts to supply food to WFP that by virtue of price or scale have proved favourable to traders, have resulted in increased financial capacity which has in some cases translated into additional assets, including trucks and storage facilities.
- Retailers who have participated in CBT schemes, especially those that are voucher-based, have achieved greater sales volumes which - provided economies of scale have been operational - have also resulted in increased financial capacity. This outcome has been much more pronounced amongst the wholesalers who supply those retailers.
- Technical innovations introduced by WFP have in some cases been replicated by service providers, leading to enhanced performance beyond the immediate needs of WFP itself (e.g., WFP digitalization of records has been adopted by a number of businesses that interact with WFP Mombasa, leading to increased efficiency of operations across a wider range of services at the port).
- Training provided to some counterparts (e.g., In Mombasa, the training of carriage and freight agents and new service providers to meet WFP quality of service) has resulted in increased efficiency amongst those counterparts. These benefits have benefitted not only WFP but all clients of such agencies. Training in warehouse management (e.g., in Sudan) is another area where WFP has transferred both technologies and management skills that have enhanced the storage management capacities of private sector counterparts.

Box 20 WFP Capacity Building in Mombasa

Key informants cited a four-fold increase in 2020 of vessel discharge efficiency and reduced handling costs for WFP, with truck loading time reduced from 45 to 10-15 minutes[57] due to the introduction of new handling and bagging

[56] 1 GAP analysis of WFP capacity strengthening activities with Agricultural Bank of Sudan (ABS), consultant report 2019

[57] This is 70 percent faster than normal, with knock on benefits of reducing vessel exposure to potential demurrage by at least three days, and improved truck turn-around time.

technologies (such as jumbo bags)[58]. The introduction of spreader bars to discharge jumbo bags took place at the height of the Covid-19 pandemic. This innovation was motivated by the imperative to ensure social distancing and helped to reduce food losses.

Efficiencies were also obtained through WFP efforts to train Government of Kenya (GoK) staff on food quality control measures and the training of C&F agents to meet WFP standards. Training focused on performance monitoring of import, export, warehousing, and commodity accounting processes as well as customs clearance, fumigation, and documentation flow. Interviews suggested that C&F agents have applied the knowledge gained not only in their business with WFP but also to shipments for other clients[59]. In addition, anecdotal evidence suggests that other organizations have been motivated to embrace the digitalization of administrative transactions based on the level of efficiency it has created in WFP operations[60].

- The capacity of banks involved in the disbursement of funds to retailers upon submission of WFP vouchers (or electronic MPOS receipts) could be enhanced given the substantial volume of transfers required each month. If only one or two banks in each country are contracted by WFP to reimburse retailers, then the volume of finance moved through each bank will be considerable and the commission earned by the bank could be used for capacity development purposes; but there is no evidence of this actually occurring. Existing banks appear to have adequate capacity to function effectively, irrespective of the WFP CBT business.
- WFP has supported the capacity of donor and NGO humanitarian and development communities working with food aid through at least two interventions, including the supply of fuel in Sudan and the provision of logistical services by the HLB. These have leveraged WFP procurement and logistical expertise to increase the efficiency and timeliness of food distribution. While the outcomes may be related to the immediate circumstances and are not expected to be sustained, they nevertheless do reflect an ability to support capacity that could equally be applied to government and/or private sector stakeholders.

Box 21 Humanitarian Logistics Base at Djibouti

The HLB project at Djibouti (begun in 2015) aimed to deliver 'enhanced efficiencies in both humanitarian and commercial logistics'. 40,000 square metres of concessional land has been used to construct a facility offering containerized, bulk (silos), break bulk and non-food item (NFI) storage services for WFP operations. The primary purpose of the bulk storage silos constructed has been to enable WFP chartered vessels to be discharged and released quickly from the port by minimizing the requirement for transport, primarily to Ethiopia. Since 2020 the silos have been utilized almost 100 percent, and in 2021 were upgraded with new machinery to improve food quality control[61].

The HLB has undergone a significant revitalization since 2020, providing services to the wider humanitarian community[62]. It has contributed to logistics development in the region through the HLB Supply Chain Centre of Excellence[63]. The facility is reported to have provided cost savings for users through the various stages of the supply chain. Key informants advised that there is now greater internal recognition of the value of the HLB to regional supply chains

- Two areas where capacity has not been developed as extensively as might be expected have been actual physical storage capacity and transport capacity. In the former case, it is possible that the profitability of investment in private sector storage capacity may be limited by the availability of existing private and institutional storage capacity that has proved more or less adequate to date. In the latter case, while there is limited evidence of WFP contribution to investment in large-scale transport capacity, there, is limited but robust investment in small-scale transport capacity required to transport small volumes of food (5-10 tons) to remote distribution points.

[58] WFP 2020. Final Report on the Mechanized Handling of the MV Universal Durban.

[59] Based on KIIs reporting anecdotally that training has improved the standards at the port of Mombasa.

[60] This relates to Kenya Plant Health Inspectorate Service (KEPHIS is a government entity) which recently did a documentary showcasing how KEPHIS has digitalised and used WFP as an example of how their systems are set and processing documentation. The Government has decided to digitalise to strengthen processes.

[61] WFP 2021, Oversight mission report and a business case for the HLB. Silo services accounted for approximately five percent of the total volume of goods transiting through the Port of Djibouti.

[62] The HLB consists of 40,000 metric tons of bulk storage and 12,000 metric tons of break-bulk food storage, a temperature-controlled storage area, as well as 2,500 square metres of non-food item storage, and services necessary for a multipurpose storage and handling facility. It is also registered as a customs bonded storage area.

[63] WFP 2020, Annual Country Report.

- Various supply chain interventions, in conjunction with programme activities, have been instrumental in developing different aspects of the production capacity of smallholders, including irrigated vegetable production, post-harvest loss reduction and increased use of inputs. The interventions have provided training, and in some cases inputs, to preselected groups of smallholders, within the context of a guaranteed market provided by WFP. In most cases, production capacity has been increased, but there is little evidence that technology transfer has extended beyond the immediate beneficiaries or would be sustained if the guaranteed market were to be withdrawn.
- The management capacity of selected smallholder associations and cooperatives has been increased through training in supplier management as well as business administration and storage management. This capacity development has been undertaken on a limited scale to assist the smallholder institutions to respond effectively to WFP commodity purchase tenders and has normally been implemented in conjunction with technical training of the smallholders themselves. These combined supply chain/programme interventions have achieved mixed success but have clearly demonstrated the extent to which such assistance is required if the capacity to meet contract specifications is to be developed effectively. Given the scope of activities required in each case, it is unsurprising that there has been no replication of such interventions.

Women and Youth

189. It was observed that the extent of potential capacity development amongst women and youth varies according to national/social context. In much of Somalia as well as Djibouti and parts of Ethiopia, women are actively engaged in the retail sector. The level of participation in Sudan and South Sudan is much less, but intermediate between these extremes in Kenya, Uganda and Rwanda. In terms of production, there is less difference. Women play a major role in crop production in all countries, but their role in crop marketing is substantially smaller. Although women in almost all countries (except Somalia and Djibouti) sell small amounts of household production on a regular basis in local markets in order to raise cash to meet immediate needs, larger surplus volumes are sold to commercial traders by men, unless the household is headed by a woman. As far as transport is concerned, all owners of transport operations in Sudan are men, but a significant number of women in Kenya own and manage transport operations, (although they rarely participate in WFP tenders). The extent to which interventions might successfully develop capacity amongst women is thus fundamentally affected by their level of participation in each activity, as determined by national context.

190. With the caveat that women's participation within food systems will vary substantially among different countries, supply chain interventions can be assessed at two different levels. At the most basic level is the extent to which women are fortuitously represented within a group of participants. Thus, an intervention report may note that "40 percent of smallholders selling through WFP-supported cooperatives are women" but while this does indeed reflect women's participation in an intervention, it does not indicate whether those women have been empowered any more than women selling through any other system. Such figures are often quoted but are of limited importance unless it can be demonstrated that the supply chain interventions actually encourage women to participate in the activity over and above their normal level of participation and/or that the interventions have specifically addressed barriers to entry faced by women (such as access to finance, computer literacy or business linkage development) in order to achieve the quoted levels of participation.

191. In some instances, supply chain interventions result in outcomes that demonstrate substantial levels of participation by women or youth in response to unexpected opportunities created by the interventions. In Kenya, youth were able to take advantage of portering opportunities created by WFP development of market infrastructure, while in South Sudan, women were able to develop businesses based upon the use of canoes to transport food for CPs over the "last mile" to beneficiaries. Although these outcomes are definitely business opportunities, it is debatable that they represent capacity development. Their spontaneity suggests that the capacity to take advantage of the opportunities was already well developed in each case.

192. Setting aside such examples of fortuitous inclusion or spontaneous response to new opportunities, it becomes harder to identify interventions that have specifically developed the capacities of women or youth. Nevertheless, there have been some examples, all of which are included within the more developmental interventions including support for women's soap-making groups, and kitchen gardens in Kenya as well as for women's cooperatives in South Sudan. These examples, while beneficial to the women and youth who participate in them, do not address the constraints that members of either group face in participating on an equal footing with men in food systems. It might be expected that interventions might include such elements as training in business management, computer literacy or bid preparation, while youth might also benefit from business incubation services and mentorship opportunities; but supports of this nature were not observed.

193. Overall, while WFP supply chain and market development interventions have benefited women and youth, they have not done so in a way that could be considered to address the specific constraints that those groups face and such benefits as have been achieved have been largely fortuitous rather than designed.

3. Conclusions and recommendations

3.1. CONCLUSIONS

194. Integrated conclusions are presented below on the basis of the principal themes introduced in section 1.4 and discussed in detail in Annex 10. The conclusions also include a review of the theory of change proposed in the Inception Report.

Production and Procurement

195. Although support to production lies beyond the WFP general mandate, a number of **interventions to promote smallholder production have generated positive results that are evident in the short term**. Nevertheless, the scale of these interventions is small relative both to WFP procurement activities and to national levels of production. And their significance to food system development is currently limited.

196. WFP **PHL interventions are effective and potentially very significant**, especially since WFP operates at a scale that can potentially affect supply markets, but the commercial vulnerabilities of the hermetic storage system have yet to be addressed.

197. Linkages between smallholders and markets are fundamental to all food systems that are based on smallholder production but are often rife with inequities and inefficiencies. WFP has conducted interventions in a number of countries within the region, designed to enhance linkages between producers and markets. These generally focus on the empowerment of producers and producers' cooperatives with the intention that they should be able to capture a larger share of the value chain. With the exception of interventions in Rwanda, where cooperatives are strongly endorsed by the Government, these **interventions have yielded few positive outcomes to date**. It is possible that rather than assisting producers to claim more of the value chain, it might be both more efficient and more competitive to assist producers to negotiate more effectively by promoting the participation of increased numbers of traders in the market. If more traders are assisted to become wholesalers of WFP, producers would enjoy a wider market and increased competition for their grains. Smallholders might enjoy a more equitable share of profits if, instead of cutting out the middlemen, WFP would seek to multiply the presence of traders in the market.

198. An assessment of the outcomes of direct purchase from smallholders and commercial procurement practices suggests that both have strengths and weaknesses. **Direct purchase from smallholders may increase the extent to which improved technologies are adopted but has shown little overall benefit from the perspective of income generation**. Moreover, the process has added costs of investment by WFP in the institutional development required to achieve reliable quality and performance. Conversely, **commercial procurement may require less investment by WFP but tends to favour a small number of suppliers and thereby strengthen their negotiating capacity with smaller traders selling to them**, effectively contributing to the narrative of traders as middlemen unfairly exploiting their wholesalers.

199. In recognition of the effects noted above, WFP policy has recently emphasized the equitable participation of smallholders in procurement. The proposed indirect contract approach may be effective, but other options to increase the extent to which smallholders may benefit from WFP tenders might also be considered. **Current procurement processes favour wholesalers with access to finance and do not specifically empower either women or youth**. Instead, although wholesalers have increased in number, the processes tend to reinforce existing dynamics within staple food systems and in particular the dominance of larger wholesalers. **While WFP procurement prices may exceed market prices, there is no evidence of increased prices to producers**. Specific interventions are required to create a broader and more level playing field for wholesalers to WFP. Such interventions should be designed to reduce the barriers to participation and to encourage both smaller businesses and women's businesses to bid for WFP tenders.

200. **There is an ongoing tension between the understandable commitment on the part of WFP to low costs and efficient performance through its larger commercially orientated contracts, and its commitment to sustainable and equitable food systems development**. This is reflected in commercial commodity procurement processes that favour suppliers with access to finance and do not specifically empower either women or youth, while direct procurement processes which have a greater focus on equitable development lack commercial sustainability.

201. **WFP promotion and procurement of processed foods has resulted in significant investments in production capacity and sustainable change in this particular aspect of food systems**. Procurement by the supply chain unit has leveraged WFP programme and nutritional expertise and the combination of skills has catalysed changes in standards and regulations that effectively now embed improved nutrition within the food systems of some countries (Kenya, Rwanda and Ethiopia). This example of WFP generating a broad effect from relatively minor interventions is important because it relies at least as much upon WFP skills and reputation in nutritional programming as it does upon the scale of WFP purchases of fortified foods. It is the combination of both that appears to have brought about the changes in food systems.

Logistics

202. **Outsourcing by WFP of transport and storage capacity has had little reported effect on either private or public sector investment in these areas**. In contrast, outsourcing the production of fortified and nutritious foods together with technical support for that production has resulted in significant investments in food processing capacity a number of countries. For the transport and storage subsectors, this conclusion might appear to be at odds with the predictions of the LEWIE study that modelled the impacts of WFP regional expenditure under two theoretical scenarios to determine the extent of multiplier effects within specific subsectors. That study predicted that cash flows would be increased especially if labour and capital were unconstrained. Nevertheless there is a key difference in this result, which reflects the flow of finance through different subsectors, and this evaluation, which considers changes in investment in the same subsectors. In fact the results are more complementary than conflicting and suggest that while transport and storage systems may have enjoyed more business, it was either not enough, or not of a nature to have stimulated additional investment.

203. **WFP provision of supply chain services has been effective and appears to be financially sustainable**. WFP Ethiopia has benefitted from WFP Djibouti's logistical support services provided from the HLB, particularly in 2016 when more than 2 million tons of food aid and 750,000 tons of fertilizer were successfully imported through Djibouti and distributed throughout Ethiopia. WFP engineering interventions in Port Sudan have also helped to improve bulk cargo discharging, allowing for faster and cheaper delivery of food commodities from the port to the main rail station and customs dry port.

Market Development

204. **The role of new technologies in WFP market development interventions has been mixed**. On the one hand, the MPOS and SCOPE cards and e-Shop systems appeared to limit the fungibility of cash received by clients/beneficiaries and ensured it was spent on food, per the WFP agenda. Payment through these different systems linked to registered banks worked and likely has been useful in terms of the WFP internal accountability requirements. On the other hand, for retailers and wholesalers, it did not appear to lead to efficiencies nor a diffusion technological acumen nor a change in business. In fact, as was seen in Bor and Kakuma, issues around these technologies, repayment, and WFP delays in disbursement or repayment combined to lead to significant costs to retailers.

205. CBT arrangements using SCOPE/MPOS as well as e-Shop have led to significant benefits for retailers and wholesalers connected to the schemes, since the entirety of WFP disbursement to clients/beneficiaries passes through them. Given the size of these disbursements compared to the number of registered retailers and even fewer wholesalers, revenue and profit increases are indeed significant. **These are clear outcomes seen in the work in South Sudan, Kenya, and Somalia, where retailers invested in fresh produce value chains and the equipment necessary to sustain their operation**. However, it is important to look beyond these gains and ask not only how the actions of Supply Chain led to these benefits, but also how those benefits influence food systems and the sustainability of any effects. **Observations suggest that the systems which benefit these retailers and wholesalers operate mainly in parallel without impacting local food systems**[64]. With the exception of the fresh produce value chains, where producers were able to expand their markets as a result of WFP development of cold chains (as in Kenya and Somalia), the food systems derived from CBT are insulated from external forces, by design, to ensure the system delivers per WFP requirements. That success may be the very factor which limits wider benefit. This was evident in both South Sudan and Somalia. On the one hand, it is a recognition of the strong WFP design of the system and on the other, the limitations of that design to speak to the evolving corporate WFP agenda.

206. **Reinvestment by private sector stakeholders in WFP operational areas is limited. This might appear to be a disappointing result but is in fact a pragmatic commercial response to the limited purchasing power of WFP beneficiaries**. As a result, it makes little sense to reinvest in additional stock, enlarged premises, or vehicles to

[64] Although in some areas (e.g,. in Sudan), retailers and wholesalers may also benefit from parallel systems operated by other NGOs, leading to greater economies of scale and increased efficiencies.

extend operations in the original area when investment in higher-income areas elsewhere would be expected to yield a better return. The same principles applied to the banks operating in CBT areas, which reported that their main source of profits were the contracts for the management of reimbursements to retailers. The business that could be derived from local stakeholders was minimal and had it not been for the WFP contracts, they would not be invested in the areas.

Development of Physical Infrastructure

207. **Rehabilitation of roads and waterways both reduces food distribution costs and stimulates economic development in hitherto inaccessible areas**. Traders have followed WFP food distribution trucks and markets have developed in those areas to which access has been improved. Food systems have rapidly developed to the point where CBT can be used in place of food deliveries. The ongoing development with increased numbers of traders supplying these areas has meant that local food systems become more competitive and more resilient. **This intervention is limited in its geographical scope, but the outcomes are highly significant in the areas where they occur**.

208. **The development of physical infrastructure has the potential to generate some of the most direct, obvious and sustainable benefits for food systems**. This essentially logistical intervention has fundamental implications for market development. Repeated reports of reduced distribution performance as a result of limited road access in other countries suggest that its relevance is not limited to South Sudan.

Development of Government Capacity

209. Despite the fact that the development of government capacity was frequently mentioned by WFP staff, **robust evidence of outcomes from most capacity development interventions was difficult to obtain**. The most common area for government capacity development has been in support of the development of food commodity standards and their assessment and regulation. This has contributed to significant changes in food systems in Kenya. Elsewhere, similar interventions have not yet achieved the same level of outcome. This highlights the fact that in this particular thematic area, outcomes are highly dependent upon context and cannot be determined in terms of resources deployed, or training provided. This can make the difference between an outcome where quality within a food system is significantly increased and an outcome where food standards are used to extract revenues from businesses for no valid reason. For this intervention, it is clearly important from a food system outcome perspective to be able to determine what specific outcomes are most likely before a capacity development intervention is begun, and to capture a baseline in terms of performance. Key aspects of performance should be monitored on an ad hoc basis if necessary (i.e., when the capacity has been utilized), rather than assuming that outputs in terms of manpower, training, and other deliverables, represent outcomes. This is considered in greater detail under Data Collection and Analysis below.

Knowledge Sharing and Collaboration

210. The extent of both knowledge sharing and collaboration varies considerably according to the nature of supply chain interventions. **In the case of both market development and the development of smallholder capacity to respond to direct purchase requests, there was close collaboration between programme and supply chain units** and information was shared amongst all those involved. **In the case of commercially orientated contracts with wholesalers and transport companies, there was little evidence of any regular collaborative processes**. Nevertheless, that did not mean that knowledge was not shared. Supply chain management was well aware of nutritional and environmental priorities as well as considerations of gender and inclusiveness, but under existing policy, these were secondary to the primary consideration of availability and cost-efficiency.

Data Collection and Analysis

211. It was expected that the extensive and detailed datasets collected by WFP would facilitate this analysis. Different systems were queried for evidence to support reported food system outcomes, but **it was found that the existing data collection systems are not adequate to inform a robust assessment of changes in food systems**. The information collected by M&E, Supply Chain and VAM units is well suited to the specific purposes for which it is gathered, but cannot be readily integrated and so does not provide a comprehensive assessment of food systems development.

212. This point is very evident in the two important areas of transport and storage. It also relates to inclusiveness in that gender-disaggregated data alone cannot fully capture the changes required to reflect the empowerment of women, youth and disadvantaged groups. Indeed, in many cases, the indicators by which such changes could be measured have not yet been clearly defined. The same is true of capacity development, where assessment requires quite specific indicators to be developed for each system that might be enhanced.

213. **There is a need to develop a monitoring system that allows food system development to be effectively described in a way that supports the design of activities and development of supply chain policy**. The development of such a system would require a programme of research to assess the scope of outcomes to be captured, the indicators to be used, appropriate methodologies and frequency of reporting. The system would be required to encompass the critical socio-economic outcomes within food systems and would therefore be expected to collect economic data, including value chains and networks, broader statistics and stakeholder profiles. There are three thematic areas where such data collection systems might be required namely: a. Transport and storage, b. procurement/ market development and c. capacity development. The issue of empowerment of disadvantaged groups is common to all areas but should be considered specifically within each.

Inclusiveness

214. As a consequence of the above, **WFP supply chain systems are often gender-blind**. There is no evidence yet of a comprehensive commitment to GEWE and inclusion in this field of WFP work, despite the organization's broader commitments in this regard.

215. Overall, **while WFP supply chain and market development interventions have benefited disadvantaged groups, especially women and youth, they have not done so in a way that could be considered to address the specific constraints that those groups face**. Such benefits as have been achieved have been largely fortuitous rather than designed. In some specific areas, most notably commercial procurement, women and youth are generally excluded, and additional supports or affirmative actions are required if that imbalance is to be addressed.

216. The extent to which women are excluded from food systems varies according to country context and the part of the food system being considered. Women are well-represented in production but have a smaller role in marketing and even less in transport and wholesale supply, but are again well represented amongst retailers. WFP supply chain interventions have not affected this distribution. It would appear that the extent to which women are represented in different parts of the food system reflects the amount of finance required to participate (women being less well represented when financial requirements are greater). Nevertheless, there are other constraints, including physical security and limited social capital within male-dominated business environments that may result from the primary financial constraint, but also need to be addressed.

217. WFP supply chain interventions do not focus on youth. With the exception of casual employment opportunities for loading and offloading trucks, there is no evidence that youth as a group have specifically benefited from WFP activities.

218. It is evident that **while some constraints faced by disadvantaged groups are specific to each group, many are common not only to them but also to smaller businesses, so that measures designed to assist such groups may have a wider application than to the groups alone**. Nevertheless, there are also a range of specific issues to be addressed, including safety, computer and financial literacy and access to business networks. These key issues should be identified within each thematic area prior to the development of any supportive interventions. It will also be necessary to specify indicators of differential change.

Theory of Change

219. The theory of change for WFP supply chain work in (Annex 4) is a generic hypothesis designed to cover all of the different aspects of food system development. It suggests that sustained changes in food systems will come about not as a result of the scale of interventions, nor as a result of legislation, but when the outcomes of interventions are aligned with the needs of the market. In this context, the market can be considered equivalent to Adam Smith's "Invisible Hand", easy to recognize, but hard to define. The outcomes described in this report broadly validate that hypothesis. Interventions at a substantial scale have had few discernible outcomes (especially in the areas of transport and storage); while others at a more modest scale have had definite outcomes (especially the development of infrastructure and procurement of processed foods).

220. The results and conclusions described above suggest that the theory of change should be modified to reflect at least two important factors, i.e., perceived risks associated with change and the potential returns on investment.

221. Perceived risk can be interpreted in different ways and hence requires definition. A common definition of risk is that as a term it encapsulates "the probability that an outcome will occur" multiplied by "the extent of the resulting loss". That definition ignores a key term which is critical to development, namely the capacity of the investor taking the risk to absorb the loss, or more commonly, resilience. A more accurate way to describe risk would therefore be "the probability that an outcome will occur" multiplied by "the extent of the resulting loss" divided by" the capacity of the investor to bear that loss". This definition is significant for two reasons. First, because it highlights the importance of resilience to development. As resilience increases, so perceived risk decreases, and an individual is

that much more likely to invest in a venture (such as an improved agricultural technology). Second, it explains why a poor smallholder is unlikely to invest in improved technology, even if the benefit is quite apparent, if there is a chance that a negative outcome might occur that would exceed his or her capacity to sustain it. This paradigm explains why extension services, training and demonstration plots have failed to stimulate the adoption of improved technologies amongst so many smallholders. It has little to do with knowledge, and much to do with the capacity to absorb potentially disastrous negative outcomes.

222. The theory of change underlying food system development should therefore be modified to reflect the concept that not only should an intervention result in an outcome that is aligned with the needs of the market, for it to result in sustainable change, but that the perceived risk associated with the outcome should be acceptable to the stakeholders who are expected to assume it. There is a corollary to this, namely that in order to achieve broad-based participation in food system development, interventions should be designed so as to minimize perceived risk on the part of stakeholders who are expected to invest in that development. If this is not the case, then only those with higher levels of risk tolerance (i.e., those who have greater social or financial capital) will be able to participate.

223. The second factor affecting food systems development is the expected return on investment. This factor is determined by the size of possible markets and the purchasing power of consumers. If returns on investment are limited by small markets or poor consumers, then investment becomes less attractive especially if alternative investments are available. This would suggest that not only should an intervention result in an outcome that is aligned with the needs of the market, for it to result in sustainable change, but that the expected outcome should include a return on investment that exceeds the return of any possible alternative.

224. This factor is important because WFP works within areas where purchasing power and the availability of finance are both limited and may be insufficient to justify investment (be it in wholesale/retail, transport, storage, processing or even production). In such instances, food system developments will be slow or may not occur in the way that would be most beneficial to target populations. Thus, profits generated by retailers and wholesalers may not be reinvested in the markets where WFP originally injected the cash as CBT if there are other more lucrative markets. Producers may not reinvest in increased food crop production if cash crops are a more profitable alternative and transporters may choose to reinvest in other markets, or work in other countries if such alternatives are more profitable.

225. The generic theory of change can therefore be modified to reflect that for an intervention to result in sustainable change, it should lead to an outcome that is aligned with the needs of the market, and that the perceived risk associated with the outcome should be acceptable to the stakeholders who are expected to assume it, and that the anticipated return should exceed the return on any possible alternative investment.

226. These additional conditionalities inevitably restrict both the range of stakeholders who might participate in food systems development, and the range of conditions under which food systems development can be expected to occur. Interventions may be modified to reduce the effect of these conditionalities, but in many cases modifications involve some form of subsidy that is inherently unsustainable. The outcomes of CBT and smallholder production-focused interventions appear to support this modified TOC.

3.2. RECOMMENDATIONS

Recommendation	Thematic area of focus	Responsibility (lead)	Other contributing entities	Priority: High/medium	By when
Recommendation 1: Enhancement of Inclusiveness in Procurement and Distribution **WFP should consider promoting high levels of stakeholder participation in order to maximise the competitiveness of food systems**. Such an approach would focus on the inclusion of stakeholders who would otherwise be precluded from commercial interactions with WFP by virtue of different constraints, but especially economies of scale, lack of commercial expertise, or lack of finance. **Specific constraints may further restrict the participation of women and other disadvantaged groups**. The following measures are recommended: 1. Consider the implementation of **initial research to identify and assess the constraints to stakeholder participation** in the following areas: • Accessing finance to purchase, transport and store grain. • Price and producer discovery. • Responding to commercial tenders, both on-line and in hard copy. • Meeting quality standards. • Adequate financial management. In addition, specific constraints faced by women and other disadvantaged groups should be researched including in the areas of: • Public access. • Physical safety and respect. • Social networking. • Access to technology and computer literacy. 2. **Incorporate measures within Supply Chain activities to relieve the identified constraints**, including the following: • Liaison with financial service providers to investigate the potential for the use of WFP contracts as partial security for revolving loans to suppliers.	Procurement and Logistics	WFP Country Office Supply Chain Units	WFP Country Office Programme Unit and Logistics Units	High	Next purchase season

• Convening regular Supply Chain Stakeholder gatherings open to all potential suppliers, designed to achieve one or more functions including:
  ○ The introduction of financial service providers and dissemination of information on requirements to access finance.
  ○ Provision of information and training in WFP tender procedures, including standards.
  ○ Introductory information on courses in business and financial management, and computer literacy.
  ○ Business to business networking (locations and formats that allow stakeholders to network safely and effectively (this may require attention to location, accessibility, meeting format and timing).
• Development of curricula for training in business and financial management, and computer literacy.
3. **Consider setting aside a proportion of annual procurement volumes as small lots with a maximum number open to any one bidder**.
4. In the longer term consider solutions such as:
  • Introduction and promotion amongst suppliers of the E-Soko platform for market discovery (https://esoko.com) that can provide a buyer-focused Market Information System on a commercial basis.
  • Providing training in warehouse management, and support for the certification of warehouses to assist traders to aggregate commodities and to participate in low-cost electronic marketing platforms (that could include WFP as a buyer) such as the G-Soko platform managed by the EAGC.
  • Decisions as to whether and where WFP would wish to engage with these services, would require an assessment of the services themselves, their costs and the benefits that they might provide both to WFP and to stakeholders (i.e., producers, producer groups and traders).					

5. **Consider the sponsorship of new entrants to wholesale supply markets by guaranteeing lines of credit** (that are limited but nevertheless adequate to undertake wholesale purchases) provided to new businesses by financial service providers. In this instance, WFP would specify the credit limit, nominate the borrower and guarantee up to 20 percent (or other negotiated proportion) of the value lent for a period of up to 12 months					
Recommendation 2: Access to Markets **WFP COs should consider mainstreaming infrastructural development and in particular the rehabilitation of trunk roads, feeder roads, rail, and waterways as a component of market development.** Steps towards this approach would include: 1. Preparation of materials to promote and explain the low-cost rehabilitation methods that have proven successful in South Sudan within WFP. 2. Compilation of lists of problematic areas in each country where market development is constrained by poor access (due to the condition of feeder roads, trunk roads, and waterways). 3. Promotion of the choke point approach to road rehabilitation with relevant national or local authorities. 4. Convening of in-person workshops in those countries where the specific technologies are relevant, so that experienced staff can provide training and assistance in the development of rehabilitation programmes. 5. Undertake baseline data collection to determine the condition of existing markets prior to rehabilitation work. 6. Follow up with regular post-rehabilitation market assessments to determine impacts and provide the necessary justification for future maintenance (if appropriate).	Development of Infrastructure	WFP CO Logistics Units in collaboration with Programme Units	WFP CO Logistics Units, Programme Units and Engineering Units	Medium	By year end 2024
Recommendation 3: Data Collection and Analysis **WFP RBN should consider the adoption at CO level of data collection and management systems specifically to monitor changes in food systems, addressing three thematic areas:** a. procurement/market development, b. transport and storage, c. market development, d.	Data Collection and Analysis	WFP CO M&E units	Programme and Supply Chain	High	By year end 2023

processing, and e. capacity development. Changes should include the specific concerns of disadvantage groups within each area. Establishment of the monitoring process would include: 1. Undertaking preliminary research to identify the relevant stakeholders (those other than direct beneficiaries who might be affected by Supply Chain activities in each area), prioritize their concerns, both positive and negative, and identify potential outcomes. 2. Developing indicators and methodologies that could be used to assess the extent of potential outcomes in each thematic area. Specific considerations that might be addressed include: a. Procurement and market development: • Regular (annually revised) value chain analyses for common staples to determine the value added and the potential profit derived from transactions at each stage of food systems, to determine how returns to investment are distributed within each sub-sector. • Changes in the extent to which women and other disadvantaged groups are represented amongst stakeholders, in terms of numbers and economic/volumetric proportions. • Annual assessment of relevant food commodity markets (i.e., those potentially affected by WFP supply chain activities) using tools such as the market functionality Index in order to monitor development progress. b. Transport and Storage, and Processing • Recognizing the inherent difficulty in determining national storage or fleet capacities, it is recommended that assessment should consider the economics of transport, storage and processing, in terms of returns to investment, and investor confidence for stakeholders both contracted by, and independent of WFP.					

• Changes in the extent to which women and other disadvantaged groups are able to participate both as investors and as employees within each subsector. c. Capacity development • **Monitoring of capacity development should be based upon the change in performance of the institutions supported rather than the direct outputs of the intervention**. This will require monitoring programmes tailored to the functions of the institutions supported. Assessment may not be possible on a regular basis (e.g., Disaster risk and reduction management institutions can only be properly assessed by the nature of their performance in the event of a crisis) but will generally require baseline data against which any changes can be measured. • Insofar as women and other disadvantaged groups are concerned, the assessment of capacity should determine both changes in the extent to which different groups are represented within institutions supported by WFP, and more importantly, changes in the extent to which those groups are able to benefit from the enhanced capacities of those institutions. 3. **Establishing baseline data both as benchmarks of change and as a check on the effectiveness of the methodologies and indicators selected**. Given the inherent difficulties in both measuring outcomes within food systems and attributing changes to Supply Chain activities, the following considerations are also recommended: a. Methodologies should where possible be based upon panels of respondents for each set of stakeholders affected by WFP supply chain interventions including smallholders, traders, processors, wholesalers, transporters and retailers. The panels should be set up in anticipation of a ten-year data collection exercise. b. Panel data should include control groups that are well enough matched with panel groups to allow difference in					

difference analyses to be made without making assumptions about differential effects. c. **In those instances where analyses are unable to generate data that is statistically robust it is recommended to complement quantitative data assessment with occasional qualitative assessments when important changes become evident**. The qualitative assessments would be designed to validate and explain observed changes and to suggest ways in which development could be strengthened. 4. Assessing the resources required to allow a dedicated food system data collection and analysis unit to operate according to the principles and procedures described above with sufficient functionality to provide useful input to supply chain decisions at CO level.					
Recommendation 4: Reduced Post-Harvest Losses WFP COs should consider strengthening post-harvest loss reduction activities by: 1. Advertising and paying a premium to smallholders for all grains delivered in hermetically sealed bags, to offset the cost of the bag. 2. Developing commercial relationships with maize shelling businesses or establishing their own maize shelling operations to allow smallholders to reduce harvest time by delivering and selling unshelled maize cobs (as practiced by Kumwe Harvest and AIF in Rwanda).	Strategic, Procurement and Logistics	WFP Country Office Procurement Units and Logistics Units	Programme Unit, Logistics Unit	High	Next purchase season
Recommendation 5: Climate Change Mitigation WFP major focus on transport and distribution allows few opportunities for the mitigation of climate change. **Nevertheless, WFP Supply Chain units should consider the regular estimation the carbon footprint of WFP distribution exercises for purposes of a) the comparison of different distribution modalities and b) emission audits undertaken to inform emission reduction strategies**. Estimates of carbon dioxide emissions for transport of food between different locations using different modalities can be readily obtained using on-line emissions calculators (e.g., https://www.carboncare.org/en/co2-emissions-calculator.html) to determine the carbon footprint per ton of food distributed for each shipment or distribution exercise.	Strategic	WFP Country Office Supply Chain Units'	Supply Chain	High	Immediate

Annexes

Annex 1. Terms of Reference

Thematic Evaluation of *Supply Chain Outcomes in the Food System* in Eastern Africa from 2016 to 2021

Decentralized Evaluation Terms of Reference

WFP Regional Bureau Nairobi

July 2021

1. Background

1. These terms of reference (ToR) were prepared by the World Food Programme (WFP) Regional Bureau in Nairobi (RBN) based upon an initial document review and consultation with stakeholders and following a standard template. The purpose of these terms of reference is to provide key information to stakeholders about the evaluation, to guide the evaluation team and to specify expectations during the various phases of the evaluation.

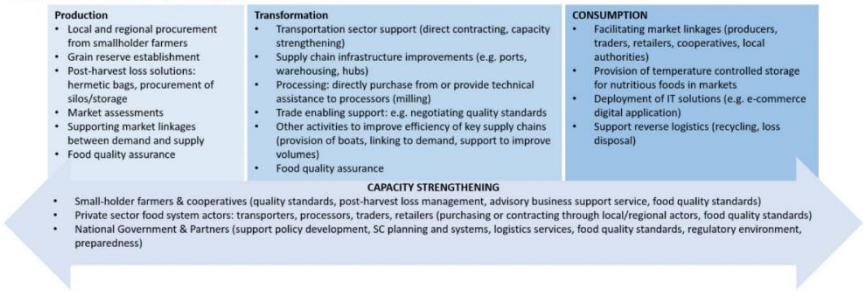
1.1. INTRODUCTION

2. These ToR are for the final thematic evaluation of **WFP Supply Chain Outcomes in the Food System in the Eastern Africa region**, covering nine country offices (CO) (**Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Uganda**). This evaluation is commissioned by WFP Regional Bureau for Eastern Africa in Nairobi (thereafter RBN) and will **cover the period from January 2016 to December 2020**. The evaluation will take place **from August to December 2021.**

3. The subject of the evaluation includes a **wide range of supply chain activities** implemented by procurement and logistics teams, in collaboration with programmes, within WFP RBN and nine of its COs. At country level, these activities are anchored within Country Strategic Plans (CSPs), and serve to operationalize programmatic priorities, and are often integrated with specific programme modalities and activities to achieve target CSP outcomes. At a regional level, RBN has begun looking at these activities more holistically to strengthen its overall impact on increasing access to and availability of affordable quality nutritious foods. A newer emphasis in achieving this goal is through strengthening country food systems and local economies. At a lower level, activities are viewed to be more directly contributing to the following outcomes: supply chain resilience and competitiveness, as well as reducing food loss/waste.

4. While activities and overall focus differ by country, activities generally fall within three categories: production, transformation, and consumption (see summary description table below and section 3 for more details) and contribute to higher level outcomes in different ways. Across these activities and above-mentioned outcomes, WFP has begun adopting a food systems lens, which ultimately entails designing and implementing activities in a way that takes into consideration how interventions integrate and effect with the actors, linkages, and dynamics across the food system from production through consumption. For WFP, the below activities are critical points of intervention that leverage supply chain expertise towards addressing key food systems issues. During the inception phase, activities to be considered by the evaluation will be further prioritized.

Figure 1: Illustrative Supply Chain-focused Activities



1.2. CONTEXT

5. WFP RBN oversees ten low-, and middle-income countries in the Eastern Africa region: Burundi, Djibouti, Ethiopia, Eritrea, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda.[1] With some of WFP largest and most complex operations, RBN assists over 30 million people. Aligned with nationally selected Sustainable Development Goals (SDG), in particular SDG 2 on ending hunger and SDG 17 on revitalizing global partnerships for implementation of the SDGs, RBN's operations encapsulate key thematic areas, such as Emergency Preparedness and Response, Food Systems, and Social Protection.

6. Eradicating hunger and malnutrition are one of the great challenges of our time, and the East African region is one of the most food insecure regions of the world. The region is faced by complex shocks ranging from conflicts, economic, and climate shocks such as drought, floods that are cyclical in nature, and desert locust infestation, all of which had weakened food systems' resilience and increased food insecurity. More than 18.7 million people were categorised as food insecure in the region in 2019.

[1] While Eritrea is a country within the RBN region, there is currently no operational footprint and this country will not be a focus of the evaluation.

Climate change shocks and health crises, land degradation, conflict and economic disparity, population growth and urbanization, technology and digitalization, represent the key drivers and challenges that supply chain need to consider and overcome.

7. Food systems[2] – the production, distribution and consumption of food – are not meeting the needs of large sections of society Improving the performance of food systems and their ability to cater even for the poorest is key to achieving Zero Hunger, as flawed or broken food systems can affect food security in a number of ways. They can drive prices up, making it difficult to afford nutritious food, or prevent smallholder farmers from making good profits from their crops. Across the world, food systems face myriad problems, a few primary examples include:

    - The "last mile" problem – The vast majority of the hungry poor are isolated – geographically, economically, socially and politically – and hard to reach. Even when nutritious food is available, it is often too expensive.
    - The "bad year" or "lean season" problem – When crops fail, or during the lean months between harvests, poor families in both urban and rural areas lack the resources to meet their food needs and are forced to adopt detrimental strategies to cope, including eating less, and less nutritious, food.

      The "good year" problem – Even a plentiful harvest can have its downsides. Inadequate capacity to store, market and transport food surpluses causes food prices and quality to drop. Farmers are unable to put their produce for sale at a premium when demand is highest, food is wasted and spoiled, and market volatility is sharpened.

8. In the region, food systems are not supportive of dietary diversity and access to nutritious foods and there is overreliance on unsustainable crop varieties and imports. Limited infrastructure and uncompetitive, vulnerable supply chains, limited market access for smallholder farmers, and high food waste and loss represents the key challenges experienced in the region[3].

9. Food availability in the Eastern Africa region is influenced by several factors such as domestic food production, commercial food imports and exports, the amounts delivered through food assistance programmes and amounts held by governments and other entities. Available information indicates an overall food deficit situation with considerable variation across the countries (see below a summary for each country and more details for each country on the context can be found in **Annex 1**). The gap in deficit countries is filled mostly by Uganda and Tanzania as well as by oversea imports. In the region, Uganda is a major food producer and supplier while most countries have high dependence on food imports, especially for Djibouti, Ethiopia and Somalia.

10. These problems may affect women more, in part because many traders are female and they may be excluded from decision-making processes. Countries across the region experience gender inequalities which affect food security of men and women. A recent report measured gender equality along four dimensions namely self-sufficiency, decision-making ability, freedom from violence and unpaid labour in a number of countries.[4] In Kenya, for instance, women experience lower levels of empowerment as compared to men.

11. The vast scale of humanitarian assistance required in fragile settings is due in part to the compounded disruptions and inefficiencies in food systems caused by climate change and/or resulting from protracted conflict. COVID-19 has also been a shock multiplier driving vulnerabilities, risks, and needs to historic levels. In the Eastern Africa region, it is estimated that the number of food insecure people in the region will increase to more than 41 million,[5] in part due to COVID-19. Particularly for supply chains, global and local demand shifts and supply delays and interruptions have affected regional and local food systems. According to a study conducted by Boston Consulting Group, some staple crop prices have increased (19% for dry maize in Kenya, and 20% for teff in Addis), Global disruptions have also led to shortages or delays for critical inputs, driving up prices, while household incomes reduce and demand patterns shift.[6]

Country Context Information:

12. **Burundi** is a land-locked and one of the poorest countries in the world. More than 50% of the population is chronically food insecure**. The total annual production of food would only cover for 55 days per person per year** (*Food And Agriculture Organisation (FAO), Dec 2017*). The high population density, as well as the influx of returnees from Tanzania and refugees from the Democratic Republic of Congo (DRC), contributes to competition and disputes over scarce natural resources. Over 90 percent of the population depends on agriculture for their livelihood.

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[2] In its simplest definition, the food system consists of *everyone and everything involved in producing, distributing, or consuming food*. It comprises "all of the people and activities that play a part in growing, transporting, supplying, and, ultimately, eating food. These processes also involve elements that often go unseen, such as food preferences and resource investments." Source: High Level Panel of Experts Food Systems Framework, 2017.

[3] *WFP, Food Systems in Fragile Settings: Identifying gaps and opportunities to support access to improved diets, Fill the Nutrient Gap Report, July 2020*

[4] https://www.wfp.org/publications/power-gender-equality-food-security

[5] WFP, UN Habitat, "Impact of COVID-19 on Livelihoods, Food Security, & Nutrition in East Africa," 2020, https://docs.wfp.org/api/documents/WFP-0000118161/download/?_ga=2.205712657.364549341.1626080424-839920464.1603866585

[6] Boston Consulting Group, "East Africa's Rebound: How businesses can emerge stronger from COVID-19, and how governments can support them," https://media-publications.bcg.com/East-Africa-Rebound.pdf.

13. **Djibouti** is a low-middle income country and the most food deficit country in the Horn of Africa. Despite recent economic growth, poverty rates stand at 79 percent. The climate is hot and dry, desert-like arid, characterized by less than 200 mm of rainfall per year which hinders agricultural production. As a result, **the country has to import 90 percent of its food commodities which makes it highly dependent on international market prices**. The port of Djibouti is a secure regional hub for the transhipment and relay of goods, connecting Asia, Africa and Europe intersect. It currently meets 95 percent of neighbouring countries' maritime transport needs and plays a crucial role in providing a humanitarian hub for regional crisis response for WFP and its humanitarian partners.

14. **Ethiopia** has made important development gains over the past two decades, reducing poverty and expanding investments in basic social services. However, food insecurity and under-nutrition still hinder economic growth[7]. The country is home to the second largest refugee population on the continent, hosting over 750,000 registered refugees from Eritrea, Somalia, South Sudan and Sudan. Recurrent drought, flash floods and failed harvests have left a negative legacy on many families, who have lost livestock and other productive assets. Also, the security in Tigray remained unstable and unpredictable as of June 2021. The situation is particularly volatile in rural areas where large numbers of people are believed to have fled. Due to the conflict, farmers missed the harvest season and with regional trade blocked, the local markets are close to collapsing. The Government estimates that 5.2 million people are in urgent need of food assistance in the Tigray Region. As such, **Ethiopia is one of WFP's largest supply chain operations.**

15. **Kenya**, a lower-middle-income economy is transforming rapidly. However, social, and economic inequalities persist and more than one third of Kenyans live below the poverty line. **Agriculture remains the main economic driver, although 80 percent of the land is either arid or semi-arid**. Rapid population growth, climate change, stagnating agricultural production, gender inequalities and underperforming food systems are the most significant challenges to food and nutrition security. The most severe living conditions exist in the arid north, which is underdeveloped, drought prone and affected by frequent tribal conflicts. Kenya hosts a large population of refugees, highly dependent on international assistance.

16. **Rwanda** is a small, landlocked country and **one of the most densely populated countries in Africa**. Since the 1994 genocide, the Government of Rwanda has recorded significant achievements in poverty reduction, gender equality, environmental sustainability, food production, education and public health, in line with the Millennium Development Goals. However, 38.2 percent of the population continues to live below the poverty line and almost one fifth is food insecure.

17. **Somalia** continues to make progress to recover from decades of conflict, underdevelopment, and instability since the re-establishment of the Federal Government in 2012. However, climatic shocks combined with persistent conflict, gender inequality and protracted displacements continue to exacerbate food insecurity. Systemic problems such as limited investments, infrastructure and regulatory frameworks, as well as climate variability, **limit the potential of Somalia's food systems to ensure access to and consumption of nutritious food**. As of May 2018, 2.7 million people cannot meet their daily food requirements today and require urgent humanitarian assistance, with more than half a million on the brink of famine.

18. **South Sudan:** the civil war that has been tearing South Sudan apart since December 2013 is causing widespread destruction, death and displacement. 1.47 million people are internally displaced and another 2.2 million are refugees in neighbouring countries. A collapsing economy, reduced crop production and **dependence on imports** seriously undermine people's ability to secure sufficient nutritious food all year round, putting millions of lives at risk. In 2017, famine was declared in two counties. As of January 2020, 7.5 million people are in need of humanitarian assistance.

19. **Sudan,** in 2019, faced a **worsening economic crisis**, including high inflation and rising prices for essential items such as food, medicine and other commodities. After months of civil protest, a Transitional Government was formed in September 2019. However, a large number of displaced people, including refugees from neighbouring countries, a volatile economic situation, increased climate variability, environmental degradation, disease outbreaks, malnutrition, gender inequality, and the risk of relapse back into potential conflict present significant hunger challenges. The conflict in the Tigray region of Ethiopia that escalated early November 2020 has led people to flee across the border into eastern Sudan to seek safety. According to UNHCR, over 56,000 people had arrived in Kassala, Gedaref and Blue Nile states (as of 5 January 2021).

20. **Uganda** is a land-locked country in East Africa and **produces more food than it consumes**. Yet, poverty still limits people's access to nutritious food, especially in the north and east of the country. A fast-growing population – expected to reach 100 million by 2050 – and the presence of the world's third largest refugee population pose further challenges to the country's ability to achieve Sustainable Development Goal 2 on Zero Hunger. Uganda hosts more refugees than any other country in Africa, including people who have fled from South Sudan, DRC and Burundi. The Government gives refugees plots of land to cultivate, to encourage their self-sufficiency. However, as the number of refugees – especially from South Sudan – grows, these plots become gradually smaller.

21. Because of the nature of WFP's work, our partnerships, programmes and capacities stretch across food systems, and are especially strong within the "midstream" – where food is transported, stored, handled, processed, wholesaled and retailed. Supply Chain is the backbone of WFP's operations, enabling the organization to deliver life-saving assistance to 30 million people in the Eastern Africa region. This is made possible by an array of complex and diverse functions – spanning end-to-end

[7] As per the 2020 Humanitarian Development Plan (HRP), an estimated 8 million people require food assistance

planning, food and services procurement, food safety and quality, logistics, in-house shipping, aviation and cash-based transfers (CBT) and markets. Supply Chain also extends its expertise to partners and the wider humanitarian community, through the provision of common services, helping them to achieve their operational goals. As of October 2020, 256,000 metric tons of food were procured in the region. Out of the food utilised by the Country offices in RBN in 2020 (excluding in-kind donation), 37% were purchased locally and regionally.

22. Aligned with the 2015 policy recommendations of the Committee on World Food Security, WFP fosters links between smallholders and public and private food procurement, including by purchasing the food used in food assistance from smallholder farmers. **WFP's Local and Regional Food Procurement Policy** aims at enabling WFP to boost its local, regional and pro-smallholder procurement. **WFP's Supply Chain Strategy (2017-2021)** defines the Supply Chain's mission as applying its leadership and expertise to support international, regional and national efforts to eradicate hunger and poverty in all its forms. It will do this not only by delivering food and services for emergencies and other needs, but will work to enable countries to be better able to respond to emergencies on their own. It will also help strengthen local markets to be more efficient and assist its international partners.

23. Outside of WFP, myriad actors engage in and work towards more inclusive, sustainable food systems. As part of the planned Food Systems Summit[8] in September 2021, organized by Secretary-General Antonio Guterres, national governments, UN agencies, member states, civil society, academia, private sector actors, and others are coming together with renewed energy and focus to discuss and lay out ambitions new actions, innovative solutions, and plans to transform the food systems. In the lead up to the Summit, each country within the RBN region will also be holding national dialogues on the subject.

[8] Food Systems Summit: https://www.un.org/en/food-systems-summit

2. Reasons for the evaluation

2.1. RATIONALE

24. The evaluation is being commissioned for the following reasons:

    a. In 2020, Food Systems was identified as a priority area for WFP RBN. While much of what WFP does could be considered as food systems work, food systems is an important new lens being adopted to better design and learn from WFP programmes and operations, taking into consideration the actors, interlinkages, and dynamics from production through to consumption.

    b. Supply Chain (SC) plays a critical role in operationalizing WFP's vision and planned engagement in food systems, and evidence to inform and strengthen its activities and how it operates is crucial. However, past evaluations of WFP work have not explicitly assessed the contribution of WFP supply chain activities beyond its general role to deliver food/cash assistance for WFP programming. As a result, there is a notable gap in evidence and understanding on how supply chain processes and activities contribute to wider outcomes across the food system. RBN has thus commissioned this evaluation to:

        i. **Better understand the outcomes (positive or negative) of WFP RBN (the regional bureau and its COs) supply chain interventions on increasing access and availability of affordable quality nutritious, the food system more broadly, local economies, and prioritized lower level outcomes (supply chain resilience and competitiveness, and food waste/loss.[9])**

        ii. **Inform the potential scale up of successful interventions for greater systems level change**

        iii. **Support RBN to understand and redefine its capacity strengthening approach towards key supply chain actors, including local market actors and country/local governments**

    c. In September 2021, the **Food Systems Summit** organised by UN Secretary-General Antonio Guterres will take place. While the evaluation evidence will not be available for the Summit, the findings will be used to inform envisioned post-summit follow-up actions. More comprehensively, this evaluation is also needed at this time as the evidence generated will be presented at the **2022 Africa Logistics Conference** where 'building back better' will feature as a key topic.

25. **Who will use the results?** First and foremost, the findings and recommendations from this evaluation will be used by WFP RBN and COs across the region. Second, the WFP Headquarters (HQ) Supply Chain may use the findings to review and enhance the global supply chain approach and advocacy in relation to sustainable food systems. Finally, the findings may also be used by other supply chain actors that WFP works with to enhance their engagement with governments, private sector (transporters, wholesalers, retailers) and smallholder farmers.

2.2. OBJECTIVES

26. Evaluations serve the dual and mutually reinforcing objectives of accountability and learning.

- **Accountability –** The evaluation will assess and report on results of supply chain activities and how they are contributing to different levels of change. At a high level, the focus is on assessing contribution to the availability and access to affordable nutritious foods, and more broadly to strengthening the food system and local economies. At a slightly lower level, the focus will be on the key RBN priority outcome areas: supply chain resilience and competitiveness, and food loss/waste reduction.[10]
- **Learning –** The evaluation will determine the reasons why certain results occurred or did not occur to draw lessons, derive good practices and inform learning. It will also provide evidence-based findings to inform operational and strategic decision-making. Findings will be actively disseminated, and lessons will be incorporated into relevant lesson-sharing systems. Findings will be also used to inform how WFP can better scale successful interventions for greater systems level change.

27. For this evaluation, more weight will be given to the learning objectives. As stated above, the main objective is to contribute to filling the existing evidence gap and better understanding its contribution to higher level change within food systems. In addition, learning is a focus because this evaluation will assess activities in a new light, not necessarily how they were initially designed, and because supply chain activities are often not included in existing performance measurement and monitoring systems (objectives, indicators, targets). On this front, the evaluation will also draw recommendations on how to better reflect supply chain activities in WFP CSPs and effectively measure performance/monitor this type of work.

[9] Achieving this outcome by leveraging and supporting local and regional production/sources is an important aspect for WFP.
[10] It is important to note that these priority areas were recently developed based on a review of WFP supply chain activities and the focus of most on-going work. These priority areas may not have been explicit during the design and initial implementation of many supply chain activities.

28. As WFP is committed to enhancing Gender Equality and Women's Empowerment (GEWE) and Human Rights through all its work, another objective of this evaluation will be to assess whether supply chain activities within food systems are equally accessible to men and women as well as people with disabilities and if not, what the barriers are and for whom, and most importantly what could be done to break these barriers.

2.3. STAKEHOLDER ANALYSIS

29. The evaluation will seek the views of, and be useful to, a broad range of WFP internal and external stakeholders. In addition to RBN and the COs across the region who are the primary internal users, a number of stakeholders will be asked to play a role in the evaluation process in light of their expected interest in the results of the evaluation and relative power to influence the results of the programme being evaluated. This includes Supply chain and programme/CBT staff, Government Ministries and male and female food systems actors (e.g. food producers, retailers, traders, transporters, etc.). **Annex 2** provides a preliminary stakeholder analysis showing who the stakeholders are, what their interests are and their likely uses of the evaluation. This analysis will be deepened by the evaluation team during the Inception phase.

30. To ensure accountability to affected populations, WFP is committed to include beneficiaries as key stakeholders in WFP work. WFP is also committed to ensuring gender equality, equity and inclusion in the evaluation process, with participation and consultation in the evaluation of women, men, boys and girls from different groups (including persons with disabilities, the elderly and persons with other diversities such as ethnic and linguistic). In this evaluation, beneficiaries of WFP work are the men and women retailers, transporters, smallholder farmers, and other supply chain actors, as well as national/local government actors that participate in supply chain activities.

3. Subject of the evaluation

3.1. SUBJECT OF THE EVALUATION

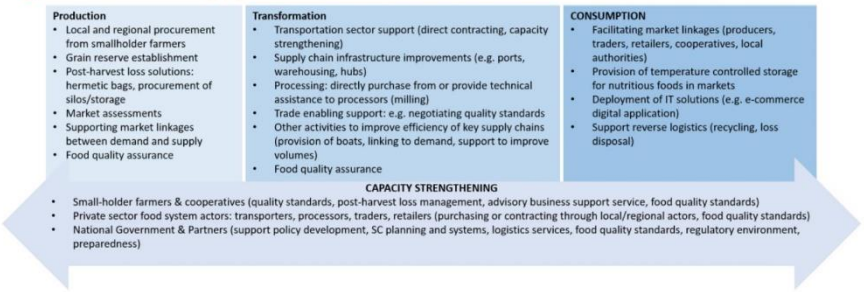
31. The evaluation will focus on the supply chain activities implemented in Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda from January 2016 to December 2020. Please refer to **Annex 3** for a regional supply chain map. Additional operational and programmatic details will be made available at the inception stage of the evaluation.

32. The subject of the evaluation includes a wide range of supply chain-led activities implemented both by procurement and logistics teams within WFP RBN and nine COs from January 2016 through December 2020. Transfers, such as in-kind and cash, are at the core of supply chain work and are a primary mechanism for creating demand and impacting supply of nutritious food in food systems. However, myriad activities supporting and enabling these transfers and other programmatic priorities and impacting the wider food system and local economy are being implemented, but are not currently well recognized, visible, or have an adequate evidence base. These types of supportive, enabling, and related activities led by supply chain units are the subject of this evaluation.

33. An illustrative list of these types of activities is included in Figure 2 and generally fall within three categories: production, transformation, and consumption.

- Production activities within supply chain focus on food supply, with an emphasis in strengthening local food procurement; storage, food safety & quality assurance, and reducing food loss/waste.
- Transformation activities focus on how that food moves or is processed before it reaches consumers (transport, trade, national supply chain infrastructure, value addition through processing, etc.).
- Under consumption, activities focus more directly on enabling consumers to access nutritious diets by ensuring affordable nutritious foods reach markets in adequate quantity and quality; , market actors are connected to and can meet the demand (often support by WFP cash/food transfers) for nutritious foods.
- Cutting across all these areas are activities focusing on policy development and capacity strengthening to improve the performance of supply chain actors, as well as governments to sustain gains after WFP interventions end and in a way that enhances the food system in each country to become more sustainable, equitable, and inclusive, especially for vulnerable populations at the "last mile."

Figure 2: Illustrative Supply Chain-focused Activities



34. At country level, these activities are anchored within the CSPs, integrating with wider programming modalities and activities to achieve specified outcomes. At a regional level, through consultation with COs, these activities are now being looked at in terms of higher-level change goals and broader contributions to strengthening food systems.[11] As such, activities contributing to priority outcome areas (at various levels) are the focus. Priority outcome areas include: access/availability to nutritious foods, strengthening local economies (especially through supply chain competitiveness and resilience to shocks), and food waste/loss reduction.

35. It must be emphasized that supply chain activities often serve operationalize programmatic priorities and for many activities, both programmatic and supply chain units are involved at certain stages or work in an integrated fashion. This integration makes it difficult at times to clearly distinguish whether an activity is supply chain or programmatic for the subject of the evaluation. As much as possible, however, this evaluation should focus on those activities where supply chain units lead or

[11] Adoption of a food systems lens varies by countries and is generally in a nascent state across the bureau. In practice, a food system lens entails designing and implementing activities in a way that takes into consideration how interventions integrate and effect with the actors, linkages, and dynamics across the food system from production through consumption.

aspects of activities where supply chain units bring their expertise and core capabilities to bear as a way to focus and clarify the subject of the evaluation. This is not, however, to ignore important aspects of integration that may be contributing to any identified results. Additionally, as illustrated above, the range and number of activities presents challenges in focusing the subject of the evaluation and has implications for the scope. **To ensure the subject is clear and the scope is feasible, the exact activities and areas of interest will be prioritized during the inception phase**.

36. To give greater context to these activities, at regional level, in 2019, RBN handed over 1,177,835 metric tons (mt) of food commodities to Cooperating Partners to reach a total of 19,193,859 food insecure people, and USD 270 million in CBT was distributed through local retailers[12]. As of 2021, WFP engages with 2,671 retailers across the region. As of August 2020, 171,947 mt of food was purchased locally and regionally for a value of USD 75 million. Most of it was coming from Uganda (41%) and Tanzania (30%), while a smaller portion came from South Africa (12%) and Rwanda (8%). In the region, white maize is the top commodity procured in terms of quantity and value (126,332mt for $38.6m), followed by beans and corn soya blend. RBN moves around 1,300,000mt of food per year throughout the region which corresponds to approximately 43,300 truckloads and engagement with 631 transporters. To accomplish this, RBN at a regional level has supported COs worked to open and optimize important supply chain corridors across countries.[13]

Country	Number of Transporters	Number of Retailers	Mt of Food purchased locally and regionally	
	2021	2021	2016	2020
Burundi	4	*NA*	4,492 (2%)	2,488 (1%)
Djibouti	34	23	*NA*	*NA*
Ethiopia	36	279	74,750 (27%)	5,578 (3%)
Kenya	114	708	14,891 (5%)	3,431 (2%)
Rwanda	13	*NA*	25,435 (9%)	13,733 (8%)
Sudan	108	173	*NA*	*NA*
Somalia	54	1150	4,000 (2%)	*NA*
South Sudan	136	338	70 (0%)	4,500 (3%)
Tanzania	32	*NA*	28,500 (10%)	51,216 (30%)
Uganda	100	*NA*	126,230 (45%)	71,000 (41%)

37. Figure 3 has been developed by WFP Kenya to highlight its conception of food systems and overall approach of supply chain work as a whole. This diagram can be applied to the region, though not all country offices are active in every area.

Figure 3 Kenya Food Systems + Supply Chain Approach

38. At a country level, supply chain activities, grounded in the CSP, support and integrate with programmatic priorities and activities to varying degrees. Across each country, activities focus in different ways to respond to their unique contexts.

[12] WFP, WFP East and Central Africa Regional Achievements, Annual Country Report 2019

[13] Older data, prior 2020 will need to collected from the COs at the inception phase of the evaluation

a. **Burundi:** The focus is mainly on capacity strengthening and providing the government, humanitarian and development partners, such as the Burundian Red Cross, with technical support to set up and enhance their logistics strategy, national grain reserves, and rehabilitate storage facilities, infrastructures and roads. For example, WFP works with Ministry of Agriculture, cooperatives and millers to support them in producing quality fortifies flour.

b. **Djibouti**: With the port of Djibouti being a regional hub for transhipment and relay of goods (meets 95% of neighbouring countries' maritime transport needs), it serves as a base for WFP to provide, on request, expertise, service and infrastructure to the humanitarian community (service provision on full-cost-recovery basis), and to strengthen the logistics capacity. Leveraging its expertise, WFP has established a logistics training programme focusing on transport and commodity handling. This initiative helps develop skilled labour in the logistics sector and support the Government's efforts in job creation. As another example, WFP provides silo storage and bulk grain supply chain solutions to governmental and development agencies. In addition, WFP Djibouti provides support to refugees and food-insure Djiboutian through the delivery of Cash-Based Transfers and as such it engages with 23 retailers.

c. **Ethiopia:** Ethiopia is one of WFP's largest supply chain operations, managing the movement of over 500,000 mt of food per year to 3,000 distribution points and 26 refugee camps. WFP Ethiopia engages with 279 retailers. One priority is to strengthen and enable the national self-reliance, especially for government and its systems to meet its food needs (both humanitarian and general food needs), by leveraging WFP's operational footprint. For instance, WFP works with the Government on supply chain capacity-strengthening activities, including reducing port congestion with the Ethiopian Maritime Affairs Authority, strengthening the road transport sector with the Federal Road Transport Authority, and supporting the National Disaster Risk Management agency in its implementation of an end-to-end food tracking system. Also, the WFP-managed UNHAS service provides air transport for humanitarian partners and cargo to seven destinations where transport infrastructure does not exist.

d. **Kenya:** The Government's priorities include strengthening market integration and addressing inefficiencies in supply chains, particularly in remote areas. As such, WFP Kenya aims at increasing resilience by focusing on food systems and by leveraging its supply chain expertise with a strong market-based approach and retail engagement strategy. In Kenya, WFP works with 708 retailers. WFP also works to ensure that government, humanitarian and development partners can benefit from effective and cost-efficient logistics services – including air transport, common coordination platforms and improved commodities supply chains, to address losses, waste and inefficiencies. Partnerships with the private sector is central, especially in the context of Supply Chain innovations with, for instance, the establishment of eco-friendly coolers for fresh produce (zero-energy brick cooler and evaporative charcoal cooler). Strong focus is also on capacity strengthening, including on food safety and quality and on post-harvest loss management.

e. **Rwanda:** WFP works closely with the government and local factories to support food safety policy, especially with regard to the Aflatoxin level which can affect the quality and the production of the nutritious Super Cereal Plus (SC+) that is sold and used by WFP across the region. On that matter, WFP also works with Food To Market Alliance (FTMA) on innovative solutions to identify and reduce aflatoxin level in agriproducts. For example, WFP provide the Ministry of Agriculture and private sector actors with trainings on warehouse management, stacking techniques and fumigation principles. WFP Rwanda also delivers supply chain services. During COVID19 pandemic, WFP ensured adequate transport and continued food supply at the local markets in and around the refugee camps despite lockdown, restricted movements between districts and financial measures put in place by Government.

f. **Somalia:** WFP Somalia aims at strengthening food systems by providing technical support to improve food supply chains. WFP acts as a service provider (provision of services, skills, assets and infrastructure) for the rehabilitation and strengthening of food supply chain. Through infrastructure projects, WFP strengthens national capacity to bolster supply chain. For instance, WFP has supported the rehabilitation of the maritime infrastructure, such as Mogadishu port and dredging of Bossaso port, to enhance efficiency by enabling access for larger vessels and brought economic benefits as trade volumes have increased. Efforts are now focused on raising funds to rehabilitate the strategically important southern port of Kismayo. WFP Somalia also leads the e-shop home delivery application covering all key areas of Somalia: local retailers (1150) receive order via the app and WFP-mobilised delivery service providers fetch the order and deliver to consumer households. The project has boosted local markets and supply chains.

g. **South Sudan:** While insecurity has disrupted food production and supply routes, the operational context is challenging in terms of maintaining the supply chain. 80% of the country is inaccessible by road for half of the year. WFP South Sudan provides air transport and coordinated logistics services to humanitarian partners, including FAO, UNICEF, the Red Cross and non-governmental organizations (NGO) to ensure the delivery of assistance to remote, hard-to-reach areas. Services also include procurement and transportation of humanitarian cargo by road, river, and air across the country; fleet management including vehicle repair and maintenance; and storage and warehouse services. In 2019, WFP saw an increasing demand for support, with services provided valued at USD 6 million, a USD 4 million increase from 2018. This was coupled with a 300 percent expansion to storage space made available to the humanitarian community. WFP South Sudan engages with 338 retailers.

h. **Sudan:** WFP Sudan aims to enable national institutions to take on a greater role in emergency response and improve their systems and thus reduce food insecurity. This represents an important evolution in focus, from directly delivering assistance to both delivering assistance and supporting partners in their delivery of assistance. Decisions on the sourcing

of food will therefore take into consideration the most feasible transfer modality, regularly evaluating national retail networks and the capacity of the institutions necessary to CBTs (WFP engages with 173 retailers). WFP Sudan aims at continuing to source food, goods and services from both local and international suppliers while increasing the number of qualified and capable vendors and investing in infrastructure. Food purchased in the Sudan might also serve the requirements of the neighbouring countries for which WFP Sudan provides logistics support. Furthermore, WFP Sudan provides the government with technical support to set up and enhance their national grain reserves to boost emergency response capacity.

i. **Uganda:** Adopting a more holistic approach, WFP Uganda focuses on food systems as a whole and on supply chain gaps. WFP buys more food in Uganda than in any other developing country. The food serves operations in not only Uganda but also other countries in East Africa. In 2018, WFP bought more than 188,000mt of food (maize, beans and sorghum) mainly coming from smallholder farmers (80% - 90%)[14]. Also, WFP provides other humanitarian agencies with supply chain services and expertise to support their operations in Uganda and the region. Working with the Ministry of Agriculture and other UN agencies, WFP trains smallholder farmers (including refugees and members of host communities) on ways to increase productivity, diversify crops to enhance nutrition, control quality and access markets. WFP works to increase the capacity of national and subnational institutions to coordinate and manage food security and nutrition programmes and respond to shocks, including through the development of a unified platform to register beneficiaries of government and development partners programmes.

39. At the time of the development of this TOR, there is no regional level theory of change (TOC) for supply chain activities. During the Inception phase, the evaluation team will be expected to review initial thinking around a possible TOC (**Annex 11**) and further strengthen it. At the country level, some specific activity and overarching theories of change exist in a few countries (e.g. Somalia and Kenya) (**Annex 12, 13 and 14**). Thinking around how WFP's operational supply chains and wider support to country and regional supply chains supports the wider food system varies across countries and is in an early stage at the regional level. This evaluation will help deepen this reflect and inform activities moving forward.

40. Although no specific gender analysis has been used to develop this evaluation ToR and no specific gender analysis has been produced concerning the supply chain activities, the evaluation should mainstream gender perspectives and considerations through all stages of the evaluation and making sure that the most vulnerable women will be considered adequately.

41. Existing evaluations on the subject is minimal, though results of the delivery of in-kind and case-based assistance are captured to some extent in various programmatic evaluation reports. At a regional level, two evidence exercises, currently in progress, may inform the evaluation team's work during inception phase: The WFP Supply Chain Contribution to Market Development and Food Systems in Southern Africa: A Thematic Evaluation, January 2018-March 2021. The evaluation team may be able to consider some of the initial findings and key recommendations while developing the inception report.[15] Additionally, an evaluation of Kenya's Strategic Objective 2 (a focus on food systems) is also currently underway, with baseline completed and midline currently underway[16]. A study on the Economic Impact WFP's Procurement and Logistics in East Africa will also be implemented in parallel to this evaluation that the team may benefit from. Beyond evaluations, myriad analyses and assessments do exist, informing supply chain and food systems work more broadly that can be considered by the evaluation team in the inception phase.

3.2. SCOPE OF THE EVALUATION

42. **Timeframe:** The period covered by this evaluation is WFP RBN supply chain activities implemented from January 2016 through December 2020.

43. **Activities and target groups:** This evaluation will evaluate a select number of supply chain activities (see figure 2 above) implemented both by procurement and logistics team within WFP RBN and its COs. RBN recognizes there are a wide range of activities listed. During inception phase, a feasible number of activities will be prioritized (across the region and for specific COs) during inception phase. Target groups are the beneficiaries/recipients of assistance and capacity strengthening activities, who include men and women retailers, transporters, traders, processors, wholesalers, retailers, and other supply chain actors, as well as national and local government actors that benefit from supply chain activities.[17] Beyond target actors, the evaluation should also focus on the enabling environment, physical infrastructure, and market systems supported by target activities.

44. **Geographical scope:** The evaluation will cover nine countries offices supported by WFP in Eastern Africa, i.e. Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda. It will cover urban, peri-urban and rural areas where supply chain activities have been implemented (see **Annex 3** for regional supply chain map). As this is a broad regional level evaluation, it will not be feasible to go into the same level of depth or analysis for each country. Therefore, a broad regional level complemented by 2-3 focal countries is proposed (exact countries to be determined during the inception phase). This will enable the evaluation to more deeply explore and illustrate trends, challenges, opportunities, or other specifics for select COs or across contexts in a feasible, cost-effective way.

[14] Local and Regional Food Procurement Policy
[15] The final report is expected to be available in August 2021
[16] The Midline Evaluation Report is expected to be available by the end of 2021
[17] The impacts on recipients of assistance are an important consideration, though not the core focus of this evaluation.

4. Evaluation approach, methodology and ethical considerations

4.1. EVALUATION QUESTIONS AND CRITERIA

45. The evaluation will address the following key questions, which will be further refined and tailored by the evaluation team in a detailed evaluation matrix during the inception phase. Collectively, the questions aim at highlighting the key lessons and performance of Supply Chain activities towards higher level outcomes and system level changes, with a view to informing future strategic and operational decisions.

46. The evaluation should analyse how gender, equity and wider inclusion objectives and GEWE mainstreaming principles were included in the intervention design, and whether the evaluation subject has been guided by WFP and system-wide objectives on GEWE. The gender, equity and wider inclusion dimensions should be integrated into all evaluation criteria as appropriate.

Table 2: Evaluation questions and criteria

Criteria	Evaluation Questions
Relevance/ Appropriateness	1. To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks, and gender analyses? a) To what extent and how have the above analyses been most useful to WFP supply chain teams and activities? 2. To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?
Effectiveness	3. What are the most significant results being achieved by supply chain activities? a) To what extent have supply chain interventions contributed to supply chain resilience[18] and competitiveness[19], and food waste/loss? What is the significance or scale of its contribution or results? b) To what extent and how have supply chain activities contributed to a stronger enabling environment (policy/regulatory environment) for supply chains, the wider food system, and local economies? c) What factors, including operational modalities and procedures as well as contextual factors, influence results and how? 4. To what extent do activities effectively support inclusion and representation of women, youth, and vulnerable actors across the supply chain? 5. What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, and sustainability?
Effectiveness/ Efficiency	6. How well are supply chain and programme units collaborating to design, plan, and execute activities and programmes? a) How does the level of collaboration and integration influence outcomes, if at all? b) Are supply chain capacities and capabilities effectively leveraged to achieve desired outcomes and contribute to wider systems level change? 7. What, if any, efficiency gains have been realized through WFP supply chain interventions? How or why?

[18] Resilience is defined as resilience to shocks, natural or man-made, including climatic shocks, economic shocks, shocks caused by insecurity, and others.
[19] Aspects of supply chain competitiveness may include: cost efficiency, reducing lead times, shortening supply chains, ability of supply chain actors to innovate at scale.

Criteria	Evaluation Questions
Impact (contribution)	8. To what extent and how are supply chain interventions contributing to wider impacts (more resilient and inclusive food system, strengthening local economies, increasing access and availability of affordable nutritious foods)? a) What are the intended and unintended effects of interventions? Are there any differential effects across contexts or for different target audiences, including female or youth supply chain actors? b) What activities or combination of activities most significantly contribute, and why? c) What factors affect (positively or negatively) this contribution? d) What opportunities exist to further strengthen WFP's contribution towards wider impact? 9. What effect has the nature and scale of WFP's network of supply chain actors (especially traders, processors, transporters, retailers) had on observed results and dynamics in the food system and local economy? a) Has WFP been able to utilize its scale and position to negotiate the best prices for end consumers? 10. How are results (positive or negative) distributed across food system actors? Are certain actors benefitting more than others? a) What equity considerations should be made?
Sustainability	11. To what extent are results from supply chain interventions sustainable? 12. To what extent are WFP interventions strengthening capacity of key government institutions and supply chain actors? In what ways? a) How are supply chain activities contributing to the capacity (knowledge, skills, operational capacity) and dynamics between key supply chain actors, including women and youth?

47. In addition to the key questions above, lessons learned should be captured. Key lessons of interest are those that:

- inform supply chain strategy and operations
- enhance achievement of focal outcomes and wider impact on the food system and for focal outcome
- ensure gender equality and women's empowerment and youth engagement throughout the supply chain

4.2. EVALUATION APPROACH AND METHODOLOGY

48. The methodology will be designed by the evaluation team during the inception phase. It should:

- Employ the relevant evaluation criteria above;
- Apply an evaluation matrix geared towards addressing the key evaluation questions taking into account the data availability challenges, the average decentralized evaluation budget and timing constraints;
- Ensure through the use of mixed methods that women, girls, men and boys from different stakeholder groups participate and that their different voices are heard and used;
- Adoption of a **utilization-focused approach** is expected, and proposals including **participatory and innovative approaches** is highly encouraged.

49. The methodology chosen should demonstrate attention to impartiality and reduction of bias by relying on mixed methods (quantitative, qualitative, participatory, etc.) and different primary and secondary data sources that are systematically triangulated (documents from different sources; a range of stakeholder groups, including beneficiaries; direct observation in different locations; across evaluators; across methods, etc.). It will take into account any challenges to data availability, validity or reliability, as well as any budget and timing constraints. The evaluation questions, lines of inquiry, indicators, data sources and data collection methods will be brought together in an evaluation matrix, which will form the basis of the sampling approach and data collection and analysis instruments (desk review, interview and observation guides, survey questionnaires etc.).

50. Acknowledging the diversity of activities across the region and scale of the evaluation, mixed method approaches should be proposed and utilized in the most cost-effective way to answer the evaluation questions. The below methods are proposed, but proposals may include other methods considered best to answer the evaluation questions.

    a. **Desk Review and Context Analysis:** A careful documentation analysis of existing data and information from secondary sources (including strategy documents, CSPs, programme or operational documents, procurement and logistics data, market assessments, and others), to assess the supply chain landscape and support analysis of activities in each country/across the region is expected. All relevant data for many activities is not currently centralized and this will also serve as a method to consolidate relevant data sets and information.
    b. **Complexity aware methods:** As described in the subject of the evaluation, the nature of the evaluation subject is complex (i.e. regional dimension, varying country contexts, focus on identifying outcomes that may or may not have been explicit at design stage, and higher systems level change goals, etc.). Proposed methods should be sensitive to the nature of this subject. Methods to answer effectiveness and contribution (impact) questions, particularly evaluation questions 3 and 8 could include: Significant Instance of Policy and Systems Improvement, Qualitative Impact Assessment Protocol, Outcome Harvesting, other contribution analysis methods, or some form of Most Significant Change. Other similar methods could also be considered as well.
    c. **Case Study:** As this is a broad regional level evaluation, it will not be feasible to go into the same level of depth or analysis for each country and for each supply chain activity. Therefore, case study approach for 3-4 countries is proposed (exact countries and exact priority areas/supply chain activities to be determined during the inception phase). This will enable the evaluation to more deeply explore and illustrate trends, challenges, opportunities, or other specifics for select COs or across contexts. A deep dive and comparison analysis between more conflict affected states (e.g. Somalia & South Sudan) and the other more development-oriented countries in the region (e.g. Kenya, Rwanda), for example, could be reflected in the case study approach. The case study approach is likely where any potential survey could take place to remain within budget constraints.[20]
    d. **Other qualitative and quantitative methods:** Traditional qualitative methods (Key Informant Interviews, Focus Group Discussions, etc.) and quantitative methods (surveys) can be considered as well for relevant evaluation questions.

51. The methodology proposed should be sensitive in terms of GEWE, equity and inclusion, indicating how the perspectives and voices of diverse groups (men and women, boys, girls, the elderly, people living with disabilities and other marginalized groups) will be sought and taken into account. The methodology should ensure that any primary data collected is disaggregated by sex and age, as appropriate; and an explanation should be provided if this is not possible. Looking for explicit consideration of gender and equity/inclusion in the data after fieldwork is too late; the evaluation team must have a clear and detailed plan for collecting data from the most vulnerable groups and equity-sensitive ways before fieldwork begins. The evaluation findings, conclusions and recommendations must reflect gender and equity analysis. The findings should include a discussion on intended and unintended effects of the intervention on gender equality and equity dimensions. The report should provide lessons/ challenges/recommendations for conducting gender and equity-responsive evaluations in the future.
52. An Evaluation Committee and Evaluation Reference Group will be employed to ensure independence and impartiality. Furthermore, an Evaluation Manager will be selected who has not been involved in supply chain activity design or implementation.
53. The following potential risks to the methodology have been identified:

    a. Lack of outcome level objectives and relevant monitoring data for measuring progress against higher level objectives for all interventions. As mentioned above, most interventions were designed with specific operational objectives and monitored according to traditional operational metrics. Higher-level outcomes have only recently become a focus and thus there may be challenges in obtaining some data or information related to focal outcomes. To mitigate this, the evaluation team may have to allocate additional time to process operational data or collect additional data that may not have been collected during activity implementation. Proxy measures or additional data triangulation to inform findings, conclusions, and recommendations may be needed.
    b. Access to some sites or beneficiaries may be limited due to COVID-19, political (or other) unrest, and natural disasters in focal countries or sites.

[20] As an example, a potential survey could focus on income and efficiency gains for transporters in a sampled country. Wherever possible, existing survey data should be utilized. In parallel with this evaluation, an economic impact study (utilizing advanced modelling techniques) of supply chain activities across the region will take place. There may be opportunities for the evaluation to draw upon or benefit from this study.

i. As a result of COVID-19 and associated travel restrictions, international consultants may face travel restrictions and quarantine measures to enter certain RBN COs. Face-to-face interviews may also not be possible for certain countries.

ii. To mitigate this risk, the evaluation team needs to ensure the methodology is feasible and flexible, developing different scenarios (with a best-case scenario, and inclusion of potential scenarios based on whether international movements remain allowed). National team members may need to lead on the primary data collection, supported by international team members remotely who will attend on-line interviews with WFP and key regional and national stakeholders (United Nations, donors, Government officials, cooperating partners), where possible. Any key informant guiding questions should be simplified to the extent possible ensuring they remain manageable. Remote data collection or alternative data collection methods should also be considered.

iii. WFP RBN and the Evaluation Manager will provide an update on the ethical and political situations in RBN COs, including recent COVID-19 regulations and restrictions.

54. During the inception phase, the evaluation team should expand on the methodology presented and develop a detailed evaluation matrix.

4.3. EVALUABILITY ASSESSMENT

55. The evaluation team will have access to a great number of quantitative data on procurement (quantities, commodities, location and type of stakeholders), as well as on transportation (origin, destination, expenses, network, stakeholders). Additional data, such as monitoring data, project reports, sales data will be available from the SC Dashboard in DOTS[21], as well as in the Country Office Monitoring and Evaluation Tool (COMET), and SCOPE[22]. Information will be available both on a regional perspective and will be able to be disaggregated at the country level. Gender disaggregated data will also be shared when available. The complete list of available data will be shared with the evaluation team during the kick-off meeting.

56. Among the main limitations in terms of data, qualitative information is limited, and primary data collection will be needed. Additionally, no TOC or logical framework exists. However, a preliminary TOC has been developed for this evaluation (**annex 11**), but needs further refining. The Evaluation team will be able to draw on examples of TOCs from specific SC interventions in Tanzania, Somalia, and an integrated programmatic/supply chain TOC from Kenya. Traditional outcome indicators have not yet been developed and do not yet guide current operations, however, there are specific Key Performance Indicators (KPI) developed to measure data reliability, corridors utilization, transport performance, food loss and performance, funds management and fleet management. Finally, the level of quality of data and information, as well as the sources available, can differ from one country to another.

57. Concerning the quality of data and information, the evaluation team should:

- Critically assess data availability and reliability as part of the inception phase expanding on the information provided. This assessment will inform the data collection and the choice of evaluation methods.
- Systematically check accuracy, consistency and validity of collected data and information and acknowledge any limitations/caveats in drawing conclusions using the data during the reporting phase.

4.4. ETHICAL CONSIDERATIONS

58. The evaluation must conform to UNEG ethical guidelines for evaluation. Accordingly, the selected evaluation firm is responsible for safeguarding and ensuring ethics at all stages of the evaluation process. This includes, but is not limited to, ensuring informed consent, protecting privacy, confidentiality and anonymity of respondents, ensuring cultural sensitivity, respecting the autonomy of respondents, ensuring fair recruitment of participants (including women and socially excluded groups) and ensuring that the evaluation results do no harm to respondents or their communities. Ethical considerations, particularly with regard to data collection during the COVID pandemic (such as the use of remote data collection when possible, use of a local company with national enumerators, etc.) should be well developed during the inception phase.

59. The evaluation firm will be responsible for managing any potential ethical risks and issues and must put in place, in consultation with the evaluation manager, processes and systems to identify, report and resolve any ethical issues that might arise during the implementation of the evaluation. Ethical approvals and reviews by relevant national and institutional review boards must be sought where required.

60. The team and evaluation manager will not have been involved in the design, implementation or monitoring of the WFP Supply Chain activities nor have any other potential or perceived conflicts of interest. All members of the evaluation team will abide

[21] WFP's new data platforms that supports evidence-based decision-making and launched in 2019.
[22] SCOPE is WFP's beneficiary and transfer management platform that supports the WFP programme intervention

by the 2020 UNEG Ethical Guidelines, including the Pledge of Ethical Conduct as well as the WFP technical note on gender. The evaluation team will also be expected to sign a data protection agreement.

4.5. QUALITY ASSURANCE

61. The WFP evaluation quality assurance system sets out processes with steps for quality assurance and templates for evaluation products based on a set of Quality Assurance Checklists. The quality assurance will be systematically applied during this evaluation and relevant documents will be provided to the evaluation team. This includes checklists for feedback on quality for each of the evaluation products. The relevant checklist will be applied at each stage, to ensure the quality of the evaluation process and outputs.

62. The WFP Decentralized Evaluation Quality Assurance System (DEQAS) is based on the UNEG norms and standards and good practice of the international evaluation community and aims to ensure that the evaluation process and products conform to best practice. This quality assurance process does not interfere with the views or independence of the evaluation team but ensures that the report provides credible evidence and analysis in a clear and convincing way and draws its conclusions on that basis.

63. The WFP evaluation manager will be responsible for ensuring that the evaluation progresses as per the DEQAS Process Guide and for conducting a rigorous quality control of the evaluation products ahead of their finalization.

64. To enhance the quality and credibility of decentralized evaluations, an outsourced quality support (QS) service directly managed by the WFP Office of Evaluation reviews the draft ToR, the draft inception and the evaluation reports, and provides a systematic assessment of their quality from an evaluation perspective, along with recommendations.

65. The evaluation manager will share the assessment and recommendations from the quality support service with the team leader, who will address the recommendations when finalizing the inception and evaluation reports. To ensure transparency and credibility of the process in line with the UNEG norms and standards,[1] a rationale should be provided for comments that the team does not take into account when finalizing the report.

66. The evaluation team will be required to ensure the quality of data (reliability, consistency and accuracy) throughout the data collection, synthesis, analysis and reporting phases.

67. The evaluation team should be assured of the accessibility of all relevant documentation within the provisions of the directive on disclosure of information. This is available in the WFP Directive CP2010/001 on information disclosure.

68. WFP expects that all deliverables from the evaluation team are subject to a thorough quality assurance review by the evaluation firm in line with the WFP evaluation quality assurance system prior to submission of the deliverables to WFP.

69. All final evaluation reports will be subject to a post hoc quality assessment (PHQA) by an independent entity through a process that is managed by the Office of Evaluation. The overall PHQA results will be published on the WFP website alongside the evaluation report.

[1] UNEG Norm #7 states *"that transparency is an essential element that establishes trust and builds confidence, enhances stakeholder ownership and increases public accountability"*

5. Organization of the evaluation

5.1. PHASES AND DELIVERABLES

70. Table 4 presents the structure of the main phases of the evaluation, along with the deliverables and deadlines for each phase. **Annex 4** presents a more detailed timeline.

Table 4: Summary timeline – key evaluation milestones

Main phases	Indicative timeline	Tasks and deliverables	Responsible
1. Preparation	**1st May – 6th August**	Preparation of ToR Selection of the evaluation team & contracting Document review	Evaluation Manager
2. Inception	**9th August – 17th September**	Inception mission Inception report	Evaluation Team
3. Data collection	**20th September – 15th October**	Fieldwork Exit debriefing Preliminary Findings brief for the Food System Summit	Evaluation Team
4. Reporting	**18th October – 24th December**	Data analysis and report drafting Learning workshop Comments process Evaluation report	Evaluation Team
5. Dissemination and follow-up	**27th December – 21st January**	Management response Dissemination of the evaluation report	Evaluation Team and Evaluation Manager

5.2. EVALUATION TEAM COMPOSITION

71. The evaluation team is expected to include 2 to 4 members, including the team leader and evaluation specialists. To the extent possible, the evaluation will be conducted by a gender-balanced and geographically and culturally diverse team with appropriate skills to assess gender dimensions of the subject as specified in the scope, approach and methodology sections of the ToR. Given current COVID-19 travel restrictions, there is a strong case for having strong regional or national consultants on the team. At least one team member should have WFP experience, and the team should have experience in supply chains and food systems.

72. The team will be multi-disciplinary and include members who, together, include an appropriate balance of technical expertise and practical knowledge in the following areas:

- Evaluation design and application of different methods;
- Strong expertise on Food security and food systems in the context of Eastern Africa and strong understanding of food supply chains and what influences efficiency, effectiveness and loss. Strong knowledge of WFP humanitarian and development contexts, and strong understanding of supply chain, market development and the retail sector in East African countries;
- Gender expertise/good knowledge of gender issues in food security, as well as Food Systems;
- All team members should have strong analytical and communication skills, evaluation experience with a track record of written work on similar assignments, and familiarity with the Eastern Africa region.
- The evaluation will be conducted in English and all products initially developed in English. Intermediate knowledge (level B) in French is also desired, but not mandatory, for the French speaking countries in the region.

73. The team leader will have more than 15 years of expertise in one of the key competencies listed above as well as demonstrated experience in leading similar evaluations, including designing methodology and data collection tools. She/he will also have leadership, analytical and communication skills, including a track record of excellent English writing, synthesis and presentation skills. Her/his primary responsibilities will be: i) defining the evaluation approach and methodology; ii) guiding and managing the team; iii) leading the evaluation mission and representing the evaluation team; and iv) drafting and revising, as required, the inception report, the end of field work (i.e. exit) debriefing presentation and evaluation report in line with DEQAS.

74. Team members will: i) contribute to the methodology in their area of expertise based on a document review; ii) conduct field work; iii) participate in team meetings and meetings with stakeholders; and iv) contribute to the drafting and revision of the evaluation products in their technical area(s).

75. The evaluation team will conduct the evaluation under the direction of its team leader and in close communication with Aude Mommeja, WFP RBN Evaluation Manager. The team will be hired following agreement with WFP on its composition.

5.3. ROLES AND RESPONSIBILITIES

76. The RBN **management (Director or Deputy Director)** will take responsibility to:

- Assign an evaluation manager for the evaluation: Aude Mommeja, Regional Evaluation Specialist
- Compose the internal evaluation committee and the evaluation reference group (see below)
- Approve the final ToR, inception and evaluation reports
- Approve the evaluation team selection
- Ensure the independence and impartiality of the evaluation at all stages, including establishment of an evaluation committee and a reference group
- Participate in discussions with the evaluation team on the evaluation design and the evaluation subject, its performance and results with the evaluation manager and the evaluation team
- Organize and participate in two separate debriefings, one internal and one with external stakeholders
- Oversee dissemination and follow-up processes, including the preparation of a management response to the evaluation recommendations.

77. The **evaluation manager** manages the evaluation process through all phases including: drafting this ToR; identifying the evaluation team; preparing and managing the budget; setting up the evaluation committee and evaluation reference group; ensuring quality assurance mechanisms are operational and effectively used; consolidating and sharing comments on draft inception and evaluation reports with the evaluation team; ensuring that the team has access to all documentation and information necessary to the evaluation; facilitating the team's contacts with local stakeholders; supporting the preparation of the field mission by setting up meetings and field visits, providing logistic support during the fieldwork and arranging for interpretation, if required; organizing security briefings for the evaluation team and providing any materials as required; and conducting the first level quality assurance of the evaluation products. The evaluation manager will be the main interlocutor between the team, represented by the team leader, the firm's focal point, and WFP counterparts to ensure a smooth implementation process.

78. An internal **evaluation committee (EC)** is formed to help ensure the independence and impartiality of the evaluation. The evaluation committee will oversee the evaluation process, make key decisions and review evaluation products. Annex 5 provides further information on the composition of the evaluation committee.

79. **An evaluation reference group (ERG)** is formed as an advisory body with representation from WFP RBN, WFP COs, partner agencies, governments and implementing partners (Annex 6 provides further information on the composition of the ERG). The evaluation reference group members will review and comment on the draft evaluation products and act as key informants in order to contribute to the relevance, impartiality and credibility of the evaluation by offering a range of viewpoints and ensuring a transparent process.

80. **RBN COs** will be responsible for facilitating access to key documents and to key internal and external stakeholders in collaboration with the evaluation manager.

81. **The Office of Evaluation (OEV)** is responsible for overseeing WFP decentralized evaluation function, defining evaluation norms and standards, managing the outsourced quality support service, publishing as well submitting the final evaluation report to the PHQA. OEV also ensures a help desk function (wfp.decentralizedevaluation@wfp.org) and advises the Regional Evaluation Officer, the Evaluation Manager and Evaluation teams when required.

5.4. SECURITY CONSIDERATIONS

82. **Security clearance** where required is to be obtained from RBN and targeted COs

- Consultants hired by WFP are covered by the United Nations Department of Safety & Security (UNDSS) system for United Nations personnel, which covers WFP staff and consultants contracted directly by WFP. Independent consultants must obtain UNDSS security clearance for travelling from the designated duty station and complete the United Nations basic and advance security trainings (BSAFE & SSAFE) in advance, print out their certificates and take them with them.

- As an "independent supplier" of evaluation services to WFP, the contracted firm will be responsible for ensuring the security of the evaluation team, and adequate arrangements for evacuation for medical or situational reasons. However, to avoid any security incidents, the evaluation manager will ensure that the WFP country office registers the team members with the security officer on arrival in country and arranges a security briefing for them to gain an understanding of the security situation on the ground, especially to safeguard women's security in the field. The evaluation team must observe applicable United Nations Department of Safety and Security rules including taking security training (BSAFE & SSAFE) and attending in-country briefings.

83. To avoid any security incidents, the evaluation manager is requested to ensure that:

- The WFP country office registers the team members with the security officer on arrival in country and arranges a security briefing for them to gain an understanding of the security situation on the ground
- The team members observe applicable United Nations security rules and regulations – e.g. curfews, COVID-19 National rules etc.

5.5. COMMUNICATION

84. To ensure a smooth and efficient process and enhance the learning from this evaluation, the evaluation team should emphasize transparent and open communication with key stakeholders. This will be achieved by ensuring a clear agreement on channels and frequency of communication with and between key stakeholders. The Evaluation Manager will develop a specific communication plan, aligned with the Evaluation Communication Strategy, that will be developed and shared with the evaluation team during the inception phase. It will include and details specific communication methods, as well as roles and responsibilities among the EC and ERG members, COs and RBN colleagues. The communication plan will identify the users of the evaluation to involve in the process and to whom the report should be disseminated. It will indicate how findings including gender, equity and wider inclusion issues will be disseminated and how stakeholders interested in, or affected by, gender, equity and wider inclusion issues will be engaged.

85. Should translators be required for fieldwork, the evaluation firm will make arrangements and include the cost in the budget proposal.

86. As part of the international standards for evaluation, WFP requires that all evaluations are made publicly available. It is important that evaluation reports are accessible to a wide audience, thereby contributing to the credibility of WFP – through transparent reporting – and the use of evaluation. Following the approval of the final evaluation report, the report will be made public.

87. In addition to the final evaluation report, a PowerPoint presentation and an Evaluation Brief will be expected from the ET to support dissemination.

5.6. BUDGET

88. The offer will include a detailed budget for the evaluation, including consultant fees, travel costs and other costs (interpreters, etc.). The total budget for the evaluation will be released in tranches against the high quality and timely delivery of specific key deliverables. The proposals will be assessed according to technical and financial criteria. Firms are encouraged to submit realistic, but competitive financial proposals. The budget is inclusive of all travel, subsistence and other expenses; including any workshops or communication products, and translation costs that need to be delivered.

Annex 2. Detailed methodology

1. This evaluation used a mixed methods approach that is centred around open-ended enquiry in alignment with the learning perspective of the ToR. The following annex expands on the methodology presented in section 1.4.

Evaluation questions.

2. The ToR presented 25 key questions and sub-questions. These were designed to address the criteria of Relevance/Appropriateness, Effectiveness, Effectiveness/Efficiency, Impact (contribution), and Sustainability. Where relevant, the key questions presented in the ToR were reformulated to reflect an outcome-focused perspective. The table below illustrates the revisions made to the Evaluation Questions at inception phase.

Table 5 Original and Revised Evaluation Questions

Criteria	Original Questions	Revised Questions
Relevance/ Appropriateness	1. To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks and gender analyses? a. To what extent and how have the above analyses been most useful to WFP supply chain teams and activities?	No change
	2. To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?	No change
Effectiveness	3. What are the most significant results being achieved by supply chain activities?	3. What are the most significant outcomes of supply chain activities?
	a. To what extent have supply chain interventions contributed to supply chain resilience and competitiveness, and food waste/loss? What is the significance or scale of its contribution or results? b. To what extent and how have supply chain activities contributed to a stronger enabling environment (policy/regulatory environment) for supply chains, the wider food system, and local economies? c. What factors, including operational modalities and procedures as well as contextual factors, influence results and how?	a. How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment b. How have activities and identified outcomes contributed to reduced food losses and improved competitiveness and resilience? c. How have activities and identified outcomes contributed to efficiency gains in the food systems affected by supply chain interventions? d. How have outcomes been influenced by internal factors and external context?
	4. To what extent do activities effectively support inclusion and representation of women, youth, and vulnerable actors across the supply chain?	**4**. To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?
	5. What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, and sustainability?	**5**. What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?

Criteria	Original Questions	Revised Questions
Effectiveness / Efficiency	6 a. How well are supply chain and programme units collaborating to design, plan, and execute activities and programmes?	**6**. To what extent is there collaboration between supply chain, engineering, and programme units?
	a. How does the level of collaboration and integration influence outcomes, if at all?	a. How are outcomes affected by such collaboration?
	7. Are supply chain capacities and capabilities effectively leveraged to achieve desired outcomes and contribute to wider systems level change? What, if any, efficiency gains have been realized through WFP supply chain interventions? How or why?	**7.** This overarching question is addressed by the evaluation itself. No individual indicators apply in this case. Instead, the conclusions drawn from the other lines of questioning will be integrated to respond to this question. The sub-question relates to efficiency gains. Efficiency gains within food systems are addressed under Question 3.
Impact (Contribution)	8. To what extent and how are supply chain interventions contributing to wider impacts (more resilient and inclusive food system, strengthening local economies, increasing access and availability of affordable nutritious foods)?	**8** To what extent have supply chain activities and identified outcomes contributed to wider food system impacts (including intended and unintended effects on local economies, upon resilience and inclusiveness of food systems, and upon access and availability of affordable nutritious foods)?
	a. What are the intended and unintended effects of interventions? Are there any differential effects across contexts or for different target audiences, including female or youth supply chain actors?	a. What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?
	b. What activities or combination of activities most significantly contribute, and why?	b. How have outcomes varied according to gender, financial capacity, disability, or youth?
	c. What factors affect (positively or negatively) this contribution?	c. What opportunities exist to further strengthen WFP supply chain activities, identified outcomes, and more widely to improve food systems?
	d. What opportunities exist to further strengthen WFP contribution towards wider impact?	
	e. What effect has the nature and scale of WFP network of supply chain actors (especially traders, processors, transporters, retailers) had on observed results and dynamics in the food system and local economy?	
	9. Has WFP been able to utilize its scale and position to negotiate the best prices for end consumers?	**9.** How do the outcomes of supply chain interventions vary with the scope and scale of the interventions? In particular, how does the scale of interventions affect the extent and sustainability of systemic change
		a. To what extent do reported outcomes of supply chain activities contribute to a reduction in consumer prices?
	10. How are results (positive or negative) distributed across food system actors? Are certain actors benefitting more than others?	**10**. How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?
	a. What equity considerations should be made?	a. Subjective considerations of equity cannot be addressed through outcome harvesting, but an impartial VC analysis of commodities of interest could be undertaken

Criteria	Original Questions	Revised Questions
Sustainability	11. To what extent are results from supply chain interventions sustainable?	No change
	12. To what extent are WFP interventions strengthening capacity of key government institutions and supply chain actors? In what ways?	12. In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?
	a. How are supply chain activities contributing to the capacity (knowledge, skills, operational capacity) and dynamics between key supply chain actors, including women and youth?	a. To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?

Elaboration of Outcome Harvesting

3. **Outcome harvesting** (i.e., a methodology that focuses primarily upon the identification of outcomes and then investigates the plausibility of their linkages to programme interventions, rather than focusing upon interventions and measuring outcomes against predetermined indicators) was selected as the main way in which outcomes will be identified and assessed through the evaluation. The outcome harvesting methodology is designed to capture the full range of outcomes due to an intervention through the use of open-ended questions to stakeholders who may be potentially affected by that intervention (Wilson-Grau and Britt, 2012). It is a qualitative method that relies upon the subjective perceptions of respondents (World Bank, 2014a). Nevertheless, it can be used to identify objective indicators that align with those perceptions, so that data collection and validation can be conducted if necessary. Four aspects of outcome harvesting are of particular importance (World Bank, 2014b):
    - The participation of those stakeholders who are actually affected by interventions, (as opposed to those who might have implemented interventions and measured results, although their input is also important).
    - A discussion format that is sufficiently open to allow respondents to consider all outcomes, both direct and indirect, that they might have experienced.
    - The discussion of not only outcomes, but the ways in which respondents perceive those outcomes to be linked to interventions.
    - A validation process that confirms the interventions, places responses in context and elucidates the linkages that have been described. Validation will involve interviews with WFP staff to elucidate outcomes and linkages with WFP activities as well as the collection (where feasible) of objective data to measure the extent of the outcomes that have been recorded.
4. In open ended enquiry, some issues, such as gender are not always discussed overtly unless the subject is deliberately brought up. The ET has ensured that all outcomes are assessed from a gender perspective, considering in each case, whether differences exist in the nature and extent of each outcome for men and for women. Evaluators ensured they employed a gender-sensitive approach within a wider objective of ensuring that all data collection methods sensitively address gender, equity and wider inclusion issues.
5. The open-ended nature of the outcome harvesting methodology limits the extent to which questions can be predefined. Nevertheless, a template that outlines the nature of the questions to be asked is provided in Figure 6. These questions describe the different lines of enquiry that will be repeated for each of the outcomes reported by respondents. In some cases where many different outcomes have been experienced, the discussion or interview might be lengthy, while in others where only one or two outcomes are noticed, it may be relatively brief (but possibly more detailed).
6. Tools deployed for outcome harvesting in the evaluation:
    - Regional exercise: Document and dataset review, Remote interviews, Mentimeter focus group and survey sessions with relevant WFP stakeholders.
    - Case Studies: As above plus field research included interviews and FGDs with stakeholders and WFP staff.

Components of data collection

7. Each of the approaches taken through the evaluation were applied on both a regional basis and within the case study frameworks, although some were more relevant than others in each situation, according to the questions being addressed. Table 6 indicates which approaches will be used in each case.

Table 6 Approaches relevant to each revised evaluation question

Revised Questions	Relevant Approaches
1. To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks and gender analyses? a. To what extent and how have the above analyses been most useful to WFP supply chain teams and activities?	Conventional enquiry based on the assumption of information flow from work in these thematic areas to supply chain actors.
2. To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?	Outcome harvesting to find evidence of positive, neutral or negative outcomes in each country as indicators of appropriateness and relevance
3. What are the most significant outcomes of supply chain activities?	Outcome harvesting
a. How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment b. How have activities and identified outcomes contributed to reduced food losses and improved competitiveness and resilience? c. How have activities and identified outcomes contributed to efficiency gains in the food systems affected by supply chain interventions? d. How have outcomes been influenced by internal factors and external context?	Outcome harvesting focusing on the BEE. Economic analysis. Economic analysis Outcome harvesting
4. To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?	Outcome harvesting
5. What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?	Outcome harvesting and subsequent analysis of data availability.
6. To what extent is there collaboration between supply chain, engineering, and programme units?	Conventional enquiry based on assumption of collaboration.
a. How are outcomes affected by such collaboration?	Outcome harvesting
7. This overarching question is addressed by the evaluation itself. No individual indicators apply in this case. Instead, the conclusions drawn from the other lines of questioning will be integrated to respond to this question. The sub-question relates to efficiency gains. Efficiency gains within food systems are addressed under Question 3.	All approaches
8 To what extent have supply chain activities and identified outcomes contributed to wider food system impacts (including intended and unintended effects on local economies, upon resilience and inclusiveness of food systems, and upon access and availability of affordable nutritious foods)?	All approaches
a. What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?	Outcome harvesting and subsequent validation enquiries.
b. How have outcomes varied according to gender, financial capacity, disability, or youth?	Outcome harvesting from specific groups and across groups.
c. What opportunities exist to further strengthen WFP supply chain activities, identified outcomes, and more widely to improve food systems?	Conventional enquiry and outcome harvesting.

Revised Questions	Relevant Approaches
9. How do the outcomes of supply chain interventions vary with the scope and scale of the interventions? In particular, how does the scale of interventions affect the extent and sustainability of systemic change	Comparison of Outcome harvesting results across the region
a. To what extent do reported outcomes of supply chain activities contribute to a reduction in consumer prices?	Outcome harvesting and economic analysis.
10. How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?	Outcome harvesting and Economic analysis.
a. Subjective considerations of equity cannot be addressed through outcome harvesting, but an impartial VC analysis of commodities of interest will be undertaken for consideration by WFP.	Economic analysis.
11. To what extent are results from supply chain interventions sustainable?	Outcome harvesting
12. In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?	Outcome harvesting
a. To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?	Outcome harvesting.

Selection of Respondents

8. It is a functional weakness of open-ended enquiry that there are few if any predefined constraints on the outcomes to be collected, so that the initial range of enquiries is necessarily very broad. It is nevertheless important to be able to focus resources on key outcomes once they have been identified. To achieve this, the ET employed a cascading approach to the selection of respondents for the remote assessments. The selection of initial respondents was informed by discussion with the WFP Evaluation Manager and supported by literature review.

9. Initial respondents were WFP staff. To avoid canvassing all staff, two processes were used: a senior WFP staff was asked to identify key areas of interest where outcomes have been observed or suspected, and those WFP staff members who would have the most comprehensive and clearest experience of those outcomes; b. a broader range of WFP staff were asked to participate in a Mentimeter discussion group with the same purpose.

10. The initial first tier remote interviews included WFP procurement and logistics staff, programme staff – including SAMS and FFA; and engineering staff who were asked to identify those activities that best exemplify consequent changes in food systems. On the basis of the initial responses, a second tier of more detailed interviews were conducted remotely with those WFP staff, (or NGO representatives where an intervention has been implemented by a partner NGO) who are most directly related to those activities, from the perspectives of implementation and (if possible) monitoring of outcomes. These more detailed interviews form the main sources of information for the broader evaluation. The interviews resulted in further interaction.

11. The data collection process was restricted to no more than four thematic themes in each country. These were selected from the list below.

    - Procurement of food.
    - Food quality
    - Transport and infrastructure
    - Distribution
    - Capacity Strengthening

12. The Evaluation Team worked closely with each CO in the region as the iterative process developed to ensure that all respondents could be available and were not overburdened by this exercise, and to suggest alternate respondents if necessary.

13. In those countries where case studies were to be undertaken, respondents included not only WFP staff members, but third-party stakeholders as well. For the purposes of this evaluation, third-party stakeholders were defined as those individuals and institutions who participate in food systems, ranging from producers through the value chain to consumers who are not WFP staff (but may be contracted by WFP to provide goods and services) and are not direct beneficiaries of WFP transfers. The responses of third-party stakeholders, including producers, traders, hauliers, brokers, financial agents and retailers are critical to the assessment of food system outcomes. For the predefined case studies, it was possible to identify the WFP staff who will be interviewed and to list the numbers of each type of third-party respondent required to provide a representative sample for data collection. The identities and locations of these respondents were developed in conjunction with the WFP country and field office staff.

14. In addition to their involvement as key informants, several stakeholders also played other important roles in the evaluation process. For example, the RBN and COs were involved in the validation of evaluation results and the RBN managed the evaluation and supported the management response.

15. The involvement of stakeholders throughout the evaluation process was grounded on a sound gender perspective. For example, the stakeholder mapping carried out at country level identified specific women- and/or gender-related institutions and organizations. The identification/selection of key informants aimed to ensure an adequate gender balance, particularly for some external stakeholder groups (e.g. government, civil society, private sector, beneficiaries).

Data analysis and reporting

16. In order to ensure that the information was collected and crosschecked by a variety of informants, data triangulation (the cross-confirmation of conclusions through a consideration and analysis of various sources – document review, interviews from different perspectives, field observations and team cross-validation) was a key tool for the verification and confirmation of the information collected to support the findings. A key process throughout the evaluation to ensure triangulation was weekly meetings for the Evaluation Team to discuss and compare findings as they emerge, and identify areas for verification and triangulation.

17. Following data collection, the team compiled and analysed all collected data, focusing on both verifying and triangulating the data collected from different sources, as well as articulating key findings, conclusions and recommendations. This was achieved partly through an internal remote Team Synthesis where the team discussed findings as part of the analytical process, and partly through a subsequent Participatory Workshop with the Evaluation Reference Group designed to test and consolidate data collected.

18. In preparation for the internal Team Synthesis Workshop, country case-study leads prepared reports for each of the case-study countries, which summarized findings in the form of food system outcomes, their linkages to supply chain activities, and the extent to which outcomes might be modified by different contextual factors. In addition, all team members completed a summary report on remote data collection providing summary notes on key findings for each of the overall EQs drawn from the different components of the evaluation (key informant interviews, online survey, case-studies etc.). These reports are annexed in the report.

Quality assurance

19. The evaluation team members took the primary responsibility for the quality assurance process, ensuring rigorous data collection, analysis and synthesis, supported by triangulation and verification to minimize potential errors. In this evaluation, much of the data was collected in the form of individual observations and perceptions that are inevitably subjective and frequently incorrect (especially third-party stakeholders' perceptions of development agency activities, where one agency may often be confused with another). The data collection processes were specifically designed to triangulate responses from different stakeholders to ensure that data is as accurate and representative as possible.

20. In addition, the evaluation employed Mokoro's embedded quality support (QS) system. For this assignment, the designated QS personnel were Stephen Anderson and Stephen Turner. The QS team reviewed and commented on the main assignment deliverables before their submission, advising on the relevance, credibility and practicality of the assignment approach (at Inception Report stage), and of its findings, conclusions and recommendations (at Final Report stage).

21. WFP has developed a Decentralized Evaluation Quality Assurance System (DEQAS) which was systematically applied during this evaluation; relevant documents were provided to the evaluation team.

22. No evaluation team member had any substantive conflict of interest with the evaluation object or WFP.

Annex 3. Evaluation Matrix

Evaluation Question				**Criteria**	
1. To what extent are supply chain interventions informed by programmatic nutrition priorities, market assessments, climate change risks and gender analyses?				Relevance/ Appropriateness	
Sub-questions	**Indicators**	**Data collection methods**	**Sources of data/information**	**Data analysis methods / triangulation**	**Assumptions**
Main Question	Extent to which thematic information (as listed in question) is referenced in supply chain intervention design.	Literature Review Remote and direct interviews Focus discussion groups On-line survey	WFP supply chain actors Supply chain intervention documentation	Comparison between the outcomes reported by t hird-party stakeholders disaggregated by gender, age, and ability, and the outcomes anticipated by supply chain intervention designers.	Respondents can accurately identify WFP interventions and can objectively describe potentially linked outcomes Attribution of outcomes to WFP interventions is plausible and clear.
a. To what extent and how have the above analyses been most useful to WFP supply chain teams and activities?	Responses of WFP supply chain actors	Remote and direct Interviews FGDs On-line Survey	WFP supply chain agents n country offices and in the field to remote interviews and surveys. Third-party stakeholders disaggregated by gender, age, and ability. Programme design documentation	Comparison between the outcomes reported by third-party stakeholders disaggregated by gender, age, and ability, and the outcomes anticipated by supply chain intervention designers.	Respondents can accurately identify WFP interventions and can objectively describe potentially linked outcomes Attribution of outcomes to WFP interventions is plausible and clear.
2. To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts?				Relevance/ Appropriateness	
n/a	Nature and relative frequency of different outcomes to similar interventions implemented in different countries	Review of documentation. Interviews and remote survey of WFP supply chain agents. FGD with third party stakeholders.	Evaluation reports WFP database Third-party stakeholders disaggregated by gender, age, and ability WFP supply chain agents' responses to remote interviews and surveys	Comparison of the nature and extent of reported outcomes to similar interventions in different countries.	Interventions are sufficiently similar to make comparison valid Respondents can accurately identify WFP interventions and can objectively describe

					potentially linked outcomes. Attribution of outcomes to WFP interventions is plausible and clear.
3. What are the most significant outcomes of supply chain activities?				Effectiveness	
a. How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment?	Changes in BEE reported by WFP, government and third-party stakeholders.	Remote and direct Interviews On-line survey FGDs Database analysis Literature review	Evaluation reports. WFP database Third-party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents'	Cross triangulation of reported BEE outcomes amongst different stakeholders and stakeholder groups	Data representing supply chain outcomes is available and reliable. Respondents can accurately identify WFP interventions and can objectively describe potentially linked outcomes Attribution of outcomes to WFP interventions is plausible and clear.
b. How have activities and identified outcomes contributed to reduced food losses and improved competitiveness and resilience?	Reported expectations of contract performance Number of new business entrants Level of reported losses Nature and extent of transaction costs Extent of investment into supply chain activities	Remote and direct Interviews On-line survey FGDs Database analysis Literature review	Evaluation reports Third party stakeholders including traders, processors, financial service providers and other business owners, disaggregated by gender, age, and ability. WFP supply chain agents including procurement staff.	Cross triangulation of outcomes reported by different stakeholders and stakeholder groups against database information.	Data representing supply chain outcomes is available and reliable. Respondents can accurately identify WFP interventions and can objectively describe potentially linked outcomes. Attribution of outcomes to WFP interventions is plausible and clear.
c. How have outcomes been influenced by internal factors and external context?	Different outcomes to given supply chain interventions when implemented in isolation or in conjunction with other activities. Different outcomes to given supply chain	Review of documentation. Interviews and remote survey of WFP supply chain agents. FGD with third party stakeholders.	Programme documentation Evaluation reports WFP database Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents' responses to remote interviews and surveys	Detailed assessment of outcomes compiled for all interviews and discussion groups across each country	Data representing supply chain outcomes is available and reliable. Respondents can accurately identify WFP interventions and can objectively describe outcomes.

	interventions implemented in different political or socioeconomic contexts.				Contextual factors can be readily identified. Internal factors that might affect outcomes can be described by WFP staff. Attribution of outcomes to WFP interventions is plausible and clear.
4. To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?				Effectiveness	
n/a	Differences in the strength/level of reported outcomes to supply chain interventions according to gender, youth, or disability	Literature and database review Direct and remote Interviews On-line survey Gender disaggregated FGD	Evaluation reports WFP database Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents NB. The specification to include respondents from all key groupings (women, youth, and disabled where possible) is particularly relevant here.	Qualitative comparison of the nature and extent of reported outcomes to similar interventions amongst different groups. Comparison of quantitative differences if available data is adequate.	Data representing supply chain outcomes is available and reliable. Respondents can accurately identify WFP interventions and can objectively describe outcomes. Representation of disabled and youth is adequate to generate valid responses. Attribution of outcomes to WFP interventions is plausible and clear.
5. What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?				Effectiveness	
n/a	Data that provides direct or indirect evidence of positive outcomes	Literature and database review. Direct and remote interviews On-line survey. Focus discussion groups	Third-party stakeholders disaggregated by gender, age, and ability. WFP supply chain and M&E agents Intervention designers Programme design documentation WFP database	Comparison between outcomes described by third party stakeholders and those anticipated by WFP in programme design. Analysis of WFP databases to determine extent of available data.	Data representing supply chain outcomes is available and reliable. Unanticipated outcomes can be accurately identified. Attribution of outcomes to WFP interventions is clear.

6. To what extent is there collaboration between supply chain, engineering, and programme units?				Effectiveness / Efficiency	
Main Question	Evidence of collaboration in design and the implementation of supply chain activities.	Literature and database review. Direct and remote interviews On-line survey. Focus discussion groups	WFP supply chain intervention designs and reports WFP database WFP supply chain, engineering, and programme unit staff Third party stakeholders disaggregated by gender, age, and ability.	Triangulation of responses of different WFP stakeholders' groups. Triangulation of WFP responses with third-party stakeholder observations	Respondents can accurately identify WFP interventions and can objectively describe outcomes. WFP staff are aware of the extent of any collaboration between supply chain and programme units.
a. How are outcomes affected by such collaboration?	Reported outcomes provide evidence of collaboration	Literature review Direct and remote interviews On-line survey. Focus discussion groups	Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain, engineering, and programme unit staff	Third-party stakeholders' responses provide evidence of change due to collaboration reported by WFP staff.	Respondents can accurately identify WFP interventions and can objectively describe outcomes. WFP staff are aware of the extent of any collaboration between supply chain and programme units. Interventions undertaken with and without collaboration can be identified and are sufficiently similar to allow valid comparisons to be made.
7. Are supply chain capacities and capabilities effectively leveraged to achieve desired outcomes and contribute to wider systems level change?				Effectiveness / Efficiency	
	This overarching question is addressed by the evaluation itself. No individual indicators apply in this case. Instead, the conclusions drawn from the other lines of questioning will be integrated to respond to this question.				
a. What, if any, efficiency gains have been realized through WFP supply chain interventions? How or why?	The sub-question relates to efficiency gains. Efficiency gains within food systems are addressed under Question 3a.	(See Question 3a)	(See Question 3a)	(See Question 3a)	(See Question 3a)

8 To what extent have supply chain activities and identified outcomes contributed to wider food system impacts (including intended and unintended effects on local economies, upon resilience and inclusiveness of food systems, and upon access and availability of affordable nutritious foods)?				Impact (Contribution)	
Main question	Portfolio balances of finance institutions Increase in investment by private sector stakeholders in supply chains. Increase in incomes shared amongst supply chain actors. Changes in food systems associated with: a). increases in volume moving through supply chains, b). reductions in transaction costs between producers and consumers, c) enhanced quality of food moving through supply chains.	Literature and database review Direct and remote Interviews On-line survey FGDs Value Chain analysis	Third party stakeholders disaggregated by gender, age, and ability, (including those of financial service providers and out-grower managers). WFP supply chain and M&E agents Programme documentation Evaluation reports WFP database	Triangulation of outcomes reported in literature with WFP actors' responses and outcomes reported by third-party stakeholders and stakeholder groups.	Data representing supply chain outcomes (especially investment and volume data) is available and reliable. Changes in investment in food systems can be accurately identified by finance agencies.
a. What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?	Contextual and/or internal factors associated with clear differences in the strength or nature of reported outcomes	Literature and database review and analysis Direct and remote Interviews On-line survey FGDs	Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents Programme documentation WFP databases	Triangulation of nature and extent of outcomes reported in literature with WFP actors' observations and outcomes reported by third-party stakeholders and stakeholder groups.	Differences in outcomes can be clearly linked to contextual or internal factors. Data representing supply chain outcomes is available and reliable.
b. How have outcomes varied according to gender, financial capacity, disability, or youth?	Differences in the type of reported outcomes to supply chain interventions according to gender, youth, or disability.	Literature and database review Direct and remote Interviews On-line survey Gender disaggregated FGDs.	Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain and M&E agents Programme documentation Evaluation reports	Qualitative comparisons of outcomes to interventions undertaken under different circumstances and outcomes	Stakeholders can identify and describe outcomes accurately. Interventions implemented in different contexts are

			WFP database	experienced by different groups. Comparison of quantitative differences across different contexts and for different groupings if available data is adequate.	nevertheless sufficiently similar to permit valid comparison Data representing supply chain outcomes is available and reliable. Attribution of outcomes to WFP interventions is plausible and clear.
c. What opportunities exist to further strengthen WFP supply chain activities, identified outcomes, and more widely to improve food systems?	Clear linkages between supply chain activities and positive outcomes.	Literature and database review Direct and remote Interviews On-line survey Gender disaggregated FGDs.	Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents Programme documentation WFP databases	Positive outcomes and linkages are endorsed by all stakeholders and stakeholder groups. Potential strengthening activities are acceptable to all stakeholders and stakeholder groups.	Attribution of outcomes to WFP interventions is plausible and clear. Data representing supply chain outcomes is available and reliable. Potential strengthening activities are acceptable to all stakeholders.
9. How do the outcomes of supply chain interventions vary with the scope and scale of the interventions?				Impact (Contribution)	
Main question	Differences in nature and/or extent of observed outcomes to similar interventions of varying scope and/or scale.	Literature and database review and analysis Direct and remote Interviews On-line survey FGDs	Third party stakeholders disaggregated by gender, age, and ability. WFP supply chain agents Programme documentation WFP databases	Qualitative comparison of outcomes across similar interventions that vary in scope and/or scale. Comparison of quantitative differences if available data is adequate.	Data representing supply chain outcomes is available and reliable. Stakeholders can identify and describe outcomes accurately. Attribution of outcomes to WFP interventions is plausible and clear.
a. To what extent do reported outcomes of supply chain activities contribute to a reduction in consumer prices?	Consumer prices	Review and analysis of retail prices Review and analysis of local and national commodity prices.	Third party stakeholders. WFP supply chain agents' WFP retail price information National/local MIS price data.	Analysis of price series and correlation with reported outcomes due to supply chain activities.	Adequate price information is available for staple commodities in the procurement and distribution areas. Attribution of outcomes to WFP interventions is plausible and clear.
10. How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?				Impact (Contribution)	

Main Question	Gender disaggregated observations of: Changes in investment by stakeholders at different levels in the supply chain Changes in value added at each stage of the supply chain. Changes in the numbers of stakeholders at each stage in the supply chain.	Procurement price analysis Literature and database review and analysis Direct and remote Interviews On-line survey FGDs Overall market analysis	Third party stakeholders including retailers and processors disaggregated by gender, age, and ability. WFP supply chain agents WFP procurement statistics WFP market information database	Value Chain Analysis, guided by stakeholder responses and informed by quantitative data from WFP market and procurement information databases	Stakeholders can identify and describe changing dynamics accurately. Attribution of outcomes to WFP interventions is plausible and clear. Data representing supply chain investments, prices and margins is available and reliable. WFP databases contain enough quantitative price data to allow an accurate assessment of value chains.
a. Subjective considerations of equity cannot be addressed through outcome harvesting, but an impartial VC analysis of commodities of interest will be undertaken for consideration by WFP.	Changes in value added at each stage of the value chain.	Review and analysis of purchase prices. Interviews and remote survey of WFP supply chain agents. Interviews and FGDs with commercial and smallholder producers. Interviews with other private sector stakeholders (traders, retailers and processors). Review and analysis of market prices.	Value chain data of costs, margins and sales	Standard spreadsheet analysis of value-added.	Potential mitigation measures will be presented impartially for selection by WFP
11. To what extent are results from supply chain interventions sustainable?				Sustainability	
Main Question	Stakeholder perceptions of dependency. Stakeholder perceptions of sustainability. Crowding in as reflected by increased numbers of	Literature review Direct and remote Interviews On-line survey FGDs	Third party stakeholders' especially commercial and smallholder producers, traders, retailers and processors as well as financial service providers - disaggregated by gender, age, and ability where possible. WFP programme reports	Analysis and triangulation of Literature and WFP interviews with third party stakeholder responses – disaggregated according to groupings where possible.	Stakeholders can identify and describe outcomes accurately. Sufficient evidence is available to allow comments on sustainability

	stakeholders and increased investment.		WFP supply chain actors		Attribution of outcomes to WFP interventions is plausible and clear.
12. In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?				Sustainability	
Main Question	Frequency and nature of responses by third-party stakeholders to questioning on capacity strengthening. Number of programme evaluation reports that observe capacity strengthening. Number of logistics reports that observe capacity strengthening. Types of capacity strengthening identified by stakeholders.	Literature review Direct and remote Interviews On-line survey FGDs	Programme reports and evaluations WFP programme development staff. WFP supply chain agents Third party stakeholders' responses. WFP programme designers	Comparison of anticipated capacity strengthening outcomes with outcomes reported by stakeholders.	Capacity development outcomes can be readily identified. Attribution of outcomes to WFP interventions is plausible and clear.
a. To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?	Differences in reported outcomes to capacity strengthening interventions according to gender, youth, or disability.	Capacity development programme evaluations. Interviews and remote survey of WFP supply chain agents. Interviews and FGDs with commercial and smallholder producers. Interviews with other private sector stakeholders (traders, retailers and processors). Interviews with Government agencies participating in capacity development interventions.	Results indicating differential responses to interventions according to groupings. Responses to Interviews with programme development staff. Responses of third-party stakeholders in interviews or FGDs disaggregated by gender or other groupings. Responses of government agents participating in capacity development interventions.	Qualitative assessment and comparison of all observations (both by stakeholders and in reports) of variations in capacity strengthening outcomes amongst gender, youth and disability groupings. Quantitative comparison of variation in outcomes by grouping will rely upon evidence compiled from evaluation reports where this is available.	Variation in outcomes according to gender or youth groups can be accurately identified and assessed. Attribution of outcomes to WFP interventions is plausible and clear.

Annex 4. Theory of Change

Figure 5Theory of Change, Terms of Reference

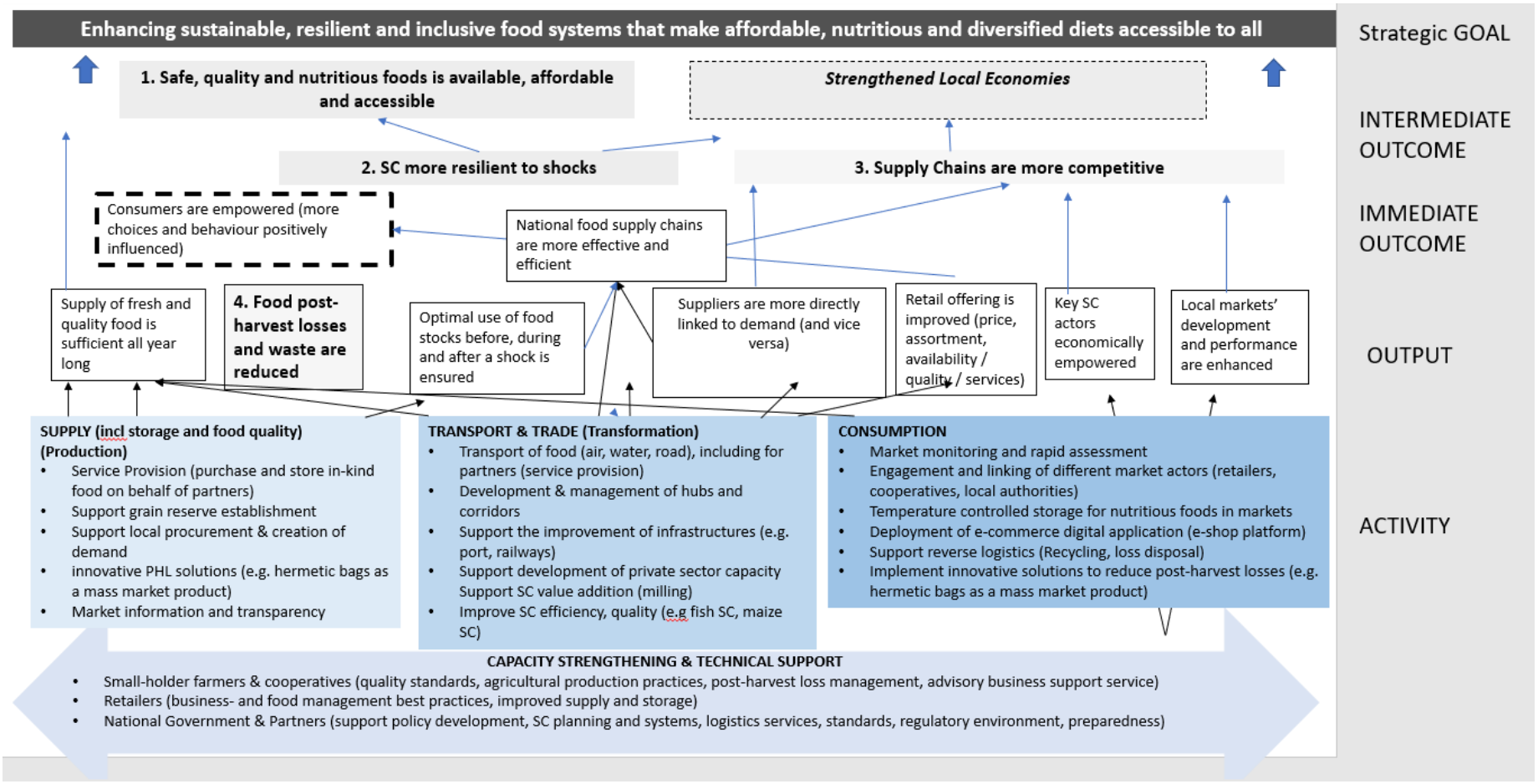
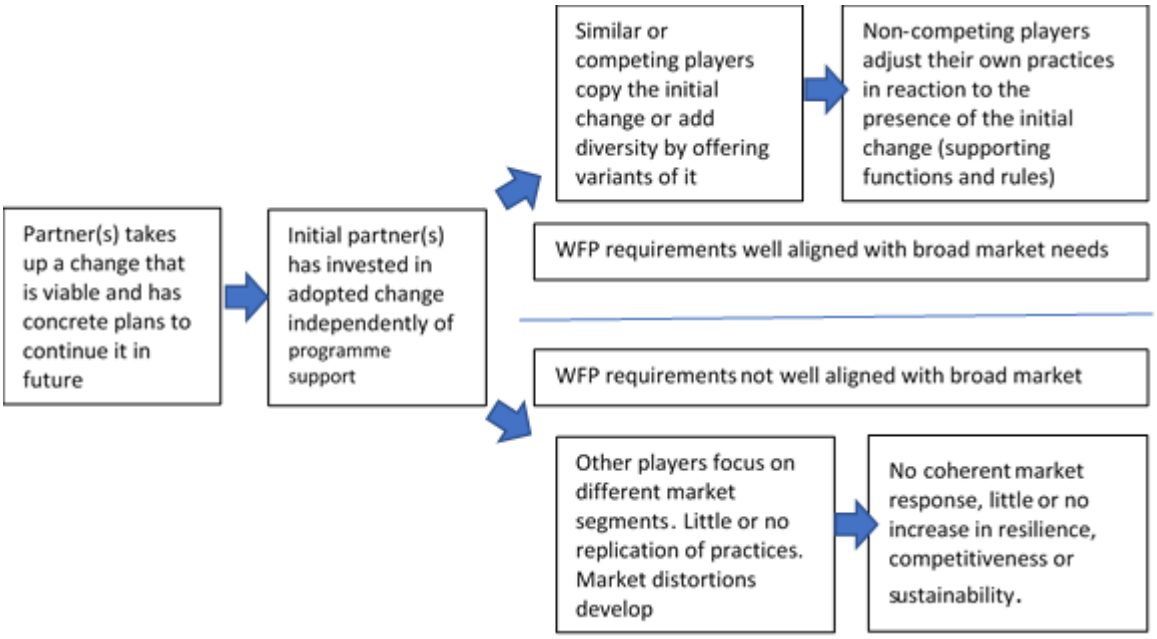


Figure 6Theory of Change for food system outcomes due to WFP supply chain interventions



Source: Evaluation Team, Inception Report

Annex 5. Data Collection Tools

Outcome harvesting tools

23. The templates below are modified outcome-harvesting tools that were customized according to the circumstances to be assessed and the nature of the respondents.

Table 7 Third-party stakeholder interviews and FGDs

Section of Discussion	Focus of Questions
Introduction	Questions designed to establish the relationships between participants and WFP
	How do you deal/interact with WFP? *(E.g. supply grain on contract, supply transport services, retail grain in WFP CBT area, or receive support from WFP in reducing post-harvest losses, receive training in DRM etc.)*
	How long has this interaction been ongoing? *(ask both for respondents individually, as an organization/company if applicable and generally in the area)*
	How many others like you (same business, or lifestyle) are there that interact similarly with WFP? *(E.g. If a transporter, estimate of number of businesses of similar nature/size)*
	Have there been any conditions required of you to be in this relationship? If so, what were they? *(E.g. if a supplier of grain, what were the pre-qualification conditions - if any?*). Have there been any specific gender conditions (number of women involved?)
	What are the terms of the interaction? *(E.g grain of a given quality delivered to a point, for payment upon receipt, or whatever terms the respondents consider noteworthy - if any)*
Identification of activities	Questions to confirm which WFP activities have been most evident to participants
	Please describe the range of activities that WFP has been doing in your area (*either geographical area or area of interest. List any number of activities, as they are perceived by respondents.)*
	Is there anything about the ways the activities that you describe are done that is particularly significant, if so, what? *(E.g. of buying grain, paying in forex, or contracting in advance, etc) In what ways have women been involved in these activities? Are there activities that have engaged women differently from men?*
	How long have these activities been going on for?
Identification of outcomes	Questions to determine what sort of changes/outcomes have occurred as a result of the WFP activities
	Have any of these activities affected you or your company/organization, in any way? If so, how? (NB. minimize discussion of direct effects on beneficiaries, but include indirect effects such as reduced market prices after food distribution).
	Have any of these activities affected other people in any way (or other organizations/companies)? If so, how? In your view have the activities had a specific effect on women (either in your company, or those that are involved in supplying you)?
Assessment of outcomes	Questions to determine the speed, extent, duration, and sustainability of the changes/outcomes
	For each outcome described above, please indicate how quickly it arose either during or after the WFP activity took place.

Section of Discussion	Focus of Questions
	For each outcome described above, please indicate how strong the effect was.
	For each outcome described above, please indicate how long it lasted.
	For each outcome, are there differences in the effect on women and men (e.g. women traders affected differently)? What explains this difference?
	For each outcome described above, please indicate how sustainable the effect was. Was it sustained long after the activity? Conversely, did it eventually cease even though the activity continued?
Identification of contextual factors	Questions to determine the effect of contextual factors, including gender, income level and education on outcomes.
	For each of the outcomes described above, did the effect vary according to the gender of those affected? If so, what were the observed differences?
	For each of the outcomes described above, did the effect vary if those affected were disabled? If so, what were the observed differences?
	For each of the outcomes described above, did the effect vary according to the educational level of those affected? If so, what were the observed differences?
	For each of the outcomes described above, did the effect vary according to the wealth or poverty of those affected? If so, what were the observed differences?
	Were there any other factors that affected the outcomes (such as other similar programmes or other complementary programmes in the area?
Identification of linkage mechanisms	Questions to ascertain how outcomes are caused by WFP supply chain activities.
	For each of the outcomes described above, how do you think the WFP activity led to the observed effect? Is there any evidence that WFP specifically sought to involve and include women and people with disability in particular ways?
	For each of the outcomes described above, what factors do you think might influence the way that the WFP activity led to the observed effect? Were there things that WFP did not do that it should have done (e.g. on gender and disability)?
Assessment of linkages	Questions to assess the strength and reliability of the linkages between outcomes and WFP activities.
	For each of the outcomes described, do you think the same effect would be observed every time WFP undertook the activity?
	What factors might prevent or stop the observed effect?
	What factors might enhance the observed effect?
	What were the main things that the effect depended on?
Mitigation/Reinforcement Measures	Questions to be asked in those instances where some stakeholders have reported negative or positive outcomes
	How important is it that WFP should reduce or avoid the negative outcomes that have been observed? Are these trivial or important effects?
	What do you think would be the best way to reduce or avoid the negative effect that you have experienced or observed as a result of WFP activities? Are there things that WFP should do specifically that would reduce negative effects for women and people with disability?
	How important is it that WFP should reinforce the positive outcomes that have been observed? Are these trivial or important effects?

Section of Discussion	Focus of Questions
	What do you think would be the best way to strengthen the positive effect that you have experienced or observed as a result of WFP activities? What might be the best way of increasing the effects and outcomes for women and people with disability?
	Did WFP take any steps to reinforce or reduce positive or negative outcomes? If so, what was done?

Table 8 WFP interviews

Section of Discussion	Focus of Questions
Introduction	Questions designed to establish the relationships between participants and WFP
	What are the main ways that you think your work in the WFP supply chain interacts directly and/or indirectly with external stakeholders? Has there been specific consideration of how the interaction might affect women and men? Any specific targets and strategies on involvement of women? Does the monitoring of the supply chain activity specifically consider involvement of women/people with disability and is this information used for planning/decisions making?
	How long has this interaction been ongoing?
	Can you describe the categories of stakeholders with whom these interactions take place?
	Are there any specific conditions of these interactions that are particularly significant or differ from common practice?
Identification of outcomes	Questions to determine what sort of changes/outcomes have occurred as a result of the WFP activities. Have the WFP supply chain activities affected women and men equally?
	Apart from the effects on direct beneficiaries, what outcomes have you observed that these interactions might have caused amongst the various stakeholders both directly and/or indirectly? Can you describe different effects for women and for men? Are there any effects on people with disability that you are aware of?
	Are there differences observed between outcomes for different genders, for youth or for people with disabilities?
Assessment of outcomes	Questions to determine the speed, extent, duration, and sustainability of the changes/outcomes
	For each outcome described above, please indicate the following:
	How quickly did it arise either during or after the WFP activity took place.
	How strong was the effect? Was the effect different for men and women?
	How long did the effect last?
	How sustainable was the effect? Was it sustained long after the activity? Alternatively did it eventually cease even though the activity continued?
Identification of contextual factors	Questions to determine the effect of contextual factors, including gender, income level and education on outcomes.
	For each of the outcomes described above, please indicate the effect of the following factors and the observed nature of those effects - if any.
	The gender of stakeholders
	Educational level of stakeholders

Section of Discussion	Focus of Questions
	Wealth or poverty level of stakeholders
	Social status of stakeholders
	Age of stakeholders
	Disability status of stakeholders.
	Were there any other programmatic factors that affected the outcomes (such as other similar programmes or other complementary programmes in the area?)
	Were the effects affected by the prices of food in the community?
	Were the effects affected by the availability of food in the community?
	Are there any other factors that you think could influence the outcomes that you have observed?
Identification of linkage mechanisms	Questions to ascertain how outcomes are caused by WFP supply chain activities.
	For each of the outcomes described above, how do you think the WFP activity led to the observed effect?
	For each of the outcomes described above, what factors do you think might influence the way that the WFP activity led to the observed effect?
	What role (if any) does gender, youth or (dis)ability play in the ways that WFP activities led to the observed outcomes?
Assessment of linkages	Questions to assess the strength and reliability of the linkages between outcomes and WFP activities.
	For each of the outcomes described, do you think the same effect would be observed every time WFP undertook the activity?
	What factors might prevent or stop the observed effect?
	What factors might enhance the observed effect?
	What were the main things that the effect depended on?
Measurement of outcomes	How do you think the effects that you have noticed could best be measured?
	Which of the outcomes that you have noticed do you think are most worth monitoring?
	Which would you consider to be trivial and worth only occasional assessment - if at all?
	For outcomes worth monitoring, is it important to collect data disaggregated by gender, age or (dis)ability?
	How do you think the effects that you have noticed could best be measured?
	How often should measurements be made in order to record these effects adequately?
	Does WFP already gather some or all of the information required?
	What new data collection procedures would be needed to monitor the effects that you have observed?
Questions to be asked after stakeholder interviews.	
	These questions relate to those situations where there may appear to have been differences in perception between stakeholders and WFP staff.

Section of Discussion	Focus of Questions
Nature of Activities	Stakeholders reported that WFP is carrying out {reported activity} can you verify that this is being conducted by WFP (or a WFP agent) or is this part of another programme?
	Stakeholders reported that {*reported activity*} is being conducted in a particular way. Can you verify that this is the way that WFP (or a WFP agent) expects this activity to be conducted? What might be the reason for any observed differences?
	What might be the reason for any observed differences? (E.g. in timing, or other procedural issues).
Unanticipated Outcomes	Stakeholders reported that {*procedural issue*} was affecting them in a particular way (describe), that was not anticipated by WFP.
	Do you consider this to be a plausible outcome of WFP supply chain activities, or could it be due to other factors?
	Do you think this is an important effect, or is it of limited significance? Who were mainly affected and was the effect different for men and women?
	What do think could be done to mitigate or reinforce the outcome in this case?
	Stakeholders reported that {*programme issue*} was affecting them in a particular way (describe), that was not anticipated by WFP.
	Do you consider this to be a plausible outcome of WFP supply chain activities, or could it be due to other factors?
	Do you think this is an important effect, or is it of limited significance?
	What do think could be done to mitigate or reinforce the outcome in this case?
	How do you think this unexpected outcome could best be measured?
Measurement	How often should measurements be made in order to record these effects adequately?
	Does WFP already gather some or all of the information required?
	What new data collection procedures would be needed to monitor this unexpected outcome?

Remote enquiry tools (for KIIs and FGDs)

Area of focus	Questions
Questions relating to collaboration/information sharing between programme and supply chain units.	When designing supply chain interventions what considerations do you take into account beyond the requirements of the beneficiaries? (e.g. market assessments, climate change risks, gender impacts, market distortion or other issues)
	Which considerations do you find are generally the most important?
	What type of information has been most useful in addressing these considerations? (Gender related, climate related, nutritional, supplier or retailer profiles, market assessments, other) …
	Where does it come from? (e.g. experience and data collection within supply chain, other units, other agencies, government counterparts, programme unit, local staff)
	How did it influence the design and implementation of the supply chain activity? (Looking for examples of influence of external considerations on supply chain intervention design and implementation).

Area of focus	Questions
	How much information from the programme unit gets incorporated into the design of supply chain interventions?
	What have been the most valuable outputs from the programme unit that you have incorporated into your work?
	Can you give examples of where this has occurred?
	How were the outcomes of your intervention affected by the input from the programme unit?
	What opportunities exist to strengthen supply chain interventions and in which areas might programme support be most useful in the future?
Questions related to outcome harvesting	What are the most important changes observed?
	What is the nature of the change and which group of stakeholders are most affected?
	What are the most significant outcomes of supply chain activities?
	How have activities and identified outcomes contributed to an enhanced and more inclusive business enabling environment?
	In what ways are WFP interventions strengthening capacity of key government institutions and supply chain actors as reported by stakeholders?
	How is the nature or extent of the change affected by gender?
	To what extent do outcomes demonstrate inclusion and representation of women, youth, and vulnerable actors across the supply chain?
	How have outcomes varied according to gender, financial capacity, disability, or youth?
	How have the dynamics between different stakeholders within food systems been affected by WFP supply chain activities? Any differential effects for women and youth supply chain actors?
	To what extent do supply chain interventions result in outcomes that demonstrate enhanced capacity of supply chain actors including women and youth?
	How is the nature of the change affected by any other contextual factors (e.g. age, wealth disability, country context)?
	How have outcomes been influenced by internal factors and external context?
	What factors, including local context affect (positively or negatively) supply chain's contribution to identified outcomes?
	What is the mechanism through which the WFP supply chain intervention has brought about the observed change?
	What is the evidence for the change?
	What routine data or other evidence may help strengthen and inform supply chain activities moving forward towards greater effectiveness, impact, inclusion, and sustainability?
	What is the extent of the change - is it trivial or fundamental in nature?

Area of focus	Questions
	How do the outcomes of supply chain interventions vary with the scope and scale of the interventions? In particular, how does the scale of interventions affect the extent and sustainability of systemic change
	How sustainable is the change?
	To what extent are supply chain interventions relevant and appropriate to local food systems across the different country contexts
	To what extent are results from supply chain interventions sustainable?

Annex 6. Evaluation timeline and fieldwork agenda

Table 9 Detailed evaluation timeline

Phase	Revised Timing
Phase 1: Inception	
Mobilization / document gathering	from 20 September 2021
Remote Inception Briefing	11 - 29 October 2021
Interviews	11 - 29 October 2021
Preparation of Inception Report	October/November 2021
Mokoro Internal Quality Assurance	By 5 November 2021
Mokoro Proofreading	By 5 November 2021
Final draft IR submission by Mokoro team	**Draft IR submitted to WFP: 8 November 2021**
WFP, DEQAS & ERG Review of IR	By 22 November
Final Inception Report, incorporating Client comments	**Final IR approved by WFP:** 27 December 2021
Phase 2: Data collection	
Data gathering and analysis (Key Informant Interviews, FGDs, online survey etc.)	From 3 January 2022
Fieldwork: Kenya	7 – 18 February 2022
Fieldwork: Somalia	7 – 18 February 2022
Fieldwork: South Sudan	7 – 18 February 2022
Phase 3: Analysis and Reporting	
Team Synthesis meetings	22 February; 1 March; 8 March; 15 March
Presentation of emerging finding to the ERG	21 March 2022
Analysis and drafting of Final Report	**Draft ER submitted: 31 March 2022**
WFP, DEQAS & ERG Review of draft ER	**By 20 April 2022**
Revisions to draft Evaluation Report, incorporating Client comments	**Final ER submitted: 4 May 2022**

Table 10 Kenya fieldwork agenda

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[65]
Kenya			
Sunday 6 February	Team travel to Mombasa		TM; JJ
Monday 7 February	Mombasa fieldwork	• Opening meeting with Mombasa Field Office • WFP Kilindini Warehouse • BOLLORE	TM; JJ; MV remote (for team briefings)

[65] Kenya team members: MV - Muriel Visser (case study lead); TM - Tikhwi Munyondo (fieldwork lead); JJ - Jacob Juma (Kenya consultant)

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[65]
Tuesday 8 February	Mombasa field work	• KEBS • KEPHIS • WFP Mombasa SC Staff • Closing meeting with Head of Mombasa Field Office	TM; JJ; MV remote (for team briefings)
Wednesday 9 February	Travel to Kakuma/ Team meeting and fieldwork evidence consolidation		TM; JJ; MV remote (for team briefings)
Thursday 10 February	Kakuma fieldwork	• Group Discussion with WFP Kakuma SC Staff • Transporter • Refugee Affairs Secretariat (RAS)	TM; JJ; MV remote (for team briefings)
Friday 11 February	Kakuma Field Work	• Wholesaler Al Mubarak • Kenya National Chamber of Commerce (KNCCI) • Market Coordinators • Food Distribution Committee Secretary • Mama Farhiya – Trader • Al-Barako Trader • Mesfin (Wholesaler and Transporter) • Meeting with Head of WFP Kakuma Field Office	TM; JJ; MV remote (for team briefings)
Saturday 12th	Visit to Kalobeyei Refugee settlement; Travel Back to Nairobi		TM; JJ; MV remote (for team briefings)
14th February – 4th March	National Level Interviews in Nairobi (Remote)	• National-level interviews with key WFP Kenya CO Staff • FGDs with WFP CO • Interviews with external stakeholders	TM; MV

Table 11 Somalia fieldwork agenda

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[66]
Somalia			
Sunday 6th February	International consultant travel to Hargeisa		SM
Monday 7th February	Travel to Berbera, fieldwork	• Opening meeting with Head of Berbera Field Office • Interviews with Businesses, or self-employed individuals around lorry parking areas • Interviews with lorry owners	SM; NM
Tuesday 8th February	Berbera Fieldwork	• Interviews with port authority, bank, Berbera Municipality, • Additional interviews with individuals/businesses around lorry parking area – also key wholesalers/wholesalers to those businesses • Interviews with local clients of businesses • Interviews with WFP Berbera staff • Interviews with Hotel Owner	SM; NM

[66] Somalia team members: SM - Stephen McDowell (case study lead); Noura Mahmoud (Somalia consultant); Faysal Mataan (Somalia consultant)

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[66]
Wednesday 9th February	Berbera Fieldwork; Travel to Hargeisa	• Additional interviews with individuals/businesses around lorry parking area • Interviews with local clients of businesses • Closing meeting Berbera Field Office	SM; NM
Thursday 10th February	International consultant travel to Nairobi; National consultant travel to Mogadishu		SM; NM
Friday 11th February	National consultant in Mogadishu, wait for UNHAS flight to Dolo		NM
Saturday 12th February	National consultants travel to Dolo; Dolo fieldwork	• Opening meetings with WFP Dolo Office • Interviews: Shop owners, Delivery service providers, • Evening: debrief, methodology review, upload recordings, prepare interview summary notes	NM; FM; SM remote (evening debriefings)
Sunday 13th February	Dolo Fieldwork	• Interviews Dolo Municipality, Banks, food wholesalers/wholesalers to shops • Interviews with clients, delivery service providers, and transporters • Interviews with Shop owners and delivery agents	NM; FM; SM remote (evening debriefings)
Monday 14th February	Dolo fieldwork	• Meetings with WFP Dolo • Interviews with banks, food wholesalers/wholesalers to shops • Interviews with clients, delivery service providers, and transporters • Interviews with shop owners and Delivery agents	NM; FM; SM remote (evening debriefings)
Tuesday 15th February	Dolo fieldwork	• Interviews with banks and food wholesalers/wholesalers to shops • Interviews with shop owners and Delivery agents • Debrief with WFP Dolo Office	NM; FM; SM remote (evening debriefings)
Wednesday 16th February	Travel back to Mogadishu		NM; FM; SM remote (evening debriefings)

Table 12 South Sudan fieldwork agenda

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[67]
South Sudan			
Sunday 6th February	International consultant's travel to Juba		GG
Monday 7th February	Juba Fieldwork	• Introductory meetings with WFP Staff • Security briefing by WFP Security officer • Meeting with WFP Supply Chain Logistics • Meeting with WFP MEAL unit	GG, TA

[67] South Sudan team members: GG – George Gray (case study lead); Tong Anei (South Sudan consultant)

Date	Activities	Stakeholders Interviewed	Evaluation Team Members Responsible[67]
		• Meeting with WFP CBT market development experts • Meeting with WFP Supply Chain Unit transport	
Tuesday 8th February	Juba Fieldwork	• Meeting with WFP Supply Chain intervention designers and M&E Unit • Meetings with 2 traders supplying WFP • Meeting with 2 large transport companies	GG, TA
Wednesday 9th February	Travel to Bor; Bor Fieldwork	• Meeting with WFP staff in Bor – Program • Meeting with WFP staff in Bor - Logistics • Meetings with local Traders (2 separate interviews) • Meetings with Kush Bank - Commercial Bank credit managers (2 separate meetings) • Meetings with brokers (2)	GG, TA
Thursday 10th February	Bor Fieldwork	• Meetings with retailers (2 FGDs 1 woman, 1 man) • Meeting with non-beneficiaries (2 FGDs - 1 woman, 1 man) • Meeting with WFP supply chain transport experts • Meetings with 2 local Transporters • Meeting with Wholesalers (two separate meetings)	GG, TA
Friday 11th February	Bor Fieldwork; Travel to Juba	• Debrief with WFP Staff in Bor	GG, TA
Saturday 12th February	Team meetings and consolidation of field evidence		GG, TA
Sunday 13th February	Team meetings and consolidation of field evidence		GG, TA
Monday 14th February	Juba Fieldwork	• Meeting with WFP staff involved in Gorom Supply Chain and market development activities • Meeting with WFP Procurements team • Meeting with 2 brokers • Meeting with cereal retailers in Juba (Konyokonyo market) (2 shops and 2 stalls)	GG, TA
Tuesday 15th February	Travel to Gorom; Gorom Fieldwork	• Meetings with local retailers • Meetings with Community members FDG (mixed beneficiaries and non-beneficiaries) • Meeting with millers (2 separate interviews)	GG, TA
Wednesday 16th February	Juba Fieldwork; International Consultant's Travel Home	• Meeting with Finance providers in Juba (2 commercial Banks) • Meeting with WFP VAM officer • Debriefing meeting with WFP Supply chain	GG, TA

Annex 7. Detailed country contexts

1. The following annex elaborates specific contexts of the countries covered by the Regional Bureau, Nairobi.

Burundi

2. Burundi is a low-income country located in East Africa. Burundi's Southwestern frontiers are surrounded by the longest freshwater lake in the world, Lake Tanganyika. Burundi has a small population of almost 12 million people, but the second highest population density in Sub-Saharan Africa. The country has a youthful population, with 45 percent below the age of 16, a trend that is set to continue owing to Burundi's high population growth of 3.1 percent per year. Burundi's GDP is USD 2.84 billion, and the country ranked 185th out 189 in the 2020 Human Development Index. Most Burundians live below the poverty line of USD 1.90 a day (72.8 percent)[68] and work in agricultural or informal employment.

3. Burundi is characterized by its high elevation and hilly topography, making the country vulnerable to climate-related shocks, including droughts, flooding of swamps and lowlands, and mudslides. Whilst the majority of the population is involved in the agricultural sector, Burundi has the lowest agricultural productivity in the sub-region (3.6MT/ha).[69] Hunger in Burundi is an issue of extreme severity; the country was provisionally designated as 'alarming' in the 2021 Global Hunger Index, ranking joint second lowest overall.[70] Child stunting is particularly problematic, with a prevalence of 54 percent in children under the age of five years.[71] However, this is a reduction from the 57.6 percent prevalence rate in 2012, suggesting that the situation may be improving.

4. As of February 2022, there were 1.8 million people in need of humanitarian assistance in Burundi, a 21 percent reduction from 2021.[72] Burundi has 113,000 IDPs, and there are 263,000 Burundian refugees dispersed across neighbouring countries[73] – namely, Tanzania, Uganda, Rwanda and the DRC. During the most recent Integrated Food Security Phase Classification (IPC) projections, it was expected that between January-March 2022, 33 percent of the Burundian population would experience Phase 2 food insecurity (stressed), and 9 percent would experience Phase 3 food insecurity (crisis).[74]

5. The national development plan for 2018–2027 (NDP) provides a cohesive development framework for all sectoral policies and strategies and reflects the Government's commitment to the Agenda 2030. In recent years, The Government of Burundi has made significant efforts over the past decade to strengthen the national policy environment for agriculture, nutrition, education and social protection, to identify key national priorities and to establish institutional structures and coordination mechanisms.

6. Whilst Burundi's population is equally distributed between men and women, gender parity gaps remain. Women face major challenges in attaining socio-economic empowerment, with more women than men employed below the international poverty line.[75] Furthermore, Gender-based violence is widespread, with

[68] World Bank (n.d.) Burundi Country Profile. Available at: https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=BDI

[69] FAO (2020) FAOSTAT. Available at: http://www.fao.org/faostat/en/#compare

[70] Global Hunger Index (2021) Global Hunger Index Scores by 2021 GHI Rank. Available at: https://www.globalhungerindex.org/ranking.html

[71] Global Hunger Index (2021) Burundi. Available at: https://www.globalhungerindex.org/burundi.html

[72] UN OCHA (2022) Burundi: Humanitarian Overview – Key Figures.

[73] Ibid.

[74] IPC (2021) Burundi: Acute Food Insecurity Situation June - September 2021 and Projections for October - December 2021 and January - March 2022. Available at: https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155377/?iso3=BDI

[75] UN Women (n.d.) Burundi. Available at: https://data.unwomen.org/country/burundi

22.1 percent of women and girls subjected to physical and/or sexual abuse by a current or former partner in the previous 12 months.[76]

Djibouti

7. Djibouti is a low-middle income country located in East Africa. Djibouti has a population of 988,002,[77] of whom 80 percent live in urban areas. An estimated 17 percent[78] of the population lives below the international poverty line, whilst 21.1 percent live in extreme poverty.[79] Djibouti's GDP is USD 3.384 billion, and the country ranked 166th out 189 in the 2019 Human Development Index. Djibouti's strategic location next to the Gulf of Aden, one of the world's busiest shipping lanes, marks the country as a crucial connection between Africa and the Middle East. The country's economy is driven by its port, which is an important entry-point for cargo going to Ethiopia, as well as a link for commercial transport routes to the Horn of Africa.

8. Djibouti is one of the smallest countries in Africa, and has a desert-like arid climate receiving less than 200mm of rainfall per year. As a result, only 0.04 percent of its total land area is arable,[80] and the country faces recurring climatic shocks, such as floods and droughts. Djibouti's agricultural production meets only 10 percent of food needs, making the country the most food deficit in the Horn of Africa, and therefore almost entirely reliant on imports to meet its food needs. A 2018 national zero hunger strategic review (ZHSR)[81] highlighted the significant challenges Djibouti faces, with food insecurity affects almost half the population. Furthermore, the 2018-2022 IPC Chronic Food Insecurity Analysis showed that 280,000 people (a third of the population) are in a state of chronic food insecurity, and 10 percent of the population are at IPC level 4 (severe).[82] Djibouti ranked 99th out of 116 in the 2021 Global Hunger Index, and had a 27.4 percent prevalence of stunting in children under five years.

9. In August 2014 the Government launched Djibouti Vision 2035, a new model for economic development, aimed at reducing absolute poverty by one third by 2035. Vision 2035 is being implemented through a series of successive five-year strategies

10. Djibouti faces frequent instability due influxes of refugees from neighbouring countries and as of February 2022, it hosted 34,990 refugees and asylum seekers.[83]

11. Gender inequality is an issue that faces Djiboutian society, particularly in the workforce, where unemployment rates are far higher in women than in men.[84] Similarly, this gender disparity is reflected in school enrolment, with 38.2 percent of girls attending school, compared to 64.5 percent of boys.[85]

[76] Ibid.

[77] World Bank (2020) Population, total – Djibouti. Available at: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=DJ

[78] World Bank (2017) Poverty headcount ratio at USD 1.90 a day – Djibouti. Available at: https://data.worldbank.org/indicator/SI.POV.DDAY?locations=DJ

[79] World Bank (2017) Poverty headcount ratio at $1.90 a day – Djibouti. Available at: https://data.worldbank.org/indicator/SI.POV.DDAY?locations=DJ

[80] Government of Djibouti and WFP (2018) Djibouti Zero Hunger Strategic Review (in French). Available at: https://www.wfp.org/content/2018-djibouti-country-strategicreview?_ga=2.53914984.1348558566.1552726294317663891.1552208299.

[81] Groupe URD (2018) Report of the Zero Hunger Strategic Review in Djibouti. Available at: https://www.urd.org/en/publication/report-of-the-zero-hunger-strategic-review-in-djibouti/

[82] IPC (2018) Djibouti: Chronic Food Insecurity Situation 2018-2022. Available at: https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1151999/

[83] UNHCR (2022) Djibouti: Refugees and Asylum Seekers.

[84] World Bank (2017) Unemployment – Djibouti. Available at: https://data.worldbank.org/indicator/SL.UEM.TOTL.MA.NE.ZS?locations=DJ

[85] Government of Djibouti (2011) National Gender Policy (Politique nationale genre) 2011–2021. Available at: http://extwprlegs1.fao.org/docs/pdf/dji166445.pdf.

Ethiopia

12. Ethiopia is a landlocked country in East Africa, bordered by Eritrea, Somalia, Kenya, South Sudan and Sudan. It has a highly diverse population of 115 million people, and is the fastest growing economy in the region. Ethiopia has invested heavily in infrastructure, agriculture, education, health, disaster risk management and safety nets. These investments have led to significant progress in economic and social development including increased life expectancy, reductions in income poverty and malnutrition, increased school enrolments and expanded access to health services, fresh water and improved sanitation. Despite these gains, however, major challenges remain. Eighty-seven percent of the population is "multi-dimensionally poor", suffering from some combination of food insecurity, insufficient access to adequate education and health services and inadequate employment opportunities.

13. Most Ethiopians live in rural areas and depend on rain-fed agriculture for their livelihoods. There are also significant pastoralist populations, who tend to be poorer, and more vulnerable to climate-related shocks, as well as lagging in access to education and other services. Ethiopia's food system is changing rapidly as a result of urbanization, income growth and shifting diets. Communication, transport and storage capacities have expanded, but logistics and supply chain management remain inadequate, constraining the adoption of quality and safety standards that could reduce the costs of and enhance the availability of, and access to, nutritious foods. In the Global Hunger Index of 2021, Ethiopia ranked 90th out of 116 countries and had a 'serious' level of hunger, whilst stunting remained a key issue affecting 36.8 percent of children under five years.[86] Ethiopia is experiencing its most severe drought since 1981, after three consecutive failed rainy seasons have left 5.7 million people in need of food assistance.[87]

14. Ethiopia faces various socio-economic challenges on its journey to lower-middle income status, including a growing humanitarian crisis due to drought, an influx of refugees from neighbouring countries, and the internal conflict in the North of the country that started in November 2020. As of January 2022, Ethiopia had 4.24 million IDPs,[88] whilst over 9 million people require emergency food assistance in the Northern part of the country.[89] Ethiopia also hosts over 823,000 refugees and asylum seekers, predominantly from South Sudan, Somalia and Eritrea, living in 24 refugee camps across the country.[90]

15. The Government of Ethiopia's Ten-Year Perspective Plan (2020–2030) sets the Government's development vision over the next decade and is based on ten pillars. The plan focuses on agriculture, manufacturing, mining, tourism, urban development, innovation and technology as crucial sectors. The Homegrown Economic Reform (HGER) and other sectoral policies and strategies are used as tools for implementation of the 10-year plan. The HGER is an essential element of the Government's long-term vision and has the aim of providing an enabling environment for establishing the private sector as the engine of economic growth for a middle-income economy that is inclusive and pro-poor.

16. Ethiopia has progressive gender laws and policies and is undergoing renewed political commitment to ensure gender equality, with the government taking significant strides in addressing gender inequality in its structure by appointing a gender-balanced cabinet for the first time in the history of the country. However, gender inequality remains a significant issue, with women suffering from harmful cultural practices and structural and social discrimination. In 2019 Ethiopia ranked 148th out of 166 countries in the Gender Development Index (GDI), and the country ranked 82nd out of 153 countries in the 2020 World Economic Forum Global Gender Gap Index (GGGI).

[86] Global Hunger Index (2021) Ethiopia. Available at: https://www.globalhungerindex.org/ethiopia.html

[87] WFP (2022) Ethiopia Drought Response Situation Report #1

[88] UNHCR (2022) Regional Bureau for East, Horn of Africa and the Great Lakes Region: Internally Displaced Persons (IDPs)

[89] WFP (2022) Northern Ethiopia Emergency Response Situation Report #06

[90] UNHCR (2022) Ethiopia. Available at: https://www.unhcr.org/uk/ethiopia.html#:~:text=Ethiopia%20hosts%20over%20823%2C000%20refugees,Addis%20Ababa%20as%20urban%20refugees.

Kenya

17. Kenya is a lower-middle-income country in East Africa, bordering Ethiopia to the North, Somalia to the East, Tanzania to the South and Uganda to the west. Despite its lower-middle-income status, the country is impacted by regional instability and is beset by its own socio-economic challenges and food and nutrition insecurity, as a result of rapid population growth, frequent climate shocks, and inefficiencies in food systems, as well as social, economic and gender disparities. Kenya has experienced significant economic growth in recent years. Between 2005 and 2015 the poverty headcount ratio measured on nationally determined criteria fell from 46.8 percent to 36.1 percent,[91] representing a significant fall after decades of relatively unchanged poverty levels.

18. Droughts and floods pose the most significant and recurring risk to Kenya. Average temperatures have increased by 1°C since 1960 and there have been observed changes in rainfall patterns, which have become increasingly unreliable during the long rains (March–April) and heavier during the short rains (October–December). It is anticipated that climatic changes will continue to affect Kenya. In the Global Hunger Index of 2021, Kenya ranked 87th out of 116 countries and had a 'serious' level of hunger, whilst stunting remained a key issue affecting 25 percent of children under five years.[92] According to the most recent IPC projections for Kenya, in 2021 about 2.1 million people in the ASALs region were highly food insecure due to failed rains, low agricultural production and high food prices.[93] Furthermore, over 650,000 children under 5 and over 96,000 pregnant or lactating women are acutely malnourished.

19. Kenya is also situated in a region of ongoing instability, which has created a large influx of refugees. As of December 2021, Kenya hosts over 540,000 refugees and asylum seekers, mainly from South Sudan and Somalia, most of whom are living in the Dadaab and Kakuma refugee camps. Kenya is also experiencing one of the most severe droughts in its history, which is affecting 3.1 million food-insecure people in pastoral and marginal agricultural areas, a 48 percent increase since August 2021.[94]

20. Kenya's long-term development goals are set out in Vision 2030, launched in 2008, which aims to guide Kenya's transformation into a newly industrialising, middle-income country. The Vision, which mainstreams the Sustainable Development Goals (SDGs), is being implemented through successive five-year medium-term plans. The current Third Medium Term Plan (MTP III) for 2018-2022 prioritises implementation of the Big Four Agenda, a set of priorities for the government up to 2023, which were set out by the President of Kenya in December 2017. One of these four priorities focuses on enhancing Food and Nutrition Security. To achieve progress in modernising agriculture in Kenya, the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029 sets three anchors to drive the transformation: increase small-scale farmer, pastoralist and fisherfolk incomes; increase agricultural output and value added; and boost household food resilience. Special attention is given to the Arid and Semi-Arid Lands (ASAL) under the anchor to boost household food resilience.

21. Women are adversely affected by issues related to food insecurity, with greater vulnerability to the impacts of drought and poverty. Women constitute the majority of the agricultural labour force, yet they have limited control over resources. Women spend on average more hours working per day on farm labour than men, and have more responsibilities related to collection of water and firewood, as well as production of household food. However, they have limited decision-making powers and ownership rights, including of land (with only 1 percent of agricultural land in Kenya owned by women.[95]

[91] World Bank (2021) Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population) – Kenya. Available at: https://data.worldbank.org/indicator/SI.POV.DDAY?locations=KE

[92] Global Hunger Index (2021) Kenya. Available at: https://www.globalhungerindex.org/kenya.html

[93] IPC (2021) Kenya: Acute Food Insecurity Situation July - October 2021 and November 2021 - January 2022

[94] FEWS NET (2022) Kenya Food Security Outlook Update, February to September 2022

[95] WFP (2015) Protracted Relief and Recovery Operations: Bridging Relief and Resilience in the Arid and Semi-Arid Lands, PRRO: 200736

Rwanda

22. Rwanda is a landlocked mountainous country in East Africa, bordering Uganda to the North, the Democratic Republic of Congo to the West, Burundi to the South, and Tanzania to the East. Rwanda has a population of 12,952,209 people, of whom 39 percent are below the age of 15. Despite over half of Rwanda's population (56.5 percent) lives below the poverty line,[96] the country has made significant strides in its development since the 1994 genocide, achieving strong results in poverty reduction, gender equality, environmental sustainability, food production, education and public health. Prior to the Covid-19 pandemic, Rwanda demonstrated a rapidly growing market, experiencing growth of over 10 percent, driven mainly by public investment through the National Strategy of Transformation. Its Gross Domestic Product (GDP), which currently sits at USD 10.3 million, is attributed to the agricultural sectors and other growing industry such as construction and services. Rwanda relies heavily on its agricultural sector, with the sector contributing significantly to the country's economy. Despite this, Rwanda faces various socio-economic challenges, undernourishment, natural and human-caused climate-related shocks, and a large Congolese and Burundian refugee population.

23. Rwanda is a high altitude, mountainous country, and has a majority agrarian population. The country performs relatively well in access to food compared to other countries in the region. Forty percent of the population is food-secure and residing in urban areas, 40 percent is marginally food-secure, 17 percent is moderately food-insecure and 3 percent is severely food-insecure.[97] Despite this, food insecurity and malnutrition, remain an issue. In the 2021 Global Hunger Index, Rwanda ranked 98th out of 116, and was classified as having a level of hunger that is serious. Furthermore, there is a child stunting prevalence of 33.1 percent.[98]

24. In addition to the Vision 2020 and Vision 2050 development plans, the Government's 2017– 2024 National Strategy for Transformation (NST) embraces the SDGs and focuses on three pillars: social transformation, economic transformation and transformational governance. The social transformation pillar is aimed at reducing poverty, promoting resilience and eradicating malnutrition; in the economic transformation pillar the priority is support for the smallholder farmer sector, including through improved post-harvest handling and enhanced access to well-functioning markets; and the aim of the transformational governance pillar is to consolidate good governance and justice as building blocks for equitable and sustainable national development.

25. As of December 2021, Rwanda hosted 127,112 refugees, asylum seekers and others of concern. The majority of this population is made up of Congolese refugees who have been in the country since 1996, and Burundian refugees who have arrived over the past 7 years. Most refugees in Rwanda live in six camps spread out across the country.

26. Despite strong progress and a commitment to institutionalizing gender-responsive planning and budgeting, gender inequality remains an issue, with low levels of education among girls and women, and limited participation of women in the formal labour market.[99]

Somalia

27. Somalia is a low-income, food deficit country located in East Africa. It is bordered by Djibouti to the North-West, Ethiopia to the West, Kenya to the South-West, and the Gulf of Aden to the East. Somalia has experienced extreme challenges across recent decades, including insecurity, climate-related disasters and fragile governance, and is undergoing the difficult transition from 'failed' state to 'fragile' state. Somalia has a

[96] World Bank (2016) Poverty headcount ratio at $1.90 a day (2011 ppp) (% of population) – Rwanda. Available at: https://data.worldbank.org/indicator/SI.POV.DDAY?locations=RW

[97] WFP (2018) Rwanda Country Strategic Plan (2019-2023)

[98] Global Hunger Index (2021) Rwanda. Available at: https://www.globalhungerindex.org/rwanda.html

[99] UN (2017) Rwanda Common Country Analysis: Final Report. Available at: https://rwanda.un.org/index.php/en/103024-rwanda-common-country-analysis-final-report-2017

youthful population of 15,893,219; 46 percent are below the age of 15 years,[100] a trend that is set to continue owing to Somalia's high population growth of 2.9 percent per year. Somalia's GDP is USD 6.97 billion, and almost 70 percent of its population live below the poverty line of USD 1.90 a day.[101] Agriculture is a key source of livelihoods in Somalia, representing 72 percent of employment in 2019 (a proportion that has barely changed in three decades).[102]

28. Somalia is faced by chronic food insecurity, poor infant and young child feeding practices, and malnutrition. Three consecutive poor rain seasons, in addition to internal conflicts and desert locust infestations, have exacerbated this insecurity – the most recent IPC acute food insecurity projections found that more than a quarter of the population face an acute food insecurity crisis (IPC Phase 3) through mid-2022, with 44 percent of children under the age of five likely to be acutely malnourished.[103] In the 2021 Global Hunger Index, Somalia ranked last out of 116 countries; the country has 'extremely alarming' levels of hunger.[104] The country ranks 173rd out of 182 in the ND-GAIN Country Index which represents vulnerability to climate change,[105] further exacerbating the food and nutrition situation.

29. Somalia faces recurring humanitarian crises due to almost 80 percent of the population being at risk from external shocks such as natural disasters, conflict and economic disruption[106]. As of January 2022, Somalia has an estimated 2.9 million IDPs, many of whom have settled in urban and per-urban IDP sites across the country.[107] The ongoing drought emergency in Somalia has displaced about 572,000 people internally between October 2021 and February 2022 alone.[108]

30. The Somalia National Development Plan 2020-2024 (NDP-9) is the overarching framework for development priorities in Somalia. It has a strong focus on poverty reduction and is built on six pillars: consolidating peace, security and the rule of law; institution building; inclusive and sustainable economic growth (targeting the private sector and agriculture, livestock and fisheries); social and human development (targeting health, nutrition and education); infrastructure rehabilitation; and building national resilience. The cross-cutting themes of the plan are gender, youth, capacity development, human rights, and the environment.

31. Challenges exist in achieving gender equality and women's economic empowerment in Somalia. Early marriage and pregnancy remain prevalent,[109] while restrictive customary beliefs inhibit the adoption of healthy maternal and early childcare practices such as exclusive breastfeeding.

South Sudan

32. South Sudan is a low-income, landlocked country located in East Africa. The country is bordered by Sudan to the North, Ethiopia to the East, Kenya to the South-East, Uganda to the South, the Democratic Republic of Congo to the South-west, and the Central African Republic to the West. The world's youngest nation, South Sudan has experienced prolonged instability and displacement resulting from an ongoing civil war since its independence in 2013. However, the signing of the latest truce in September 2018 and subsequent formation of a unity government in February 2020 have provided a large measure of hope for recovery and peace building. South Sudan has a population of 11,193,729, of whom 41 percent are under the age of 15. More

[100] World Bank (2016) Population ages 0-14 (% of total population) – Somalia. Available at: https://data.worldbank.org/indicator/SP.POP.0014.TO.ZS?locations=SO

[101] UN Somalia (2020) Progress towards the 2030 Agenda in Somalia.

[102] WFP Somalia (2021) Somalia Country Strategic Plan (2022-2025)

[103] IPC (2022) Somalia: Acute Food Insecurity Situation January 2022 and Projections for February - March 2022 and April - June 2022. Available at: https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155438/?iso3=SOM

[104] Global Hunger Index (2021) Somalia. Available at: https://www.globalhungerindex.org/somalia.html

[105] ND-GAIN (2021) ND-GAIN Country Index. Available at: https://gain.nd.edu/our-work/country-index/

[106] Government of Somalia (2019) Somalia, Ministry of Planning, Investment and Economic Development. 2019. Somalia National Development Plan 2020 to 2024.

[107] UNHCR (2022) CCCM Cluster Somalia. Available at: https://data2.unhcr.org/en/situations/cccm_somalia#:~:text=IDP%20Situations,-COVID%2D19&text=Given%20the%20conflict%2C%20insecurity%2C%20drought,urban%20areas%20across%20the%20country.

[108] OCHA (2022) Somalia Humanitarian Bulletin: February 2022

[109] UN Women (2022) Somalia. Available at: https://data.unwomen.org/country/somalia

than 60 percent of the population is employed in the agriculture sector, whilst the oil sector is the primary driver of economic growth in the country. In the 2021 Human Development Index, South Sudan ranked 185th out of 189 countries;[110] poverty remains rife in the country, with over 75 percent of the population living below the poverty line of USD 1.90 a day.

33. Food insecurity in South Sudan continues to be an extreme challenge. In the 2021 Global Hunger Index, South Sudan was provisionally categorized as having an 'alarming' level of hunger. In 2022, 8.3 million people, almost 75 percent of the population, are severely food insecure,[111] and 33 percent of children are chronically malnourished.

34. South Sudan recently experienced its worst flooding in over 60 years, and the country is highly vulnerable to the effects of climate-related shocks.[112] Owing to the ongoing impact of climatic shocks such as flooding, as well as subnational and localized conflict and violence, and the widespread economic crisis, South Sudan has an extreme humanitarian crisis. There are 9 million people in the country requiring humanitarian assistance,[113] and over 2 million IDPs.[114] Additionally, there are a further 2,347,010 South Sudanese refugees dispersed across the region, mainly in Uganda, Sudan and Ethiopia. Insecurity, lack of basic services, and unresolved housing, land and property issues have prevented people from returning home in large numbers.

35. At independence, the government developed the South Sudan Development Plan (2011–2016), focusing on governance, economic development, social and human development, and conflict prevention and security. In 2017, the government identified its priority SDGs, with its first priority being SDG 16 on peace, justice and strong institutions, followed by SDG 2 on zero hunger, and SDG 5 on gender equality. The National Development Strategy (NDS) from 2018 to 2021, focusing on consolidating peace and stabilizing the economy, is under review and extension.

36. Gender inequality is a major challenge in South Sudan. Cultural norms and decades of violence have resulted in men controlling most productive assets and powers; widespread domestic violence; as well as high rates of child marriage.[115] Furthermore, South Sudan has the highest rates of maternal mortality in sub-Saharan Africa, and 70 percent of women are illiterate.[116]

Sudan

37. Sudan is a lower-middle income country located in Northeast Africa. The country is bordered by Egypt to the North, Eritrea to the East, Ethiopia to the South-East, South Sudan to the South, Chad to the West, and Libya to the North-West. Sudan's Eastern frontier also borders the Red Sea. Sudan has a population of 43,849,269, of whom 40 percent are below the age of 15. Sudan is experiencing political instability and public unrest following the resignation of the Prime Minister of the transitional government. 65 percent of the Sudanese population live in rural areas,[117] with the country's economy heavily dependent on agriculture. The sector accounts for 40 percent of gross domestic product (GDP) and employs 45 percent of the labour force.[118] In the 2020 Human Development Index, Sudan ranked 170th out of 189 countries.[119]

[110] UNDP (2021) Human Development Index Ranking. Available at: https://hdr.undp.org/en/content/latest-human-development-index-ranking

[111] WFP South Sudan (2022) WFP South Sudan Country Brief: January 2022.

[112] NUPI and SIPRI (2022) Climate, Peace and Security Fact Sheet: South Sudan, March 2022. Available at: https://reliefweb.int/report/south-sudan/climate-peace-and-security-fact-sheet-south-sudan-march-2022

[113] WFP South Sudan (2022) WFP South Sudan Country Brief: January 2022.

[114] UNHCR (2022) South Sudan: Overview of the IDPs Population Per Country

[115] WFP South Sudan (2022) WFP South Sudan Country Brief: January 2022.

[116] World Bank (2018) Literacy rate, adult female (% of females ages 15 and above) – South Sudan. Available at: https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?locations=SS

[117] World Bank (2020) Sudan: Rural Population (% of total population)

[118] WFP (2018) The Sudan Country Strategic Plan (2019-2023)

[119] UNDP (2021) Human Development Index Ranking. Available at: https://hdr.undp.org/en/content/latest-human-development-index-ranking

38. Food insecurity affects almost 11 million people in Sudan,[120] with 13.6 percent of children under the age of 5 suffering from malnutrition. The most recent IPC data showed that in the period between April 2021 – February 2022, 7.3 million people in Sudan experienced high levels of acute insecurity (IPC Phase 3 or above), of these, 1.8 million being critically food insecure (IPC Phase 4).[121] This situation of food insecurity is exacerbated by floods and the ongoing socio-economic crises. In the 2021 Global Hunger Index, Sudan ranked 95th out of 116 countries, whilst the prevalence of stunting in children under five years was 31.4 percent.[122] Agriculture in Sudan is mostly rain-fed, making increasing climate variability a key concern, whilst agricultural productivity is low due to poor farming practices, major post-harvest losses, persistent gender gaps and conflict.[123]

39. Sudan has a growing humanitarian crisis that is affecting 30 percent of the population, driven by a multitude of factors, including: an economic crisis, protracted internal displacement, increased insecurity and civil unrest, localized violence, flooding and disease outbreaks.[124] Furthermore, Sudan hosts one of the largest refugee populations in Africa, with over 1.1 million refugees. The majority of this population are from South Sudan, whilst there is also a significant Eritrean refugee population.[125] In addition, Sudan has an IDP population of over 3 million people.

40. Sudan National SDG program main objectives were set as: 1. Prosperity and Economic development; 2. Social Development; 3. Peace and Security; and 4. Conservation of the Environment. Guided by this programme, the country has three key documents: The National Sustainable Development Program (2016-2020); the Sustainable Development Implementation plan (2017-2020); and State Sustainable Development Plans. National priorities within these frameworks include a commitment by the Government to increase its ownership of the Zero Hunger Strategic Review and eradicate hunger through clear policies and the development of credible national plans.

41. Gender inequality is an issue in Sudan, which ranked 138th out of 159 countries in the 2019 Gender Inequality Index.[126] Significant gender disparities exist in the labour force, with women accounting for just 30 percent of the workforce, whilst women also experience high rates of child marriage and violence.[127]

Uganda

42. Uganda is a landlocked, low-income country located in East Africa. The country is bordered by South Sudan to the North, Kenya to the East, Tanzania to the South, Rwanda to the South-West and the Democratic Republic of Congo to the West. Uganda has a rapidly growing population of 45,741,000[128], of whom 46 percent are below the age of 15. Following 20 years of armed conflict in the north of the country, Uganda has enjoyed relative peace and stability since 2006. Prior to the Covid-19 pandemic, Uganda enjoyed structural transformation and declining poverty, characterized by a growing agro-processing workforce.[129] Nonetheless, the Ugandan economy remains reliant on low productivity agriculture, which has contributed to income volatility and stagnation.[130] Poverty remains a challenge, with 41.3 percent of the population living below the poverty line of USD 1.90 a day (72.8 percent),131 and the country ranked 159th out 189 in the 2020 Human Development Index.

[120] WFP Sudan (2022) Country Brief: January 2022

[121] IPC (2021) Sudan: Integrated Food Security Phase Classification Snapshot. April 2021-February 2022.

[122] Global Hunger Index (2021) Sudan. Available at: https://www.globalhungerindex.org/sudan.html

[123] WFP (2018) The Sudan Country Strategic Plan (2019-2023)

[124] WFP Sudan (2022) Country Brief: January 2022

[125] UNHCR (2022) Operational Data Portal: Refugee Situations. Sudan. Available at: https://data2.unhcr.org/en/country/sdn

[126] UNDP (2020) Gender Inequality Index.

[127] UN Women (n.d.) Sudan. Available at: https://data.unwomen.org/country/sudan

[128] World Bank (2020) Population, total – Uganda. Available at: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=UG

[129] World Bank (2021) Uganda: Overview. Available at: https://www.worldbank.org/en/country/uganda/overview#1

[130] Ibid.

[131] World Bank (n.d.) Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population) - Uganda

43. Uganda is East Africa's breadbasket and a major exporter of grains, yet, there is limited sustainable land management, and post-harvest loss is a significant issue for smallholder farmers. [132] Furthermore, Uganda's food security situation is challenging, having been provisionally classified as 'serious' in the 2021 Global Hunger Index. Malnutrition is widespread, with 29 percent of children under the age of 5 stunted, and 53 percent anaemic.[133] The issue of food insecurity is particularly concerning in the North-eastern regions of the country; between March 2021 and January 2022, 16 percent of people living in the Karamoja region experienced high levels acute food insecurity (IPC Phase 3 or more).[134]

44. Uganda is one of the largest refugee hosting countries, with a population of 1,582,892.[135] The majority of Uganda's refugee population is from South Sudan and the DRC, living in settlements dispersed across the country. Uganda has a progressive refugee policy enabling refugees to enjoy access to asylum, freedom of movement, the right to work and own a business, and access services such as healthcare and education.[136]

45. Vision 2040 sets out the aim of achieving lower-middle-income status by 2032 and upper-middle-income status in 20 years. The National Development Plan II (2015/16–2019/20) (NDP II) envisages a competitive economy, gender equality, high employment and inclusive growth. Priority sectors for investment include agriculture, tourism, minerals, oil and gas, and knowledge.

46. Progress has been made to reduce the inequity between men and women in Uganda, particularly in labour force participation and entrepreneurial activity.[137] However, inequality remains a challenge, with school completion[138], gender-based violence[139], and child marriage[140] just some of the barriers still face by girls and women in Uganda.

[132] WFP Uganda (2017) Uganda Country Strategic Plan (2018-2022).

[133] WFP (2022) WFP Uganda Country Brief: January 2022.

[134] IPC (2021) Uganda: Acute Food Insecurity Situation March - July 2021 and August 2021 - January 2022 (Karamoja)

[135] UNHCR (2022) Uganda Comprehensive Refugee Response Portal. Available at: https://data2.unhcr.org/en/country/uga

[136] UNHCR (2021) Uganda Refugee Operation - Participatory Assessment 2021 National Report: December 2021

[137] World Bank (2021) Uganda Economic Update 18th Edition: Putting Women at the Center of Uganda's Economic Revival. Available at: http://documents.worldbank.org/en/publication/documents-reports/documentdetail/099100011302141746/p1748840506ccf0da0ba0d08902edcbc883

[138] Ibid.

[139] UN Women (n.d.) Uganda. Available at: https://data.unwomen.org/country/uganda#:~:text=In%20Uganda%2C%20as%20of%20February,against%20women%2C%20are%20in%20place.

[140] Girls Not Brides (n.d.) Atlas – Uganda. Available at: https://atlas.girlsnotbrides.org/map/

Annex 8. Overview of Country Office activities

Table 13 Summary of supply chain activities by country

Country	Supply chain activities
Burundi (iCSP 2018-2021)	• Providing **technical support to Government of Burundi** in areas including food safety and quality, local production, enhancing supply chain efficiencies (including for health supply chain), logistics emergency preparedness • Working with cooperatives, millers and Government counterparts to **support the production of quality fortified flour**. • Facilitating discussions with private sector and government stakeholders on the **revitalization of the Lake Tanganyika Corridor** • Working with Government to **facilitate and optimize processes at border points** and support the elimination of tariff barriers. • Supporting establishment of **national grain reserves and rehabilitation of storage facilities** • **On-demand service provision** such as fuel, transport, storage and supply chain-related capacity development to humanitarian and development actors
Djibouti (CSP 2020-2024)	• Provision of tailored **logistics services to the humanitarian community**, including Logistics Cluster, air and sea transport services, storage facilities • Prepositioning of supplies through the **Humanitarian Logistics Base** for emergencies • Provision of **supply chain and transport trainings is to enable young food-insecure participants to enter or reintegrate into the labour market in logistics**, customs and transport areas • Reduction of **PHL in targeted communities**
Ethiopia (iCSP 2019-2020 and CSP 2020-2025)	• **Support to CSB+ local manufacturers** to raise their product and food management systems to WFP standards, and become WFP wholesalers • **Providing technical support to the Government of Ethiopia** on reduction of food losses, food quality inspection, commodity management and procedures • **Providing secondees with logistics expertise** to the Ethiopian Maritime Affairs Authority and Ministry of Transport • **Training retailers on basic retail procedures** to improve price competitiveness, commodity handling and storage, quality and service, supply chain information and tracking systems • Conducting **specialized trainings to market actors** on cold-storage, distribution of nutrient-dense foods etc. • **Support to smallholder farmers** on post-harvest management, marketing and food safety through training. • Provision of **logistics services to the humanitarian community**, including Logistics Cluster, air services and improved commodity supply chains • Provision of **HIV facilities** to transporters
Kenya (CSP 2018-2023)	• Reduction of **PHL** through use of innovative, sustainable and low-cost technologies • Support to small holder farmers, national and county governments on technologies and best practices on **food safety and quality** • Support to smallholder producers, small-scale traders and processors to **access public and private sector commodity markets**, including wholesalers for nutritious products • Increase the **local production of nutritious products** for WFP demand and for local consumers • Expanding the **distribution of nutritious products** through retailers • Supporting partnerships to provide **capacity strengthening to retailers** based on need. • Expand CO capacity to **procure high quality produce from smallholder farmers** • **Provided technical support to commercial supply chain actors** for improved food market & supply chain efficiencies in order to promote access to affordable, quality and safe foods in markets. • **Innovations in waste management,** including recycling of WFP packaging • **Support to cold-storage activities**, including innovative eco-friendly cooling technologies in markets. • Leveraging WFP **Humanitarian Supply Chain Management** and providing technical expertise, training and learning opportunities to support National and County Governments improve access to food and nutrition and reduce reliance on external response (e.g. training on logistics information management systems and warehouse management) • Leveraging supply chain expertise to provide support to government and partners in **supply chain optimization in the health sector** • Providing **humanitarian air services** for partners • Innovations in food distribution, including the **Food ATM** in refugee camps. • Management of **port and corridor opportunities** on behalf of other COs

Country	Supply chain activities
Rwanda (CSP 2019-2023)	• **Support to Government of Rwanda** to optimize and identify gaps in national supply chains, ensure national logistics emergency preparedness, develop food safety guidelines and policy, and ensure effective warehouse management • Deliver **supply chain services and expertise to enable all partners**, including Government, to provide timely assistance • **Strengthening private-sector supply chains to provide CSB+,** including providing training on the best warehouse management, food storage, food quality, and loading efficiencies • **Capacity strengthening and monitoring of food safety** and assurance in factories • Develop innovative solutions to **identify food safety issues in agriproducts** • Support to smallholder producers to **access public (school feeding) and private sector commodity markets**, including those for nutritious products • Support to smallholder farmers smallholder farmers and farmer organizations to access technical support to **reduce losses through improved post-harvest handling and storage** • **Advocated private sector and government** to ensure affordable and adequate transport and food supply in local markets around refugee camps • Facilitation of **passenger aviation services** between Kigali and Addis Ababa International Airports
Somalia (iCSP 2019-2021 and CSP 2022-2025)	• Improving **berthing capacity and efficiency** of the Port in Kismayo, including through shipwreck removal • **Strengthening private sector supply chains**, including through the development of milling facilities in Berbera for the production of fortified cereals and technical expertise on supply chain management • Supporting **retailers** access wider markets and customer base through introduction of the **e-shop** initiative • Piloting **e-shop** application for supply of nutritious commodities • **Support to Government to facilitate supply chain efficiencies and rehabilitate supply chains**, including warehouse management, cargo tracking, construction of a strategic grain reserve, ratification and implementation of maritime conventions, • Training smallholder farmers and retailers on **cold-storage solutions, and PHL initiatives** for supply of nutritious fresh foods • Provision of **air transport services** (passenger and cargo) to Government and humanitarian personnel • **On-demand service provision** such as, transport, storage and warehousing to humanitarian actors, as well as Logistics Cluster leadership
South Sudan (iCSP 2018-2022)	• Improving access to assets, transport, markets and services through **feeder road construction and bridge construction** • Operation of **air services and coordination of logistics cluster** for the humanitarian community • **Provision of supply chain services to other international organizations**, including procurement and transportation of humanitarian cargo by road, river and air across the country; fleet management including vehicle repair and maintenance; and storage and warehousing services. • Training and providing equipment to smallholder farmers and farmer organizations on **post-harvest handing** techniques • Support to smallholder producers to **access commodity markets**
Sudan (CSP 2019-2023)	• **Enabling national institutions** to take on a greater role in emergency response and improve their systems • Provision of **supply chain services and expertise** to humanitarian and development community, including transportation, storage and infrastructure project support and coordination, to ensure effective and efficient logistics services • Engaged with the private sector to ensure that farmers have **access to affordable post-harvest handling** and storage resources through retail channels • Engaging with the private sector to build innovative approaches, such as the **retailing of a micronutrient powder** • **Training smallholder farmers** on post-harvest handling, aggregation, storage, value addition, food quality and linkages to markets, while also providing them with hermetic storage bags as part of the training • Supporting **food fortification** policy, product standards and laboratory capacity related to the fortification of wheat flour, oil and salt in Sudan • Provision of **logistics support** for food purchased for neighbouring countries
Uganda (CSP 2018-2025)	• **Provision of supply chain services and expertise** to other humanitarian agencies in order to support their operation • **Training of smallholder farmers** (including refugees and members of host communities) on food quality and collective marketing • Strengthening the capacity of district and sub-county local government staff on **post-harvest management** and collective marketing • Support to smallholder producers to **access public (school feeding) and private sector commodity markets** • **Strengthen national supply chain management** through provision of services and expertise, including truck provision, warehousing, and development and launch of the agriculture and market support facilitators' training manual • **Food safety awareness advocacy**

Source: Analysis of WFP CSPs and ACRs

Table 14 Overview of assessments conducted by country offices in the RBN region since 2016.

Title/year	Country	Objective
Market assessment Understanding beneficiary purchasing power in Saemaul Zero Hunger Communities II project sites, WFP 2017	Rwanda	To provide WFP with evidence on whether beneficiaries have enough purchasing power to cover their basis food needs, and therefore inform further strategic decisions.
Market Assessment Report Nakivale, Oruchinga, Rwamwnaja, Kyaka II & Kyangwali Settlements, WFP 2017	Uganda	To understand the functionality of markets in these settlements and their capacity to support cash-based transfers (CBTs)
Rapid Retail Supply Chain Assessment, Dadaab camps and greater Garissa county, WFP 2019	Kenya	To understand the context, identify gaps and opportunities for retail engagement scale-up.
Isiolo County Market and Food Supply Chain Assessment Report, WFP 2019	Kenya	To inform the piloting of a market engagement initiative in an unrestricted cash intervention; WFP supported beneficiaries.
Dadaab Supply Chain Mapping, WFP 2020	Kenya	Ascertain the supply status and trading challenges, to ensure that markets are functioning well, to be able to provide adequate food to beneficiaries at affordable prices; in case of increased demand due to possible increase of cash transfers by WFP, partners and Government.
Market Assessment, Samburu County, WFP 2020	Kenya	To understand how markets can help households achieve food security and meet their essential needs and inform WFP interventions.
User Research on Maize and Beans Value Chains in Uganda, WFP 2021	Uganda	To provide detailed mapping of value chains from smallholder farmers to buyers that illustrate interactions between key stakeholders, and therefore identify gaps, solutions and inform operational decisions.
Three separate market assessments in Gorom, Rumbek Center, and Bor & Mingkaman WFP 2021	South Sudan	To understand the functionality of each location by using the Market Functionality Index Tool and to inform further expansion of CBT.
Joint Supply Chain and Market Assessment in South Kordofan, WFP 2021	Sudan	To examine the option of providing assistance via the CBT modality to beneficiaries instead of in-kind.
Value Chain Analysis of the Sorghum Subsector in Sudan - Study Case: Gedaref, WFP 2021	Sudan	To understand key constraints in the sorghum value chain, and potential interventions that can address them and help SHFs obtain a fairer proportion of benefits through more efficient marketing.

Annex 9. List of people interviewed

Table 15 Number of participants in evaluation data collection

Phase	Country	WFP participants (% female)	External participants (% female)	Total (% female)
Inception phase: total	**Multi**	**38 (45%)**	**-**	**38 (45%)**
Evaluation phase: country case-studies	Kenya	33 (52%)	24 (17%)	57 (37%)
	Somalia	7 (29%)	56 (21%)	63 (22%)
	South Sudan	29 (31%)	33 (21%)	62 (26%)
Evaluation phase: remote studies	Burundi	3 (67%)	-	3 (67%)
	Djibouti	6 (67%)	-	6 (67%)
	Ethiopia	17 (41%)	-	17 (41%)
	Rwanda	9 (44%)	2 (0%)	11 (36%)
	Sudan	10 (30%)	-	10 (30%)
	Uganda	9 (44%)	-	9 (44%)
Evaluation phase: total	**Multi**	**123 (42%)**	**115 (20%)**	**238 (32%)**

Table 16 List of participants in interviews,

Name (sex)	Position, Organization
INCEPTION PHASE	
1. Sarah Bawaye (F)	Postharvest Management Officer, WFP Uganda
2. Caroline Kasabiti (F)	Programme Policy Officer, WFP Uganda
3. Daniel Magada (M)	Senior Procurement Associate, WFP Uganda
4. Benny Mutagorama (M)	Logistics Officer, WFP Uganda
5. Jeniffer Nalugonda (F)	Procurement officer, WFP Uganda
6. Solomon Ojara (M)	Logistics officer, WFP Uganda
7. Violeta Palma-Perez (M)	Head of Procurement, WFP Uganda
8. Rogers Sebukyu (M)	Logistics Officer, WFP Uganda
9. John Wamara (M)	Logistics Officer, WFP Uganda
10. Haruna Sebakira (M)	Food Systems Expert, WFP Sudan
11. Hein Adjemian (M)	Logistics Coordinator, WFP South Sudan
12. Margaret Akoth (F)	Logistics Officer, WFP South Sudan
13. Ahmad Alassad (M)	Logistics Coordinator, WFP South Sudan
14. Nenad Grkovic (M)	Head of Logistics, WFP South Sudan
15. Wilson Kaikai (M)	Head of MEAL, WFP South Sudan
16. Sujin Pak (M)	Monitoring & Evaluation Officer, WFP South Sudan
17. Dulama Saeb (M)	Logistics Officer, WFP South Sudan
18. Kebede Seifu (M)	Head of Supply Chain, WFP South Sudan
19. Abdullah Zaman (M)	Supply Chain Officer, WFP South Sudan
20. Aboubakry Kane (M)	Head of Logistics, WFP Somalia
21. Hiba Abou Swaid (F)	Cash Expert, WFP RBN
22. Wanjiku Guchu (F)	Food Systems Focal Specialist, WFP RBN
23. Mutinta Hambayi (F)	Senior Regional Advisor, WFP RBN
24. Siddarth Krishnaswamy (M)	Senior Regional Advisor, WFP RBN
25. Sibi Lawson-Marriot (F)	Regional Advisor, WFP RBN
26. Wambui Mbugua (F)	Procurement Officer, WFP RBN
27. Mary Mureithi (F)	Food Safety and Quality Specialist, WFP RBN
28. Daniella Nkamicaniye (F)	Logistics Officer, WFP RBN
29. Leo Poncet (M)	Logistics Officer, WFP RBN
30. Tara Sheibani (F)	Regional Market Systems, WFP RBN
31. Ross Smith (M)	Head of Programmes, WFP RBN

Name (sex)	Position, Organization
32. Barbara Van Logchem (F)	Regional Logistics Officer, WFP RBN
33. Winston Kivuita (M)	Logistics Officer, WFP Kenya
34. Alexandra Malikoa (F)	Food Systems and Supply Chain Intern, WFP Kenya
35. Daniel Njenga (M)	Supply Chain Officer, WFP Kenya
36. Clara Silva (F)	Head of Mombasa Field Office, WFP Kenya
37. Josefa Zueco (F)	Head of Supply Chain, WFP Kenya
38. Miriam Vandenbergh (F)	Procurement Officer, WFP HQ
MAIN EVALUATION PHASE (COUNTRY-CASE-STUDIES)	
KENYA	
1. Hussein Abdullahi (M)	Supply Chain, Kakuma Field Office, WFP Kenya
2. Claudia Ahpoe (F)	SO2 Manager, WFP Kenya
3. Thomas Chika (M)	Head of Supply Chain, Kakuma Field Office, WFP Kenya
4. Marjam Chimosa Lugazo (M)	Market Coordinator, WFP Refugee Traders Representative (Kakuma)
5. Antoninah Ekal (F)	Transporter, WFP Kenya
6. Byamunga Elie Manasse (M)	Trader, WFP Refugee Traders Representative (Kakuma)
7. David Ereng (M)	Camp Field Officer, Refugee Affairs Secretariat
8. Georgia Farley (F)	Logistics Officer, WFP Kenya
9. Mesfin Getahun (M)	Wholesaler, Kakuma Camp
10. Astrid Harbo (F)	Food Systems Coordinator, WFP Kenya
11. Abubakar Harun (M)	Trader, WFP Refugee Traders Representative (Kakuma)
12. Muhamad Jamal Musa (M)	Trader, WFP Refugee Traders Representative (Kakuma)
13. Judith Joseph (F)	Quality Assurance and Hygiene Manager, UNGA
14. Samuel Keben (M)	Supply Chain, Kakuma Field Office, WFP Kenya
15. Dan Kirwa (M)	Supply Chain Officer, WFP Kenya
16. Eddie Kisach (M)	Supply Chain Associate, WFP Kenya
17. Julius Kisingu (M)	VAM Officer, WFP Kenya
18. Allan Kute (M)	Head of VAM, WFP Kenya
19. Gabriel Lbate (M)	Committee Secretary, Food Distribution Committee (Kakuma)
20. Julius Loboto (M)	Supply Chain, Kakuma Field Office, WFP Kenya
21. Erasto Magak (M)	KPA Marketing Department, KPA
22. Alexandra Malikoa (F)	Food Systems and Supply Chain Intern, WFP Kenya
23. Melisa Maumina (F)	Head of Office, Kenya National Chamber of Commerce and Industry (KNCCI)
24. Odawa Michael (M)	Warehouse Operations Associate, Bollore Logistics
25. Caroline Muchai (F)	Programme Policy Officer, WFP Kenya
26. Jacob Munyeke (M)	Supervisor, SGS Kenya
27. Jason Murithi Marangu (M)	Inspector, KEPHIS
28. Samuel Muriuki (M)	Operations Manager, SGS Kenya
29. Christine Murugami (F)	Donor Relations, WPF Kenya
30. Elizabeth Muthoka (F)	Supply Chain, Kakuma Field Office, WFP Kenya
31. Jairus Mutisya (M)	Logistics Officer, Mombasa Field Office, WFP Kenya
32. Anii Mwambire (M)	Head of Operations, KPA
33. Caroline Mwendwa (F)	Head of Food Safety and Quality, WFP Kenya
34. Beatrice Mwongela (F)	Head of M&E, WFP Kenya
35. Selina Nangeyo (F)	Marketing, Kakuma Field Office, WFP Kenya
36. Peter Ndugu (M)	Warehouses, Kakuma Field Office, WFP Kenya
37. Balabala Ndume (M)	Trader, WFP Refugee Traders Representative (Kakuma)
38. Alphonce Ndune Mlala (M)	Inspector, KEPHIS
39. George Njoroge (M)	FtMA Lead, WFP Kenya
40. Olivier Nkakuduku (M)	Head of Office, Kakuma Field Office, WFP Kenya
41. Eric Nyakundi (M)	Senior Warehouse Associate, Mombasa Field Office, WFP Kenya

Name (sex)	Position, Organization
42. Josephine Oguna (F)	Supply Chain, Kakuma Field Office, WFP Kenya
43. Alfayo Ombuya (M)	Senior Plant Health Inspector, KEPHIS
44. Allan Onyara (M)	Store Manager, Al Mubarak Wholesaler
45. Anton Oosthuizen (M)	Group Technical Manager, UNGA
46. Judith Otieno (F)	Gender and Protection Officer, WFP Kenya
47. David Owade (M)	Warehouse Associate, Mombasa Field Office, WFP Kenya
48. Kenneth Sangut (M)	Inspector, SGS Kenya
49. Clara Silva (F)	Head of Mombasa Field Office, WFP Kenya
50. Nashon Sitei (M)	Supply Chain, Kakuma Field Office, WFP Kenya
51. Kwizera Telsphore (M)	Trader, WFP Refugee Traders Representative (Kakuma)
52. Alexandre Vincent (M)	Head of Proects and Corridor Solutions, Bollore Logistics
53. Olive Wahome (F)	Activity 4 Lead, WFP Kenya
54. Betty Wakio Mkonyi (F)	KPA Marketing Department, KPA
55. Boniface Wanganju (F)	Programmes, Kakuma Field Office, WFP Kenya
56. Philomena Wanyama (F)	Supply Chain, Kakuma Field Office, WFP Kenya
57. Emily Yeko (F)	Operations Manager, Kenya Babu Freighters
SOMALIA	
58. Ahmed Aadan Omer (M)	Truck Driver, Berbera
59. Saxan Abdi (F)	Shop, Doolow
60. Nur Abdi Jamma (M)	Deputy Mayor, Berbera
61. Abdirasaaq Cali Abdilahi (M)	Bank, Berbera
62. Kassim Abdisheikh (M)	Field officer, Doolow field office, WFP Somalia
63. Ali Abdulahi Abririzak (M)	Deputy Manager Dahabshil, Berbera
64. Deqa Hersi Abokor (F)	Service/Retail, Berbera
65. Saynab Ali Adan (F)	User Of Retail Services, Doolow
66. Hawo Bashir Adan (F)	User Of Retail Services, Doolow
67. Hassen Ali Adan (M)	Car, Doolow
68. Jama Mohamed Ahmed (M)	Service/Retail, Berbera
69. Adan Hashi Ahmed (M)	Supplier, Doolow
70. Abdikadir Ali (M)	Port Logistics, Berbera
71. Abdifatah Ibrahim Ali (M)	Shop, Doolow
72. Mohamed Omar Ali (M)	Driver, Doolow
73. Mubaarig Yasin Axmed (M)	Truck/Transport, Berbera
74. Madiina Axmed (F)	Hotel, Berbera
75. Yuusuf Maxamed Axmed (M)	Supplier, Doolow
76. Abdi Najax Cabdi (M)	Driver, Berbera
77. Xadiyo Barre Cilmi (F)	User Of Retail Services, Doolow
78. Otavio Costa (M)	Logistics Officer, WFP Somalia
79. Axmed Adan Cumar (M)	Driver, Berbera
80. Abdulkadir Dahir (M)	Logistics Officer, Doolow field office, WFP Somalia
81. Abdi Osman Dhakad (M)	User Of Retail Services, Doolow
82. Muhammed Ejaz (M)	Logistics Officer, Berbera field office, WFP Somalia
83. Maxamed Ali Faarah (M)	Shop, Berbera
84. Abdiqadir Fartaag (M)	Truck/Transport, Berbera
85. Ahmed Mahamed Habane (M)	Port, Berbera
86. Abdirahman Mohamed Hashi (M)	Shop, Doolow
87. Maryan Aadan Ibrahim (F)	User Of Retail Services, Doolow
88. Sahra Abdi Isaq (F)	User Of Retail Services, Doolow
89. Casha Abdi Ismacil (F)	Hotel, Berbera
90. Nuur Abdi Jamac (M)	Municipal, Berbera
91. Abdilahi Xusen Jamac (M)	Driver, Berbera
92. Magda Jurkowiecka (F)	Head of Supply Chain, WFP Somalia
93. Aboubakry Kane (M)	Head of Logistics Operations, WFP Somalia

Name (sex)	Position, Organization
94. Ann Kathrin Landherr (F)	Logistics Officer, WFP Somalia
95. Chama Mahmood (M)	Operator, Berbera
96. Deka Abdi Mohamed (F)	Shop, Doolow
97. Hawo Hassen Mohamed (F)	User Of Retail Services, Doolow
98. Abdirisak Cali Mohamed (M)	Shop, Doolow
99. Mawliid Mohamed Farah (M)	Truck Driver, Berbera
100.Ahmed Mohamed Habane (M)	Customs Manager, Berbera
101.Yussuf Mohamed Hassan (M)	Truck Driver, Berbera
102.Mohamed Abdullahi Mohamud (M)	Truck/Transport, Berbera
103.Maxmed Baashe Mubaarig (M)	Food, Berbera
104.Abdihakim Ali Muhumed (M)	Driver, Doolow
105.Musatafe Iidle Qodax (M)	Service/Retail, Berbera
106.Francis Reyes (M)	Operations Manager, SP World
107.Axmed Abdilahi Saed (M)	Manual, Berbera
108.Marwa Nuur Saleban (F)	Shop, Berbera
109.Yusuf Macmed Xasan (M)	Driver, Berbera
110.Faarax Jaamac Xassan (M)	Driver, Berbera
111.Saleeban Yasin Ahmed (M)	Truck Driver, Berbera
112.Deqa Caydid Yusuf (M)	Shop, Berbera
113.Xamse Adan Yusuf (M)	Food, Berbera
114.Abdulkadir (M)	Director, Taufique East African Transportation Union (Berbera)
115.Abdusalaam (M)	HR/Communications, Taufique East African Transportation Union (Berbera)
116.Maulid (M)	Finance, Taufique East African Transportation Union (Berbera)
117.Mubarak (M)	Director, Taufique East African Transportation Union (Berbera)
118.Ciddin (M)	Municipal, Berbera
119.Mawliid (M)	Truck/Transport, Berbera
120.Abdirahman (M)	Truck/Transport, Berbera
SOUTH SUDAN	
121.Mohammed Adil (M)	Security Officer, WFP South Sudan
122.Hien Adjemian (M)	Logistics officer (Operations), WFP South Sudan
123.Obhang Obang Agwa (M)	Refugee, Gorom Camp
124.Ashfaq Ahmed (M)	Logistics Officer CST, WFP South Sudan
125.Deborah Ajah (F)	Assistant, WFP South Sudan
126.Margaret Akoth (F)	Head of Programme, Bor FO, WFP South Sudan
127.Teresa Akuac (F)	Retailer, Marol Market, Bor
128.Ahmad Alassad (M)	Logistics Officer, WFP South Sudan
129.Basem Awawdeh (M)	Logistics Officer, WFP South Sudan
130.John Gai Ayuel (M)	Retailer, Marol Market, Bor
131.Awor Agada Buyi (F)	Refugee, Gorom Camp
132.Barbara Obang Cham (F)	Refugee, Gorom Camp
133.Benjamin Dacula (M)	Logistics officer CST, WFP South Sudan
134.Hassan Shidan Dhinbil (M)	Trader, Garissa Ltd
135.John Dingley (M)	Security Officer, WFP South Sudan
136.Abdiaziz Mohamed Dohir (M)	Manager, Garissa Ltd
137.Mohamed Elhusseini (M)	Logistics officer, Cluster, WFP South Sudan
138.Katrina Fensl (F)	Market Development Consultant, WFP South Sudan
139.Mohamed Abdi Fidas (M)	Transporter, Damey Transport
140.Michael Fisher (M)	Logistics Officer, CBT, WFP South Sudan
141.Puoch Oman Gilo (M)	Refugee, Gorom Camp

Name (sex)	Position, Organization
142.Elizabeth Githaiga (F)	Director Of Business Development, Alpha Commercial Bank, Juba
143.Nenad Grkovic (M)	Head of logistics, WFP South Sudan
144.Abas Mohamed Guhad (M)	Wholesaler, Bor
145.Mohamed Hassan (M)	Transporter, Damey Transport
146.Farah Abdi Hussein (M)	Wholesaler, Bor
147.Hamze Mohmound Ibrahim (M)	Trader, Garissa Ltd
148.Abdelaziz Saleh Idris (M)	Refugee, Gorom Camp
149.Kurukanya Jadalah (M)	Civil Engineer, WFP South Sudan
150.Marial Nyok Kiir (M)	Retailer, Marol Market, Bor
151.Fiona Lithgow (F)	Head of logistics Cluster, WFP South Sudan
152.Owar Oniit Luach (M)	Refugee, Gorom Camp
153.Irene Maingi (F)	Head of Finance, WFP South Sudan
154.Grace Makhalira (F)	M&E officer, WFP South Sudan
155.John Mbeli Mbeli (M)	Refugee, Gorom Camp
156.William Nall (M)	Programme Officer, Head of VAM, WFP South Sudan
157.Gabriel Nyamu (M)	Branch Manager, Kush Bank, Bor
158.Andrew Nyok (M)	Business Support - Logistics, WFP South Sudan
159.Liam Obang (M)	Refugee, Gorom Camp
160.Ojullu Ochan Ochan (M)	Refugee, Gorom Camp
161.Angelo Omot Ogala (M)	Refugee, Gorom Camp
162.Jay Oman Ogud (M)	Refugee, Gorom Camp
163.Thuol Nyigwo Okak (M)	Refugee, Gorom Camp
164.Hanna Ogud Okwier (F)	Refugee, Gorom Camp
165.Medi Johnson Oman (F)	Refugee, Gorom Camp
166.Abang Dhok Omot (F)	Refugee, Gorom Camp
167.Omot Ubur Opodhi (M)	Refugee, Gorom Camp
168.Okach Othow Othou (M)	Refugee, Gorom Camp
169.SuJin Pak (F)	Monitoring and evaluation officer, WFP South Sudan
170.Koma Richard (M)	Logistics officer, WFP South Sudan
171.Dulama Saeb (M)	Logistics CST, WFP South Sudan
172.Kebede Seifu (M)	Logistics officer, WFP South Sudan
173.Ahmed Takoy (M)	CEO, Kush Bank, Juba
174.David Thomas (M)	Programme, Head of CBT, WFP South Sudan
175.Aimad Ullah (M)	Logistics Officer, WFP South Sudan
176.Sergio Vatalaro (M)	Head of procurement, WFP South Sudan
177.Phidelia Wekesa (F)	Procurement officer, WFP South Sudan
178.Abdullah Zaman (M)	Logistics Officer, WFP South Sudan
179.Juliet (F)	Lucky Q Ltd General Trading
180.Jackson (M)	Lucky Q Ltd General Trading
181.Mombasa (M)	Transporter
182.Blackkey (M)	Transporter
MAIN EVALUATION PHASE (REMOTE)	
BURUNDI	
1. Cynthia Dede Koli (F)	Head of Supply Chain, WFP Burundi
2. Philibert Nduwayezu (M)	Procurement Associate, WFP Burundi
3. Maguette Wade (F)	Supply Chain Officer, WFP Burundi
DJIBOUTI	
4. Hinda Abdillahi (F)	Logistics Officer, WFP Djibouti
5. Wafer Abdouraham (M)	Logistics Officer, WFP Djibouti
6. Neima Ahmed (F)	Logistics Officer, WFP Djibouti
7. Olivia Hantz (F)	Deputy Country Director, WFP Djibouti

Name (sex)	Position, Organization
8. Francesca Insabato (F)	Information Management and Reporting Officer, WFP Djibouti
9. Ievgen Verkhovtesev (M)	Head of Supply Chain, WFP Djibouti
ETHIOPIA	
10. Amarech Agidew (F)	Gender Programme Associate, WFP Ethiopia
11. Mahmoud Amer (M)	Head of Logistics, WFP Ethiopia
12. Kebede Assefa (M)	Programme Associate, WFP Ethiopia
13. Mehad Basheer (F)	Project Manager FMIP, WFP Ethiopia
14. Jessica Cochran (F)	Logistics Officer, WFP Ethiopia
15. Adham Effendi (M)	Head of Supply Chain, WFP Ethiopia
16. Nabin Kunwar (M)	Head of Operations, WFP Ethiopia
17. Nibrass Mahgoub (M)	Supply Chain Officer, WFP Ethiopia
18. Cuthbert Nyirenda (M)	Procurement Officer, WFP Ethiopia
19. Pamela Odudoh (F)	Head of Procurement, WFP Ethiopia
20. Yves Rwigimba (M)	Food Safety and Quality Coordinator, WFP Ethiopia
21. Saqib Salman (M)	Head of Engineering, WFP Ethiopia
22. Molla Sharew (M)	Procurement Officer, WFP Ethiopia
23. Helen Somes (F)	Head of Capacity Strengthening and Service Provision, WFP Ethiopia
24. Kaori Ura (F)	Head of Programme, WFP Ethiopia
25. Tim Wolter (M)	Supply chain officer, WFP Ethiopia
26. Elleni Yilmo (F)	Procurement Officer, WFP Ethiopia
RWANDA	
27. Tiina Honkanen (F)	SO2 Manager, WFP Rwanda
28. Eliya Jonas (M)	Head of Supply Chain, WFP Rwanda
29. Alain Kabore (M)	Head of Supply Chain, WFP Rwanda
30. Ahmareen Karim (F)	Deputy Country Director, WFP Rwanda
31. Ammar Kawash (M)	Head of SAMS, WFP Rwanda
32. Godfrey Kazima (M)	Senior Procurement Associate, WFP Rwanda
33. Vera Kwara (F)	Head of Nutrition, WFP Rwanda
34. Anicet Muriro (M)	Food Technologist, WFP Rwanda
35. Moses Ndayisenga (M)	Operations Manager, Minimex
36. Eugene Nkurunziza (M)	Logistics Officer, WFP Rwanda
37. Veronica Rammala (F)	Head of VAM and M&E, WFP Rwanda
SUDAN	
38. Jose Ferrao (M)	Former Head of Logistics, WFP Sudan
39. Anthony Freeman (M)	Head of Logistics, WFP Sudan
40. Margaret Keah (F)	Logistics Officer, WFP Sudan
41. Salah Khalid (M)	Senior Programme Assistant, WFP Sudan
42. Nathalie Klein (F)	Head of CBT, WFP Sudan
43. David Nanfumba (M)	Agroeconomist, WFP Sudan
44. Mio Nozoe (F)	Head of Resilience, WFP Sudan
45. Carl Paulsson (M)	Head of Programme, WFP Sudan
46. Haruna Sekabira (M)	Food Systems Expert, WFP Sudan
47. Denis Sidyane (M)	Procurement Manager, WFP Sudan
UGANDA	
48. Christine Adong-Obita (F)	Logistics Officer, WFP Uganda
49. Sarah Bawaye (F)	Postharvest management officer, WFP Uganda
50. Ian Figgins (M)	Head of Supply Chain, WFP Uganda
51. Joan Liz Kidiwa (F)	Head of Logistics, WFP Uganda
52. Mark Lule (M)	Programme Policy Officer, WFP Uganda
53. Daniel Magada (M)	Senior Procurement Associate, WFP Uganda
54. Christobal Mingo (F)	M&E Officer, WFP Uganda

Name (sex)	Position, Organization
55. James Onyinge (M)	Programme Policy Officer, WFP Uganda
56. Violeta Palma-Perez (M)	Head of Procurement, WFP Uganda

Annex 10. Key areas of change, by thematic area

1. This annex summarizes the outcomes observed during the course of the evaluation. In doing so it draws upon the results of desk reviews, remote interviews and fieldwork to present a picture of the most important outcomes as identified through desk review and most importantly by WFP supply chain and programme staff themselves and the national context in which they occurred. The annex is broken down thematically into:
    - Procurement
    - Commodity Handling (Transport, Storage and Logistics)
    - Market Development
    - Development of physical infrastructure
    - Development of Government Capacity
2. Each thematic area explores the outcomes of WFP activities associated with supply chain interventions. These activities are undertaken by supply chain units alone or in association with programme units. The outcomes of interventions specifically designed to develop stakeholder or food system capacity are considered within each relevant thematic area.

Thematic Area 1: Food Procurement

3. A number of different interventions fall under the heading of food procurement namely:
    - Pre-procurement - the activities undertaken to facilitate direct procurement of grains from smallholders
    - Direct procurement from smallholders and cooperatives
    - Commercial procurement from grain merchants
    - Commercial procurement of processed foods
4. Each of these are considered in more detail below:

Pre-procurement

5. A number of interventions have been made across the Region that would of themselves be considered programme interventions, but fall under the umbrella of supply chain interventions by virtue of the fact that they support direct procurement from smallholders. This is an important supply chain intervention which has been gradually developing since 2009 and received new impetus within WFP in 2019[141].
6. Interventions that support direct procurement from smallholders include the promotion of technologies that enhance small-scale production and those that reduce post-harvest loss (PHL), together with the enhancement of linkages between producers and markets (including support to cooperatives for the development of bagging, weighing cleaning and storage capacity, of business management training, and of access to finance).

Enhancement of small-scale production and PHL reduction.

WFP interventions have increased smallholder productivity in those areas where extension services trainings and demonstrations have been deployed, but there is little evidence of sustainability.

7. Technical interventions supported by WFP to promote the adoption of improved technologies and thereby enhance small scale production, are common to all countries within the Region with the exception of Djibouti. Such interventions use extension services, training and demonstrations together with the supply of inputs in some cases to promote improved technologies. In many cases the outcome of these interventions has been increased productivity amongst the targeted smallholders, subject to various qualifications. These qualifications

[141]WFP/EB.2/2019/4-C (WFP Executive Board Second Regular Session November 2019

include the sustainability of adoption (e.g. in Rwanda after four years it was reported that changes were still fragile), the scale of the interventions (limited in some cases such as Burundi to less than 1,000 smallholders per year), and the distribution of benefits (which in Ethiopia tended to accrue more to the better off smallholders in target groups). Nevertheless, it is generally reported that these activities result in increased yields.

8. What is not reported is the extent to which increased yields are sustained by the continued application of the improved technologies once the intervention has ended. There is a body of evidence[142,143,144,145,146] that suggests that enhanced production technologies lack sustainability amongst smallholders not because they are unaware of the benefits of those technologies, but because the perceived risk of failure is too great to justify the additional investment that they almost inevitably require[147]. It is important therefore to consider not only the outcome of initial adoption but also of any subsequent dis-adoption, especially following economic shock.

The level of increased productivity amongst targeted smallholders is of limited significance to WFP supply chain operations.

9. From the perspective of those smallholders targeted by these interventions, the increased production is an important outcome so long as it is sustained. To be important from the WFP perspective, that outcome should not only be sustained, but should occur at a scale that is sufficient to make a significant difference to either WFP overall procurement exercises, or to its food security responses.

10. Annual reports of volumes purchased from smallholders show no consistent increase in productivity. This is due in part to considerable variations in the amounts purchased per smallholder from one year to the next (Table 1). Nevertheless, the volumes purchased are too small to make a significant difference to WFP supply chain operations.

WFP PHL interventions are effective at the smallholder level, but require the development of a supply chain for bags if they are to be sustainable

11. Interventions to reduce post-harvest losses have been implemented in Sudan, South Sudan, Rwanda, Kenya, Ethiopia (pilot), Somalia, and Burundi. In South Sudan, tarpaulins have been distributed to farmers, solar powered cold storage systems have been distributed to retailers to reduce vegetable PHL in Somalia, while in the other countries, the intervention is designed to promote the use of hermetic storage bags and silos. WFP data shows how this technology has reduced losses to levels of approximately 1 percent, as compared with levels in unprotected storage which can exceed 30 percent.

12. For the smallholders provided with these technologies, such results substantially improve food security and profitability, but as with interventions designed to enhance productivity, this positive outcome should be qualified:

    First, the numbers of farmers using this technology is small; limited to those who have been directly supplied with bags or silos by WFP or their partners

    Secondly, hermetic storage has been trialled amongst smallholders for more than 25 years. The technology has been proven to work in more than 20 African countries and elsewhere. Nevertheless, with the exception of its use for the storage of cowpeas in West Africa, the system has been slow to achieve sustainability at a smallholder level. The main constraint has been identified, not as the cost of the bags, but as the limited profitability of the

[142] Smale, Melinda; Byerlee, Derek; Jayne, Thom. 2011. Maize revolutions in Sub-Saharan Africa. Policy Research working paper ; no. WPS 5659. World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/3421

[143] Dercon, S. and Christiaensen, L. (2011) Consumption risk, technology adoption and poverty traps: Evidence from Ethiopia, Journal of Development Economics, Volume 96, Issue 2, Pages 159-173,ISSN 0304-3878, https://doi.org/10.1016/j.jdeveco.2010.08.003.

[144] Elbers, C., J. W. Gunning, and B. Kinsey. (2007) Growth and Risk: Methodology and Micro Evidence. The World Bank Economic Review 21 (1): 1-20

[145] Spiegel, A., Britz, W. and Finger, R. (2021) Risk, Risk Aversion, and Agricultural Technology Adoption — A Novel Valuation Method Based on Real Options and Inverse Stochastic Dominance. Q Open at: https://doi.org/10.1093/qopen/qoab016

[146] Liu E.M. (2013). Time to change what to sow: risk preferences and technology adoption decisions of cotton farmers in China. Review of Economics and Statistics, 95: 1386–403

[147] Weeks, John(1970) 'Uncertainty, risk, and wealth and income distribution in peasant agriculture', Journal of Development Studies, 7: 1, 28 — 36

grain bag as a stock item for agri-dealers which has restricted its availability[148]. The critical outcome therefore, which has not yet been achieved, and which has rarely been achieved elsewhere will be the extensive adoption of hermetic grain bags beyond the interventions' immediate recipients. WFP Sudan has recognized this constraint and is already looking to address the distribution issue.

13. Given the scale of its procurement needs, WFP could potentially enhance the uptake of grain bags by smallholders and product acceptance by agri-dealers if it were to require all small lots of grain to be supplied in hermetically sealed bags. This does not appear to be happening. It was not evident from interviews or literature review that there is yet any intent to leverage the purchasing capacity of WFP to stimulate uptake of hermetic storage technology. This might be a potential area for enhanced collaboration between programme and supply chain units.

Enhancement of Linkages between Farmers and Markets

WFP interventions to develop linkages between farmers and markets have not resulted in increased volumes sold, except in Rwanda.

14. Activities under this heading include the strengthening of co-operatives in terms of management processes, facilitating access to finance and facilities (bagging, cleaning, weighing and storage) and providing business management training as well as sensitization of farmers. The intention being to assist smallholders to market their produce more effectively and to benefit from economies of scale. The outcomes from this type of intervention have been variable, but generally limited. In Kenya and Burundi, sales through enhanced linkage systems in 2020 were less than baseline, while in Uganda and South Sudan, only 1,690 tons 1,204 tons respectively were marketed through these systems. In Rwanda however, where 88,000 farmers sold 11,682 tons through cooperatives, the interventions have had more significant outcomes[149]. In Rwanda, the cooperative movement is strongly encouraged by MiniCom and it is difficult to determine the extent to which WFP support has contributed to this result.

15. Differences between farm-gate and wholesale market selling prices have often been noted and discussed by rural development economists. Linkages between smallholders and markets have widely been considered to be rife with inequities and inefficiencies, yet these linkages are fundamental to all food systems that are based on smallholder production. This might justify significant intervention to improve farm to market linkages, but at present, positive outcomes from existing WFP supported interventions are minimal.

Direct Procurement from Smallholders

Direct procurement from smallholders has remained at low proportions of overall procurement volumes and has required programme support to ensure performance.

16. Over the period 2016-2021, this supply chain intervention has been implemented in all the countries in the Region with the exception of Djibouti, Rwanda and Somalia (Ethiopia ended direct procurement in 2017). The proportion of locally procured grains that were sourced from smallholders or smallholder cooperatives reached a maximum of 35 percent in Ethiopia in 2016, but has generally been less than 10 percent. The intervention has developed out of the earlier Purchase for Progress (P4P) programme that was piloted in 2009 and extended to 2015. WFP own evaluation of the pilots in El Salvador, Ethiopia and Tanzania showed that direct procurement had no significant effect on smallholder income or welfare, but a subsequent review of Ethiopian data alone suggested that results were in fact heterogeneous and that elite capture within cooperatives meant that while many households experienced no benefits, well connected households experienced increases in income of 15 percent-19 percent. Overall, the literature would suggest that outcomes from direct purchase in terms of smallholder benefits are small and variable.

17. In terms of WFP own food systems, interviewees reported that direct procurement tended to increase the cost of commodities due to a number of factors including especially the cost of cleaning grain to meet WFP standards, and of non-performance (especially when contracted grain was sold to another trader). There was also the

[148] Nouhoheflin, T., Coulibaly, J., D'Alessandro, J., Aitchédji, C.C., Damisa, M., Baributsa, D., and Lowenberg-DeBoer J. (2017) Management lessons learned in supply chain development: the experience of PICS bags in West and Central Africa: Industry Speaks. International Food and Agribusiness Management Review In Press: DOI: 10.22434/IFAMR2016.0167.

[149] There have been no interventions in this category in Ethiopia, Sudan, or Djibouti during the period under review.

additional cost of the programme support of smallholders and smallholder institutions that has normally been put in place where WFP has contracted to purchase grain. From this perspective the outcome of direct procurement as regards to the WFP food system could be assessed as a reduction in efficiency and competitiveness as compared with conventional procurement. At present however since the volumes procured locally are relatively small, such negative outcomes are of limited significance.

18. Both interviewees and reviews of P4P report that direct procurement is gender neutral in its processes, at the same time, however, it was noted that in many of the cooperatives who supplied grain to WFP, women were well represented. This was especially the case in Rwanda, South Sudan and Kenya. It is possible therefore that direct procurement by WFP might favour women more than other marketing channels, but there was no clear evidence of such an effect.

Local and Regional Procurement of Grains

WFP local purchase through government institutions has had no discernible effect upon food systems.

19. WFP Local and Regional Procurement (LRP) activities have been conducted via two main mechanisms. In those countries where government institutions have been set up for the purpose of market intervention, WFP has negotiated for the supply of substantial volumes of grain. Such institutions would include the Ethiopian Grain Trading Enterprise, Agricultural Bank of Sudan and Agricultural Bank of South Sudan. (In other countries, the cereal marketing boards that would have fulfilled the same functions no longer exist). WFP has also undertaken LRP from the private sector in all of the nine countries except Djibouti, Rwanda, and Somalia. Volumes have fluctuated over the years, but the largest amounts have in some cases exceeded 100,000 tons, especially in Ethiopia, Sudan and Uganda. The volumes supplied have generally been in excess of 1,000 tons each and sometimes substantially more.

20. As regards the purchase of grain from parastatal market intervention institutions, WFP activities represent bulk sales by those institutions. As such they may be more efficient transactions than the sales of smaller lots that the institutions might otherwise have been expected to make into deficit markets to fulfil their intervention mandates. Accordingly, it could be argued that WFP purchases from parastatal bodies provide an element of financial support to their operations. In practice, however, the financial status of these institutions is strongly influenced by national budgets so that overall, there is no clear evidence that WFP institutional purchases have had any effect on food systems.

Prices paid by WFP for local procurement of grain are generally higher than market prices, but these are not strictly comparable.

21. LRP through the private sector has generally been conducted during the periods of peak marketing activity that follow each harvest, to take advantage of the lower prices prevailing at that time and to minimize any price distortion. Nevertheless, it was reported in Ethiopia, South Sudan, Uganda and Kenya that the prices paid by WFP were generally higher than prevailing market prices. From a private sector perspective, traders noted a number of factors that might cause this:

    - The requirement for a bid bond increases the cost to the supplier.
    - Payment is not made until qualities have been confirmed and commodities have been delivered. This can cause delays which add to interest charges for the supplier.
    - The formal process exposes the supplier to tax.
    - Very few, if any private traders actually hold the quantities of grain that they contract to supply. Instead, traders bid based upon the expectation of purchasing grain and must include a margin for potential increases in the price of their purchases.
    - The number of traders who have the financial capacity to participate in large tenders is limited and this reduces the extent of competition between them.

22. These factors confound any direct comparison between wholesale market prices recorded by market information systems and prices paid by WFP. Some of them represent true costs, but the general perception was that the WFP contract allowed more profit to accrue to the trader on average than might be earned from standard trading contracts.

WFP procurement tenders have promoted the development of the large-scale trading sector, but benefits to smaller traders and producers are less evident.

23. The profitability of WFP procurement activities might be one factor contributing to the general increase in traders responding to tenders in South Sudan where numbers had increased from 13 traders in 2017 to 23 in 2021 (some of whom had also transported grain for WFP) while volumes had increased from 5,000 tons to 24,000 tons. In Sudan, the number of traders was more stable, but it was noted that they had branched out into other businesses, (including transport).

24. There was no clear evidence that the elevated prices paid by WFP trickled down to producers. Bid respondents in Ethiopia reported that the traders who they purchased from would try to negotiate a higher price once the winners of a tender were known, but those traders' negotiating power was limited by their resources. (I.e. they were not taking a position in the market, but trading on a back to back basis, making small margins from a limited amount of capital which needed to be rotated regularly). Winning bidders therefore needed to offer only a small premium above existing markets to secure supplies. Traders purchasing from farmers did not offer any increase in price in expectation of WFP tenders.

25. Conversely however, in both Sudan and South Sudan, much sorghum is produced on a contract farming basis whereby traders will finance the inputs needed by the farmer to produce the crop and will deduct the cost of these inputs when the crop is sold. An increase in traders' financial capacity would therefore be expected to translate into an increase in sorghum production itself. Such an increase has occurred in Renk (an important sorghum producing area for both Sudan and South Sudan) over the last five years, but is very much confounded with a general increase in production associated with recovery after the last civil war.

Profits derived by traders from WFP procurement tenders are not reinvested in trading infrastructure.

26. While traders responding to WFP tenders may have benefited from the transactions, there is limited evidence that it has resulted in increased investment in trading infrastructure such as storage or cleaning capacity. There are two possible reasons for this:

    - In most countries, substantial government or parastatal storage capacity exists that can be rented by the private sector.
    - On both Sudan and South Sudan, storage facilities (when filled) represent concentrations of wealth that render their owners vulnerable to taxation.

27. For these reasons traders have preferred to rent existing storage facilities where possible.

Current procurement processes favour wholesalers with access to finance and do not specifically empower either women or youth.

28. Discussions with large and smaller traders in Ethiopia, Uganda, and South Sudan highlighted financial capacity as a key constraint to responses to WFP tenders. It is necessary to be able to finance the purchase of grain prior to receiving payment from WFP and the capital required is substantial and generally in excess of a million US dollars. In countries where capital is limited this creates a barrier to entry into WFP tender process. As the number of successful bidders is reduced so, competition between them is limited and their negotiating capacity vis a vis wholesalers is increased. This tends to favour the creation of oligopolies or to reinforce them where they may already exist.

29. The barriers to entry include not only access to finance but also the capacity to respond to on-line tenders, and access to linkages with wholesalers, all of which are areas where women and youth are at a disadvantage when responding to tenders. The tender process is considered to be gender neutral, but in practice, the number of women responding is small (only 2 out of 23 in South Sudan and none in Sudan). It is possible that WFP procedures could be modified or linked with programme interventions to enhance the inclusivity of the procurement process.

30. An assessment of the outcomes of direct purchase from smallholders and commercial procurement practices suggests that both have strengths and weaknesses. Direct purchase from smallholders may increase the extent to which improved technologies are adopted, but has shown little overall benefit from the perspective of income generation. Moreover, the process has added costs of investment by WFP in the institutional development required to achieve reliable quality and performance. Conversely, commercial procurement may require less investment by WFP, but tends to favour a small number of traders and thereby to strengthen their negotiating

capacity with wholesalers, effectively contributing to the narrative of traders as middlemen unfairly exploiting their wholesalers.

31. In 2019 WFP adopted a policy to expand of the benefits of local procurement to smallholders[150] through the use of indirect contracts. The system would operate through commercial wholesalers rather than purchasing directly from farmers' cooperatives and would require wholesalers to pay registered prices to smallholders. The system was piloted in four countries[151] in 2017/18 when 15,000 tons of grains were purchased. Nevertheless, it does not address the constraint of limited access to finance and it is dependent upon the introduction of new technologies to ensure the traceability necessary for verification. An alternative approach might be to reduce the volumes of contracts that could be won by any single entity, and to increase the number of lots tendered. This would have the effect of reducing the financial requirement for participation, thereby enhancing inclusiveness. It would also increase the extent of competition between wholesalers for grain, thus enhancing the negotiating position of smallholders and smaller traders. In some countries it may be difficult initially to attract enough bidders and for this reason, it will be necessary to undertake programmed interventions to develop trader capacity, with particular emphasis on facilitating the participation of women through such activities as B2B conferences, training in computer literacy and tender procedures, financial management. All of this would increase operational costs, but would also enhance the inclusivity of the process and the extent to which smallholders might benefit from it.

Local and Regional Procurement of Processed Foods

WFP promotion and procurement of processed foods has resulted in significant investments in production capacity

32. Distribution of high protein and fortified foods has been a key component of WFP activities and WFP has itself developed a range of processed foods to meet specific nutritional requirements. A number of these can be produced within the Region using locally produced grains with imported fortificants. This has been done in Kenya for 20 years, but has been less prevalent in other countries. WFP has been active in promoting the development of processing facilities on Rwanda, Somalia, Ethiopia, and Uganda from which it might procure processed foods within the Region. In each of these four countries, significant commercial investments have been made into the plant and equipment required to produce fortified and/or high protein foods as a result of WFP support, including WFP guarantee of a market.

33. These developments have not been due to supply chain activities alone but have required strong initial input from WFP nutritional experts who assisted in the initial specification of factories as well as quality control procedures. The private sector investments benefited from this support and the outcomes have been increased local capacity to at least partly satisfy regional needs in key nutritional products. In every case, investors worked to achieve a broader client base than WFP alone and this has allowed the sustainability of operations to be greatly enhanced.

34. Sustainable production of limited volumes of fortified foods is a significant outcome but has the potential to catalyse broader change. Not only can other investors determine the commercial viability of the process and potentially replicate it, but governments can then legislate standards for fortified foods on the basis that they are now locally produced, thereby embedding the process and products in the formal food system. From this perspective, WFP nutritional and programme capacities may be more broadly leveraged by this intervention than by any other.

35. Such an effect is of course dependent upon the extent to which the investment in processing might be replicated elsewhere. In Kenya, the high level of investment reflects local household purchasing power. In other countries where purchasing power may be less, investment in food processing capacity may be slower. Nevertheless, the Kenyan experience suggests that over time the catalytic effect of this intervention, which combines WFP programmed nutritional advice with its procurement of specified fortified foods, can be expected to affect entire food systems.

[150] WFP/EB.2/2019/4-C (WFP Executive Board Second Regular Session November 2019

[151] Zambia, Honduras, Tanzania and Malawi.

Thematic Area 2: Commodity handling interventions

Transport services

WFP operations have had a positive influence on business in and around the Port of Mombasa despite the operation of the new standard gauge railway (SGR).

36. Over the evaluation period WFP has gradually outsourced much of the work that formerly was undertaken by WFP itself. This included outsourcing warehouses. Currently WFP runs just one warehouse in Kenya and has outsourced eight, which has created business for local companies.

37. WFP also stopped operating its own trucks and transport companies have stepped up to provide services. Overall, outsourcing services was reported in interviews to have increased employment opportunities for local companies and individuals and opened income generation avenues for entities such as truck owners and encouraged new companies to open. Existing companies were reported to have increased investment to cope with the increased demand for services.

38. Chinese investment with the Government of Kenya (GoK) in the Standard Gauge Railway (SGR)[152] that connects Mombasa to the capital city of Nairobi resulted in a decision by GoK to require all cargo to be moved to inland container depots in a measure to decongest Mombasa. Subsequently, some transporters lost their business. However, WFP was granted permission to off-load at the quayside into warehouses in Mombasa and is the only user of Mombasa Port that has this privilege[153].

In South Sudan, WFP transport contracts have encouraged some transport companies to invest in their business capacity, but not necessarily national transport capacity.

39. While larger companies have developed over the long term, smaller companies have responded to specific contract opportunities. WFP shift in South Sudan from the use of a tariff-based system to a non-tariff tender and contracting system was expected to stimulate ongoing investment by those companies that won tenders on an individual basis[154]. Interviews with two large companies suggested that they appreciated the long-term contract stability as an opportunity to expand their businesses[155]. In some cases, favourable business opportunities offered by WFP drew regional transport capacity into South Sudan, but it was not evident that national capacity was increased.

40. WFP logistics staff also reported private sector investment in large (1,400 MT capacity) barges, contracted to carry food on the waterways that WFP had rehabilitated, as well as investment in the equipment required to maintain those waterways.

41. In the past, WFP supply chain activities may have enhanced national transport capacity to a limited extent but while some investment had occurred, increases in the availability of transport capacity have been partly due to the temporary redirection of regional transport assets into South Sudan. Interviews indicated that local transport companies that worked with cooperating partners to move small food tonnages to final distribution points, invested in short-haul trucks (5-15 MT capacity) as well as canoes required for "last mile" deliveries in flooded areas. These appeared to be opportunistic investments and the evaluation team could not determine whether these represented sustainable investments.

WFP special nutritious foods supply agreement with AIF in Rwanda had a positive effect on livelihoods and the evolution of the national transport sector.

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[152] The SGR was commissioned in May 2017.

[153] When WFP food import volumes increased in 2020 (from 220.000 to 250.000 MT) this increased business for transporters. In addition, during the Covid-19 lockdown in Kenya, WFP continued operations, guaranteeing continued employment and income generation at time when the economy had mostly shut down.

[154] This type of contracting mechanism has been used by WFP when no individual company could meet WFP requirements or when there might be a risk of market distortion.

[155] This was supported by the representative of a bank that reported the investment of at least USD 2 million for the purchase of trucks to meet WFP supply chain requirements.

42. According to key informants, prior to WFP engagement with AIF, the transport sector in Rwanda lacked capacity, particularly in terms of the regional movement of food. With the local and regional procurement of lipid-based nutrient supplements increasing from 2016 to 2019, reaching 63 percent share of the total quantity of supplements procured globally in 2019, and the introduction in 2017 of the first African supplier (AIF), regional procurement increased, reaching 34 percent in 20156 which had a positive effect on investment in commercial transport capacity. The number of registered trucks in Rwanda has grown progressively every year since 2015[157].

43. AIF now relies on many transporters to collect raw materials from farmers and to distribute their products regionally. This has created business opportunities for local transporters both in and outside of Rwanda. Similarly, when the milling company, Minimex, started working with WFP and AIF, they purchased approximately 30 percent of grain from smallholder farmers; this volume had increased to 80 percent in 2021.

WFP facilitated an agreement between Ethiopian and Somaliland authorities to permit 50 percent of WFP goods transiting through the Berbera corridor to be carried by Somaliland trucks, but this did not lead to business improvements for transporters.

44. There has been escalating demand for road transport in response to increased activity in the Somaliland port of Berbera since DP World took over its management[158]. It has been estimated that another 10,000 trucks are needed to effectively meet annual supply chain demands for Ethiopia[159]. In addition to WFP transport commitment, registered trucks were permitted to carry WFP goods to destinations within Ethiopia[160], Berbera Port Customs reported that approximately 80 percent of WFP goods were transported by Ethiopian trucks.

45. Despite the intentions of WFP and the Governments of Somaliland and Ethiopia, new contracting arrangements did not appear to have increased the income of truck operators. Interviews with the Somaliland transport union (Tawfiq) indicated that, outside of WFP contracts, business may be improving but businesses that accept WFP contracts did not make a profit; and contracts with WFP were often avoided[161].

WFP Sudan was instrumental in averting a serious food transport crisis by supporting the supply of fuel[162].

46. In late 2017 there was a serious fuel shortage in Sudan[163] which necessitated WFP taking on the international and local procurement, and operational provision of fuel, with services being managed as a common service[164]. During the evaluation period, the increasing number of requests from aid organizations led to an expansion of field-based depots for fuel (to a total of 16). The priority was to provide fuel for transport companies (included as part of their service contracts with WFP), particularly during rainy seasons. This approach had a very positive effect on transport performance, particularly when compared to other WFP operations in the region. By early 2021, WFP held over 70 fuel service level agreements (SLAs) with INGOs, UN agencies and donors[165]. See Table 17 below.

[156] WFP 2020, Update on Food Procurement, Executive Board Annual session

[157] In 2015, Rwanda registered 4,933 trucks and 2020 this had grown to 9,680 trucks.

[158] Berbera port is a cornerstone of the Somaliland economy and by 2035 is expected to facilitate trade equivalent to nearly 27 per cent of GDP and 75 per cent of total trade, supporting indirectly 53,000 jobs in Somaliland

[159] WFP Ethiopia (Logistics) 2021. The estimate refers to trucks required to serve imports from Djibouti and Berbera Ports.

[160] Previously Somaliland trucks could only travel to the Ethiopian town of Jijiga, near the national border.

[161] Truck owners and Tawfiq reported that rates being paid by WFP were lower than in the past. In 1998 fuel was USD 33 per barrel and operators were paid $45/MT to Jijiga. In 2021 fuel was USD 165 – USD 180 per barrel and the rate offered was USD 35/MT to Jijiga. (The evaluation team was not able to assess claims of reduced rates).

[162] Key informants confirmed that the WFP fuel service was extremely important, particularly during the COVID-19 crisis.

[163] Fuel shortages were caused partly by oil refinery breakdown and lack of foreign currency to import fuel.

[164] All bilateral logistics services were provided on a 100 percent cost recovery basis plus 4.5 percent overhead through a Bilateral Service Provision platform.

[165] Fuel was accessed via service agreements and WFP service marketplace system (SMP).

Table 17 WFP Sudan Bilateral Fuel Service by Year

	WFP fleet contractors	UN/I'NGO
Year	**Litres Issued**	
2018	499,185.00	48,222.00
2019	134,310.00	641,797.00
2020	11,399,637.38	1,258,481.44
2021	10,253,272.51	1,422,089.80
Grand Total:	**22,286,404.89**	**3,370,590.24**

Source: WFP Sudan Bilateral Services

Capacity strengthening (examples)

The secondment of technical advisors to the Ethiopian Maritime Affairs Authority helped to optimize the availability of trucks (at the port of Djibouti) during peak food and fertilizer import periods.

47. During the evaluation period WFP Ethiopia seconded technical advisors to the Ethiopian Maritime Affairs Authority, to support the establishment of a humanitarian cargo prioritization process. Key informants observed that the technical assistance provided in terms of planning, helped to reduce vessel time at anchorage, reduce demurrage fees and maximize the availability of truck capacity for cargo offtake. However, the Government has been unable to provide evidence of these outcomes.

48. The increase in the provision of supply chain services, at both the WFP Ethiopia and Djibouti COs, has also had a positive effect on cargo offtake from Djibouti. WFP partner demand for such services, combined with WFP Ethiopia confirming its need to use WFP Djibouti's HLB grain silos in the coming years, has strengthened the likelihood that the operation of the facility will be financially sustained. Through several successful port operations in 2020 (discharging 7 bulk carriers and 245,000 metric tonnes of cargo) and the negotiation of special tariffs for bulk transportation and shunting, the HLB silos have helped significantly to address chronic bottlenecks at Djibouti's Doraleh Multipurpose Port and Société Djiboutienne de gestion du Terminal Vraquier[166].

At the end of 2021 a special nutritious foods (SNF) factory in Ethiopia was confirmed as a WFP supplier, with the initiative broadening interest from the private sector in engaging with the CO and promoting improvements in grain quality through better handling and storage.

49. The experience in developing the capacity if the SNF factory in Bahir Dar has been similar to WFP experience with AIF Rwanda, where a new factory has been supplying CSB ++. It was observed that there was a positive effect on the local economy, but also a requirement for local farmers to produce and correctly store maize in sufficient quantity and at the right quality to supply the factory[167].

50. An important initial outcome from the project has been that WFP has been approached by many local manufacturers asking for guidance on how to comply with WFP requirements, which support the need to identify more factories that can specialize in SNF production.[168].

WFP Sudan supply chain team has supported efforts to improve grain storage quality and capacity in Gedaref, but a key challenge has been to convince Agricultural Bank of Sudan staff to embrace the need for change[169]

51. Following a review[170] in November 2019 of the Agricultural Bank of Sudan's (ABS) capacity, WFP supported the ABS' request for assistance to rehabilitate grain silos in Gedaref, as their outdated equipment has been a major constraint to increased efficiency and effectiveness of operations. The silo rehabilitation project started in 2021 with an assessment of technical needs. The aim was for the silos to provide a better platform for food grading and bagging, as well as efficiency and quality to support food exports and national market supply. The project has also considered food market supply chain interventions including micro finance and potential to organize small

[166] WFP Djibouti 2020, Annual Country Report

[167] Quarit Agro-processing PLC, Amhara, Bahir Dar industrial zone

[168] Specific outcomes from the intervention were not available to the evaluation team.

[169] Based on KIIs

[170] GAP analysis of WFP capacity strengthening activities with Agricultural Bank of Sudan (ABS), consultant report 2019

farmer cooperatives that would encourage finance providers to deliver services (building on WFP original P4P model). The overall intent was to connect farmers to markets in a more structured manner.

In South Sudan, traders were reluctant to invest in storage capacity, preferring to rent the Agricultural Bank of South Sudan's existing capacity for both storage and re-bagging.

52. WFP local purchase activities have grown slowly, as local traders have increasingly entered contract farming arrangements that were necessary to provide supplies to meet WFP tenders. The number of wholesalers responding to WFP tenders has increased from 13, supplying 5,000 tons of sorghum in 2017 to 23, supplying 24,000 tons of sorghum in 2021. Key informants advised that the rate of increase was constrained as WFP only pays wholesalers after the quality of sorghum received has been assured, and quality testing must be done in Kenya, delaying supplier payments. This reduced the attractiveness of WFP tenders, especially to those traders who might have limited access to finance. WFP staff and traders also reported that once they had accumulated significant volumes of grain, they became liable to increased local government scrutiny leading to informal taxation.

Port and freight forwarding services

Enhanced efficiencies in food handling were observed through a combination of Mombasa port mechanization efforts, and training by WFP of Government of Kenya (GoK) staff, clearing and forwarding (C&F) agents, and the adoption of performance management tools.

53. Key informants cited a four-fold increase in 2020 of vessel discharge efficiency and reduced handling costs for WFP, with truck loading time reduced from 45 to 10-15 minutes[171] due to the introduction of new handling and bagging technologies (such as jumbo bags).[172] The introduction of spreader bars to discharge jumbo bags took place at the height of the Covid-19 pandemic. This innovation was motivated by the imperative to ensure social distancing and helped to reduce food losses.

54. Efficiencies were also obtained through WFP efforts to train Government of Kenya (GoK) staff on food quality control measures and the training of C&F agents to meet WFP standards. Training focused on performance monitoring of import, export, warehousing, and commodity accounting processes as well as customs clearance, fumigation, and documentation flow. Interviews suggested that C&F agents have applied the knowledge gained not only in their business with WFP but also to shipments for other clients[173]. In addition, anecdotal evidence suggests that other organizations have been motivated to embrace the digitalization of administrative transactions based on the level of efficiency it has created in WFP operations.[174]

WFP engineering interventions in Port Sudan helped to improve bulk cargo discharging, allowing for faster and cheaper delivery of food commodities from the port to the main rail station and customs dry port.

55. Limited capacity strengthening through infrastructure support was undertaken in 2019, with the Sudan Railways Corporation deciding to build a new 12 kilometres of rail track to connect the main railway station in Port Sudan to bulk cargo discharging berths of the port. This improved the delivery of food commodities from the port to the nearby dry port[175].

In 2021, WFP cargo accounted for 6 percent (see Table 18) of the overall tonnage discharged at the port of Berbera.

[171] This is 70 percent faster than normal, with knock on benefits of reducing vessel exposure to potential demurrage by at least 3 days, and improved truck turn-around time.

[172] WFP 2020. Final Report on the Mechanized Handling of the MV Universal Durban.

[173] Based on KIIs reporting anecdotally that training has improved the standards at the port of Mombasa.

[174] This relates to Kenya Plant Health Inspectorate Service (KEPHIS is a government entity) which recently did a documentary showcasing how KEPHIS has digitalised and used WFP as an example of how their systems are set and processing documentation. The Government has decided to digitalise to strengthen processes.

[175] WFP also supported the lease of two locomotives to improve the transportation of food for humanitarian assistance.

56. WFP has made a considerable financial contribution[176] to the development of emerging Berbera port infrastructure, although WFP is no longer at the centre of activities. While WFP supply chain never intended to influence the performance of the food system in Somaliland, it could argue that its inputs led to a significant evolution in capacity.

Table 18 2021 Cargo Movements at Berbera Port

	Container MT	General Cargo MT	TOTAL MT
Berbera Port[177]	3,375,000	1,200,000	4,575,000
WFP Berbera[178]	48,318	212,731	261,049
WFP as % Total	**1%**	**18%**	**6%**

Source: WFP Berbera

57. DP World reported increases in container traffic of 32 percent, bulk cargo of 63 percent and the number of container ships per annum has doubled in the four years since they took over. As much as 20 percent of Ethiopian imports have relocated from Djibouti to Berbera port (the Ethiopian Government is a 19 percent shareholder in Berbera port).

Djibouti logistics hub

A significant WFP supply chain investment was made under an agreement (signed in 2010) with the Government of Djibouti for a 30-year land-use concession to permit the construction of a Humanitarian Logistics Base (HLB).

58. The HLB project (begun in 2015) aimed to deliver 'enhance efficiencies in both humanitarian and commercial logistics'. 40,000 square metres of concessional land has been used to construct a facility offering containerized, bulk (silos), break bulk and non-food item (NFI) storage services for WFP operations and the wider humanitarian community[179]. The HLB has undergone a significant revitalization since 2020.

59. While it was intended that the HLB would be run under full cost recovery, since 2017 the facility has been funded through a cost sharing arrangement between WFP Djibouti, WFP Ethiopia and partly WFP South Sudan[180.] The facility has provided cost savings for users through the various stages of the supply chain and assumptions had suggested that the hub would generate as much as USD16.6 of savings per metric ton of cargo transiting through Djibouti[181]. The primary purpose of the bulk storage silos constructed has been to enable WFP chartered vessels to be discharged and released quickly from the port by minimizing the requirement for transport, primarily to Ethiopia. Since 2020 the silos have been utilized almost 100 percent, and in 2021 were upgraded with new machinery to improve food quality control[182].

60. At the time of planning the HLB construction, the Government's massive expansion of Djibouti port capacity had not been anticipated183, which subsequently impacted the relevance and financial (cost recovery) viability of the facility. However, interventions have since contributed to logistics development in the region through the HLB

[176] WFP Berbera spent approximately USD 2.3M in 2021 on port services. If labour were to comprise 70 percent of the port service costs it implies a contribution of approximately USD 1.5M to wages.

[177] 125,000 TEU at estimated weight of 27MT per container. Data provided by DP World.

[178] Data provided by WFP Berbera

[179] The HLB consists of 40,000 metric tons of bulk storage and 12,000 metric tons of break-bulk food storage, a temperature-controlled storage area, as well as 2,500 square metres of non-food item storage, and services necessary for a multipurpose storage and handling facility. It is also registered as a customs bonded storage area.

[180] According to KIIs

[181] This is a reduction from the initial assessment when the standard project report (SPR 200358) dating to 2014 provided assumptions suggesting that the project would generate up to USD 24 of savings per metric ton of transit cargo.

[182] WFP 2021, Oversight mission report and a business case for the HLB. Silo services accounted for approximately five percent of the total volume of goods transiting through the Port of Djibouti.

[183] WFP 2012 – 2017, Special Operation 200358 Construction of a Humanitarian Hub in Djibouti

Supply Chain Centre of Excellence184. Key informants advised that there is now greater internal recognition of the value of the HLB to regional operations185.

Thematic Area 3: Market Development

Food Retailers

61. WFP Supply Chains in South Sudan, Somalia and Kenya contract retailers to sell food to recipients of WFP provided cash payments. Retailers register sales and are reimbursed through different mechanisms. Programme units from WFP Kenya and South Sudan provide complementary support, all of which aims to improve the volume, quantity, quality, and diversity of food available to WFP cash recipients.

62. WFP South Sudan (Bor) and Somalia (Dollow), contracts retailers who must establish an account with a WFP appointed financial services provider. Each retailer must record sales to WFP client/beneficiaries purchases with a proprietary MPOS (mobile point-of-sale) mechanism. MPOS recorded transactions are settled monthly, by payment into the retailer's account. Transactions through the MPOS require the use of WFP SCOPE charge cards held by WFP cash recipients that can be remotely replenished. In Somalia, the MPOS is also linked to an online ordering app, e-Shop. It was an optional convenience available to clients/beneficiaries prior to COVID-19, which became mandatory at the outset of the pandemic. In Kenya (Kakuma), payments are made through a Kenyan mobile money system (M-Pesa) to registered retailers, through an initiative called, *Bamba Chakula* (Swahili-based slang for 'get your food'). As well, the Supply Chain in Kenya undertakes additional activities to promote retail sales. They contracted for the construction of market stalls, provision of umbrellas and the development of a fresh produce cooling system. The Programme teams also trains local Kakuma retailers and authorities on compliance with Kenyan small business regulations. In a separate, but linked initiative, the Supply Chain contracted for the construction of a large water catchment facility and irrigation infrastructure, intended to promote local horticulture production which would be sold to local, Kakuma retailers.

63. The evaluation examined for increases in revenue and profits for these retailers and their wholesalers as well as for transformations in business operations as a result of exposure to technology and linkages to financial services or in the case of Kenya, market stalls, cooling technology, training on compliance or more sales from local fresh produce.

64. In Somalia, the interviewed food retailers reported significant income increases and business growth, all attributable to the scheme. In South Sudan, retailers engaged in a voucher-based MPOS scheme also reported gains in income and revenue. In Kenya, there were reports of increased revenue, which while attributable to WFP cash disbursements, it was not clear if there was an increase which could be attributed in terms of market stalls, umbrellas or cooling technology. There were no reports or increased revenue or income as a result of produce grown in the WFP supported irrigation scheme nor if produce that may have been grown there, lead to a modification of prices. In fact, some of the stalls remain unused. The local Kakuma authorities reported an increase in tax revenue which they implied was related to the trainings provided by WFP. Similarly, the MPOS was not associated with increases in income nor a change in their digital acumen. Rather it was perceived as a contracting requirement in order to get WFP business (revenue). In fact, from the retailers' perspective, the MPOS may be associated with losses.

65. The MPOS system, together with delays in either reimbursement to retailers or disbursement to clients/ beneficiaries, was reported to undermine gains to retail businesses. In Bor, retailers complained that they were made vulnerable to exploitation by wholesalers if the reimbursement of funds was delayed. They were able to obtain goods on credit at reasonable rates from wholesalers on the basis that loans would be repaid at the end of the month following disbursement by WFP. In the event of delayed reimbursement, retailers were obliged to seek an extension of credit with additional credit to restock and continue their business. The rates of the extended and additional credit were generally much higher, which significantly eroded the retailers' profits to the point where one analysis suggested that retailers were scarcely covering their costs. Somewhat differently in Kakuma, when payments by WFP to refugees are delayed, some refugees request credit from retailers, whom in turn take credit from the wholesalers. As beneficiaries default on their repayments, consequences are felt throughout the supply chain. One refugee wholesaler is owed millions of shillings. It is reported that some refugees take credit

[184] WFP 2020, Annual Country Report

[185] WFP 2020, Annual Country Report. Approximately 800 students were trained in 2020 but WFP has not been able to verify whether the training provided resulted in students obtaining jobs.

and leave their WFP cards as collateral. They then report their card as missing. They are then issued another card by WFP which they use to make purchases from another trader. The first trader is never repaid. No such problems were reported in Dollow however, some e-Shop retailers there were unable to operate the technology. They contracted young people who charge USD 1 to compile each e-Shop order.

66. The changes in some cases may be significant, but their extent of them for retailers is or is likely limited. These changes relate to 14 retailers in Dollow, as well as retailers in Bor, South Sudan and Kakuma, Kenya. The gains observed are all linked to WFP cash disbursements. The total value of the changes in the three locations visited would be expected to be equivalent to the value of the cash disbursements, divided by the number of registered or contracted retailers. Working with retailers in Dollow, it was estimated that their revenue might be in the order of USD 20,000/year, and they order between USD 1.5 and 2M/year from their wholesalers. Changes observed occurred within what appears to be parallel food systems, developed by WFP to serve their clientele. As these closed systems, dependent on WFP cash distributions, it was not surprising that the extent of the changes were seen to be limited to retailers working with WFP. There was no indication that the changes in revenue, technology or demand affected the retail food system outside of the WFP schemes. In the case of Kakuma, there is no evidence to indicate if enabling investments (market stalls, umbrellas, or training on compliance) extended benefit or modified the business to retailers in the wider food system. Similarly, there is no report on the volume of fresh produce sold into local markets and how that would have modified supply or prices of produce obtained from nearby Kitale. Moreover, the change in the availability, price or revenue gain as a result of local, irrigated produce should be balanced with consideration given to the considerable subsidy WFP provided to the construction and maintenance of the irrigation scheme. It must also consider the sustainability of such changes in the absence of continued WFP management and subsidy. Irrigation schemes, and particularly those which are communal and for small, poorly equipped producers, are notoriously expensive and complex to manage.

Wholesalers

67. The relationship between retail business and wholesalers was also investigated to examine for wider linkages. No specific intervention was taken in this regard, so the linkages examined were purely commercial.

68. In South Sudan, Somalia and Somaliland, wholesalers reported significant income increases and business growth consistently, although perhaps to differing degrees. Perhaps this finding is not surprising as there are far fewer wholesalers than retailers. With the exception of Berbera, their income gains are largely related to WFP cash infusions.

69. There may also be significant gains for some but not all retailers. In Bor, WFP retailers were supplied and to a certain degree were financed, by a single supplier. This dominant wholesaler had extended credit to almost all the retailers in the community and had kept their identity cards as security. This had created a captive market of retailers who were effectively bound to that one wholesaler, creating a barrier to the entry of any competitor. In effect, it may be that the totality of WFP cash payments in Bor are channelled to this single supplier. In Dollow, the effect is more diffused through a larger number of wholesalers. Interestingly, it may be that many procure wholesale goods from Berbera which are imported by a small number of Somaliland importers and one in particular. In contrast, in Berbera wholesalers were reporting growing revenue and income but it was not linked to a WFP programme but rather the growth in the traffic at the Berbera port. In the context of Berbera, WFP Supply Chain indirectly contributed to the food system through contracting transporters or port services. Their contribution together with other important clients of the port, were linked to the growth at the port, enabled through the new management team and investments in modernization of the port.

70. Wholesalers interviewed partially re-invested profits in their businesses. Modest amounts were reinvested in the shops or goods sold. Possibly more were channelled into businesses elsewhere (other neighbourhoods of Juba, Dolo Ado, Ethiopia) or for personal family needs. While they enjoyed a good business with WFP retailers, they observed that the total market was limited to WFP and to the days when WFP disbursed funds. They said they must maintain businesses outside in the wider, larger system, which they know will still be there when WFP leaves.

71. The extent of these increases in business reported by wholesalers in Bor, Juba and Dollow although significant, were limited. They were all bound in the WFP MPOS system and the cash infusion through WFP cash disbursements. Their business was reported to be primarily with WFP contracted retailers. In contrast, Berbera and Somaliland's imported food is reported to come through a small number of importers (approximately 10 to 12) who supply wholesale networks nationally and as far away as Dollow. Growth of Berbera's wholesalers is

bound in the wider economic expansion in Berbera and its linkages nationally across Somaliland, and to Ethiopia and Somalia.

72. *IMPLICATIONS*: The contracting arrangements related to these retailers were designed to primarily serve those receiving WFP cash disbursements with regularly available, quality and diverse foods. It may be an effective mechanism to achieve those goals, but this evaluation was primarily focused on gains for the retailers, wholesalers and ripple effects on the food system. While in Dollow, this mechanism appears to have effectively improved revenue and incomes of both retailers and wholesalers, in Bor, it appears that only the supplier has benefitted. This contracting and MPOS arrangement appears to have delivered significant gains to these actors. The extent and sustainability of these gains is limited to the WFP programme which created and controls the system. Within those systems, business growth or expansion by its retailers and wholesalers may be limited. There do not appear to be outcomes directly affecting the wider food system which serves local or nearby populations. Rather, these are "closed systems" which, were designed to serve WFP programmatic priorities. Lastly, it was noted that in Somalia, ownership of retail and supply services was mixed but with the majority owned by men (+30). In Juba and Bor, retail services and wholesalers were owned by men (+30)

Restaurants, Kiosks and their wholesalers

73. The WFP Supply Chain contracts transporters and port services out of the Berbera Port. The evaluation examined for changes in revenue, income and business norms in the restaurants and kiosks, in the immediate area around the Berbera Port, and if there were changes, it examined the possible relationships with WFP contracted lorries or port staff. Restaurants and kiosks around the port were interviewed (4 restaurants and 3 kiosks) and six of the seven reported significant increases in revenue and profits over the last three to four years. One restaurant reported no change or a decrease. They all anticipate a continuation of this levels of business and are optimistic for continued improvements. Those interviewed reinvest in their businesses (tables, chairs, or new product lines responding to demands of their clientele - lorry drivers and port workers). They also invest in their families with improvements at home and education for the children. Two wholesalers to these restaurants were also interviewed and reported expanding businesses and that they were opening new branches, enlarging and improving shops, and expanding product lines. Across all interviews conducted in Berbera, the significant increases in operations at the port was identified as the driver of their growth. Ownership and management of the port was assumed by the firm DP World (UAE) in partnership with the governments of Somaliland and Ethiopia in 2017.

74. Within this changing economic dynamic, WFP plays a contributory but significant role. WFP is an important client of the port, accounting for perhaps 5 – 10 percent of port business by volume. It was estimated that they may make a commensurate contribution to the revenues of businesses outside of the gates to the Port. They contracted approximately 7,000 lorries in 2022 and spent approximately USD 2.3M on port services.

75. There are approximately 25 to 35 local, restaurants and 10 to 15 small kiosks in the area in front of the port. Berbera is estimated to have 10 to 15 wholesalers (some large shops serve as wholesalers to small ones). Incomes of restaurant and kiosk owners might be in the order of USD 10,000 and 2,000 respectively, including a significant increase (40 to 50 percent) in the last 3 to 4 years. Like the retailers in Dollow, this marks a significant and positive improvement for a relatively small number of facilities. One difference is that changes in Berbera are not contingent on WFP interventions and are rather embedded in wider economic and social growth. Dahabshil, the largest financial service provider, has borne witness to the enormous changes in the town and have equally benefitted with more clients who are moving up the financial ladder – whether corporate, personal or micro services. It was also noted that restaurants were primarily owned by women (+30 years) and kiosks appeared to be owned by both men and women (+30).

Delivery Agents & Delivery Services

76. WFP contracted for Delivery Agents in Dollow at the outset of the COVID-19 pandemic. They ultimately issued 2 contracts for seven months each. At the time of the evaluation, there had been no Delivery Agent for several months. These Agents would normally provide home deliveries of cash disbursements to WFP clients/beneficiaries and who used the e-Shop app. The evaluation investigated whether or not these arrangements lead to an increase in business, profit and income for the Delivery Agents and the drivers, if it might have spun-off new delivery businesses outside of the WFP work, and the degree to which new technology might feature in these businesses.

77. It was reported by representatives of the two Agents who had the contracts, that they indeed found the contracts lucrative. One Agent was a large, construction contractor and supplier based elsewhere and serving many parts of Somalia. The second agent was also based elsewhere in Somalia and operates a consumer goods online order and delivery service. They both bid on the Delivery Agent contracts in Dollow. While one firm continued with food delivery after the contract ended neither adopted the WFP technology. The online consumer goods order service continued with their own technologies and modalities. Drivers reported no change in their income – with or without the WFP contracts, rather they were employed by the firm who supplied the transport and drivers to the two agents who won the WFP contracts.

78. While profitable for both firms who won the delivery agent contracts, the extent of the benefit was limited to them and the local Dollow agent who supplied the vehicles and drivers. Disappointingly, no evidence of the emergence of a new food delivery service was seen. Rather, clients reported a preference to shop in person, except when they get their WFP money, when they buy in bulk. At that time either they organize transport themselves, or retailers will organize transport for WFP clients they feel to be needy.

Contracting financial service providers to reimburse retailers

79. As mentioned in the section on retailers and wholesalers, WFP contracted financial service providers with whom registered retailers could establish accounts and through whom WFP reimburses. The evaluation was interested to see if these relations lead to a greater level of financial acumen of retailers, a growth in demand for financial services, and any income gains for the financial service providers themselves.

80. Financial service providers interviewed in Bor and Dollow both reported that contracts that they had with WFP had been profitable. It led to significant increases in their clientele and business. Both the financial service providers and retailers reported that the reimbursement system worked. Amal Bank in Dollow said that they had no profile and very little business before they were contracted by WFP. In Bor, the delays in repayment by WFP lead to retailers requesting additional albeit expensive extensions of credit. As a result, the financial service provider in Bor provided the dominant supplier with an office in the bank so that he could collect on his credit as WFP payments were withdrawn by retailers. Issues with repayment were related to delays by WFP, not with the system itself.

81. There were very few financial service providers in these locations. These are also economically marginal regions where the presence of WFP cash disbursements has a significant effect on the local economy. Amal Bank said that the withdrawal of WFP would have enormous negative effects on their business. Even a competing bank in Dollow said that much of the current wealth in Dollow that is banked with them derives from WFP cash disbursements. Amal Bank felt that WFP contracted wholesalers were evolving their awareness and use of financial services. Likely, the MPOS and e-Shop experiences contributed to that evolution. Amal's competitor equally noted that many of their clients who were directly contracted or dependent on WFP have evolving financial service needs.

Implications and Discussion

82. The range of market development experiences examined provide an interesting reflection on how different Supply Chain work relates to food system change. As a starting point, the evaluation noted that most of the work examined was never intended to affect food systems. Rather, through supply chain initiatives, private sector mechanisms were mobilized to meet WFP programmatic or corporate (i.e., compliance) aims. The primary objective was to have quality, diverse food delivered to WFP targeted populations through private sector mechanisms in place of WFP provision. Perhaps, part of the reason that these private sector mechanisms made food available, was through profitable contracting arrangements.

83. Technology played a role in these processes, with mixed results. On the one hand, the MPOS and SCOPE cards and e-Shops appeared to limit the fungibility of cash received by clients/beneficiaries and ensured it was spent on food, as per WFP agenda. Payment via SCOPE/MPOS and registered banks worked and likely was useful in terms of WFP internal accountability requirements. On the other hand, for retailers and wholesalers, it did not appear to lead to efficiencies nor a diffusion technological acumen nor a change in business. In fact, as was seen in Bor and Kakuma, issues around these technologies, repayment and WFP delays in disbursement or repayment combined to lead to significant costs to retailers.

84. The arrangements using SCOPE/MPOS and the e-Shops did lead to significant benefits for retailers and wholesalers connected to the schemes. Key informants report that the entirety of WFP cash payments to

clients/beneficiaries passes through them so that revenue and profit increases for individual market agents may be significant.

85. These are clear outcomes seen in the work in South Sudan, Kenya and Somalia. The evaluation, however, looks beyond these gains to ask how the actions of the WFP Supply Chain not only led to these benefits, but how those benefits influenced food systems. The systems which benefit these retailers and wholesalers are observed to operate in parallel without affecting local food systems. They are insulated from external forces, by design, to ensure the system delivers per WFP requirements and the closed nature of such systems may prevent wider benefit. It was noteworthy that this observation was consistent in both South Sudan and Somalia. On the one hand, it is a recognition of the strong WFP design of the system. On the other hand, the limitations of that design to speak to WFP evolving corporate agenda are evident.

86. The evaluation was fortunate to also visit Berbera and to document an entirely different approach, delivering different yet equally important food system outcomes. Moreover, it was entirely driven by WFP Supply Chain actions. The WFP actions worked within the existing systems and the size and duration were seen to have made a significant contribution to the local food systems and the local economy more generally. The evaluators also found it noteworthy, that Dollow wholesalers order their foodstuffs from Berbera, a reflection of the performance improvements seen in Berbera Port, to which WFP contributes. The scale, magnitude and sustainability (resilience?) of these changes were also greater. It may be an important contribution, made by WFP, which deserves to be better understood.

87. The evaluation placed an emphasis on understanding how WFP activities not only affected food systems, but how its benefits did or did not extend to men and women, youth or the disabled. Benefits generally accrue to able, adults, and most often men (with noteworthy exceptions amongst retailers, restaurant and kiosk owners in Somalia and Somaliland). However, in Somalia or Somaliland, women are increasingly found in commerce. That same trend is seen in retailers contracted in Dollow. As well, it became evident that there is a need to distinguish direct benefits accruing to those contracted by WFP Supply Chains with secondary benefits that accrue to their families. At this level, there may be significant benefits accruing to youth (boys and girls) including disabled members in immediate or extended families. Without fail, interviewees proudly reported how they invested not only in their businesses but in their families and their children's future. By going beyond the lens of immediate benefit, the evaluators were able to appreciate the importance of secondary benefit to generationally transform the family level conditions. In doing so, they could achieve a level of resilience for the family beyond their reach in normal circumstances. This same perspective was applied to School Feeding initiatives in Dollow which were also supported by e-Shop and SCOPE/MPOS. Beyond the provision of lunch, head teachers and municipal authorities emphasized how the role of the inducement to get children into school and to keep them there.

88. As WFP moves forward with its new corporate agenda, the experience in South Sudan and Somalia are important. In both cases, they leveraged private sector potential with a focus on small food system actors, who serve the poor and the poor in marginalized communities. The e-Shop and SCOPE mobilizes private sector capacities to deliver food to specific populations. It ensures immediate targeted benefit to those populations, benefitting small numbers of actors in the supply chain but with minimal effect on the food system. Alternately, WFP Supply Chain activities operating through commercial mechanisms can make important sustained contributions to food systems and local economies that benefit poor people significantly and at larger scale beyond just WFP directly targeted cohorts.

Thematic Area 4: Development of Physical Infrastructure

89. From a supply chain perspective, consideration is here limited to the development of roads and waterways which aim to improve the performance and reduce the costs of delivering food to otherwise poorly accessible areas. WFP reports indicate that almost all countries have experienced problems related to road access[186]. In four countries[187] WFP has implemented programs to rehabilitate feeder roads, and in one (South Sudan) there has been ongoing work to repair main roads and waterways in order to reduce the use of expensive airdrops of food.

Rehabilitation of roads and waterways both reduces distribution costs and stimulates economic development.

[186] Only Uganda has not reported issues of access in the period under review.

[187] Somalia, Kenya, Rwanda, and Djibouti.

90. The rehabilitation of roads and waterways by the engineering unit has demonstrated how access is critical to food system development and that relatively modest expenditures on the repair of choke points along roads, and in the clearing and dredging of waterways, could not only substantially reduce the cost of delivering food but would also stimulate economic development in hitherto inaccessible areas.

91. When improvements to roads and waterways make areas accessible to WFP deliveries, they are also accessible to returning populations and to traders. This has the additional benefit of promoting market development to the point where CBT becomes an option, allowing distribution costs to be dramatically reduced. Market development experts have used the Market Functionality Index to monitor market development so as to determine when CBT might become appropriate.

Markets have developed in those areas to which access. Food systems have become more competitive and more resilient.

92. The significant outcomes from the repair of roads to areas that were previously only accessible for a limited period each year have been not only the benefits to supply chain operations described above, but an overall increase in economic activity including an increase in the number of wholesalers and retailers, an increase in the volume and diversity of goods available, and reductions in the prices of goods. There have also been increases in services (including the return of a commercial bank), transporters, taxis and porters. People that had previously left the area when they had become effectively cut off were able to return and make a living.

93. All of these changes have impacted food systems in terms of volumes of demand and supply, diversity and price. Overall, it is evident that food systems in these areas have not only become more resilient but generally more competitive as the number of stakeholders has increased and the transaction costs (especially transport costs), have reduced.

94. The sustainability of this type of intervention depends on the extent to which roads and waterways can be maintained. The rehabilitation works have been done on a low-cost basis (engaging local communities to supply marram when possible) and will require regular repair. The annual cost of works in 2021 was no more than USD 6 million, which is well within the capacity of the Government to fund. To achieve sustainability however, an institution such as a Roads Board will be required to manage maintenance. WFP is actively engaged in discussion with the Government to develop such an institution.

95. It is expected that outcomes such as these will be much less significant for feeder road repair since the populations connected by feeder roads are generally much lower. Regardless, the same fundamental principles still hold; i.e. that economic development that would otherwise have been unlikely is now facilitated allowing farmers to bring goods to market and thereby to progress beyond subsistence, while opening up new areas to profitable cultivation.

The road and waterway rehabilitation intervention is limited in its geographical scope but the outcomes are significant in the areas where they occur.

96. The positive outcomes of road and waterway rehabilitation are largely confined to those areas that are prone to regular flooding. There are large areas of the Nile flood plain in both South Sudan and Sudan where this type of intervention is particularly appropriate. In other countries, the scope for positive outcomes may be more limited. Nevertheless, based on the above observations, it is suggested that the construction ethos developed in South Sudan might be relevant to other countries that have reported difficulties in accessing beneficiary communities.

Thematic Area 4: Development of Government Capacity

97. Capacity development was originally treated as a cross cutting theme in the analysis of supply chain interventions. In this evaluation, private sector capacity development has been considered not only within the context of each of the other thematic areas (procurement, logistics, infrastructure development and market development), but also as a discrete area of intervention.

Outcomes from most capacity development interventions remain unclear, but WFP support to food standards development has had definite outcomes in some countries.

98. In the course of this evaluation, development of government capacity was frequently mentioned as an activity, but few food system outcomes were reported. Gender disaggregated data of numbers of trainees is available for many different activities, but this represents direct outputs of each training activity rather than outcomes that

those trainees caused or created. The most common area for government capacity development has been in support of the development of food commodity standards including their assessment and regulation. WFP has been active in this area in Burundi, Kenya, Ethiopia, Rwanda, Somalia, and South Sudan.

99. The outcomes of that work are most evident in Kenya, where internationally recognized standards have been widely adopted. WFP has contributed to the promotion of substantial investment in the processing and testing facilities required to maintain high nutritional and hygienic standards throughout food systems. In other countries, such outcomes are harder to discern. In Rwanda, investments were made by the two largest milling companies to produce flours fortified to specific nutritional standards before there was any legal obligation to do so. In Burundi, legislation to enable standards has been enacted, but the regulations themselves have not been put in place. In Ethiopia, regulations have been put in place, but are not widely enforced.

Outcomes of Government capacity building are strongly affected by context

100. The extent to which government capacity development has resulted in the outcome of improved food quality varies according to national context. The development of government capacity does not necessarily result in the intended outcomes unless that capacity can be properly utilized. In those cases where the government's remit is perceived to be too weak, especially in poorer and more remote areas, such capacity may be ignored. E.g., In Burundi, WFP has worked with the Government to develop legislation to implement food standards, but the legislation has not yet been implemented. WFP interventions to develop Government capacity have had an outcome in terms of the development of legislation, but no outcomes as far as food systems are concerned. Those will only be discernible when the Government of Burundi decides to implement the legislation by imposing the regulations that the legislation provides for.

101. There are a number of other areas in which WFP has helped develop government capacity including the development of early warning and emergency preparedness systems, the design and implementation of safety net programmes, and supply chain management. Of these, the last is a supply chain intervention that has been undertaken in Sudan and Ethiopia where WFP has provided training and assistance to Government institutions in the development of management systems, including storage and fumigation. In the absence of any form of comparison, it is impossible to determine the extent to which that assistance has resulted in any outcomes.

Annex 11. Remote fieldwork summaries

Country	Area of focus	Outcomes	Comments on sustainability
Burundi[188]	Lake Tanganyika Corridor operations	1. **WFP have brought together stakeholders to identify strategic solutions for the development of trade across Lake Tanganyika.** Burundi faces trade barriers across the East Africa Corridor and Lake Tanganyika is seen as crucial for WFP operations in the region and as a wider hub for mitigating humanitarian crises. In 2021, WFP conducted an assessment of 9 major points and two pilot shipments to Burundi. Following the assessment WFP worked with partners (Maritime Authorities, Port Management, vessel owners, importers and exporters and various donors including the EU, African Development Bank, Japan, Trademark East Africa, the American Embassy, USAID and the Ministry of Transport) to develop a roadmap for the Ministry of Transport for developing the Lake Tanganyika Corridor. The assessment and subsequent roadmap delivered by WFP outlines options the Government of Burundi, as well as neighbouring countries, for boosting trade across Lake Tanganyika, as well as to develop the lake into a crucial site for WFP operations in the regions. It is envisioned this could have the following outcomes[189]: a. Reduced unit costs of transporting within the region b. Increased volume of food can be sourced from within the region with lower purchase and procurement costs c. Reduced transport time for delivering food d. Possibility to source for wider region with Burundi acting as a transit country	Not enough evidence from evaluation to comment.
	Capacity development activities with Government	1. **Storage capacity of Government partners not increased.** WFP are still seeing that WFP standards are not being met by Government, despite training and as a result there are increased food losses. It is expected that continued activities between WFP and Ministry of Agriculture will continue to improve capacity on storage and preventing food losses.	Not enough evidence from evaluation to comment.
Djibouti	Agreement with the Government of Djibouti in 2010 for a 30-year land-use concession to permit the construction of the Humanitarian	1. **Enhanced efficiencies in logistics through use of silos.** Bulk storage silos constructed have enabled WFP chartered vessels to be discharged and released quickly from the port by minimizing the requirement for transport, primarily to Ethiopia. Since 2020 the silos have been utilized almost 100 percent, and in 2021 were upgraded with new machinery to improve food quality control.[190] 2. **Addressing chronic bottlenecks in Djibouti's Doraleh Multipurpose Port**. Through several successful port operations in 2020 (discharging 7 bulk carriers and 245,000 metric tonnes of cargo)	The increase in the provision of supply chain services and subsequent increase in WFP partner demand for them, combined with WFP Ethiopia confirming its need to use the HLB silos in the coming years, has indicated the likelihood that the

[188] Limited availability from the WFP Burundi Country Office means that limited data was obtained through KIIs and data/documentation on Burundi to complete a meaningful desk-study.

[189] Source: WFP Burundi, Lake Tanganyika Corridor revitalisation ppt presentation.

[190] WFP 2021, Oversight mission report and a business case for the HLB. Silo services accounted for approximately five percent of the total volume of goods transiting through the Port of Djibouti.

Country	Area of focus	Outcomes	Comments on sustainability
	Logistics Base (HLB), launched in 2015.	and the negotiation of special tariffs for bulk transportation and shunting, the HLB silos have helped significantly to address chronic bottlenecks at Djibouti's Doraleh Multipurpose Port and Société Djiboutienne de gestion du Terminal Vraquier . 3. **Youth employment.** During the CSP 2020-2024, WFP has supported vocational training in the transport and commodity handling sector, particularly for youth and food insecure people. Training has been achieved in collaboration with the Ministry of Education and the University of Djibouti, and in partnership with the Chamber of Commerce, UNHCR and USAID's Educational Development Centre. Examples of HLB vocational training included integrated pest control for local stakeholders and forklift driving etc. The Centre has also worked with high schools and offered a course on solar equipment and repair. Key to the potential benefits of the training has been the commitment of the private sector to employ students.[191] 4. **Improved gender equality.** As part of the HLB Centre of Excellence, training for young Djiboutian and refugee women has been a key means to improve gender equality. In partnership with the University of Djibouti, vocational training in logistics was offered to women to support capacity strengthening interventions in the transport and commodity handling sectors.	operation of the facility will be financially sustained. However, while it was intended that the HLB would be run under full cost recovery, since 2017 the facility has been funded through a cost sharing arrangement between WFP Djibouti, WFP Ethiopia and partly WFP South Sudan.[192] At the time of planning the HLB construction, the Government's massive expansion[193] of Djibouti port capacity had not been anticipated,[194] which subsequently impacted the relevance and financial (cost recovery) viability of the facility.
Ethiopia	WFP engagement with the special nutritious foods (SNF) factory in Bahir Dar[195]	1. **Increased local production of fortified sorghum-based noodles for refugee populations.** Local factory in Bahir Dar identified to receive support from WFP to produce fortified sorghum-based noodles and receive advice to meet WFP standards. Production began at the end 2021. 2. **Increased local business.** As at the end of 2021, the intervention was beginning to have a positive effect on the local economy. According to key informants, it had also encouraged local farmers to produce grain in sufficient quantity and at the right quality to supply the factory.	Key informants noted that some of the maize and wheat wholesalers were from farmer cooperatives previously trained by WFP under P4P, indicating that past support provided to develop capacity had been sustained.
	Government capacity building efforts	1. **Increased technical expertise within Government.** With supply chain interventions such as the secondment of technical advisors to the Ethiopian Maritime Affairs Authority, there were positive results – such as the establishment of a humanitarian cargo prioritization process to help reduce vessel time at anchorage and therefore reduce demurrage fees – but the Government has been unable to provide evidence of outcomes when requested. A railway expert worked with the Ethiopian	The CO has taken a long-term approach to supporting the development of the Government's supply chain management capacity. The successful engagement with the Maritime Affairs Authority was, according to key informants, likely to

[191] WFP Djibouti, 2020. Approximately 800 students were trained in 2020 but WFP has not been able to verify whether the training provided resulted in students obtaining jobs.

[192] According to KIIs

[193] The port now includes a multi-purpose port in the Doraleh district – the Doraleh Multi-Purpose Port (DMP), which was commissioned in early 2017. Additionally, a new terminal at Ghoubet was completed plus a new livestock port in Damerjog district and a new port in Tadjourah.

[194] WFP 2012 – 2017, Special Operation 200358 Construction of a Humanitarian Hub in Djibouti

[195] WFP has a check list developed based on requirements for producing CSB, international food hygiene standards, and international food management standards. The checklist considers the infrastructure of the premises, the suitability of the equipment, human resource competence, and internal quality control measures.

Country	Area of focus	Outcomes	Comments on sustainability
		Railway Corporation (ERC) to identify gaps and prioritize actions to enhance the use and development of the new Ethiopian railway system by supporting officials to define service requirements.	be sustained due to the positive commercial outcomes.
	Markets for smallholder farmers	1. **Strengthened cooperatives unions in Ethiopia.** Through the Purchase for Programme (P4P) pilot programme (up to mid-2016), WFP worked with partners to strengthen cooperatives unions and provide them with market opportunities. Cooperatives were strengthened with training, technical support, warehouse rehabilitation, provision of postharvest handling equipment, and support for record keeping. At its peak, P4P supported 36 cooperative unions and over one million farmers. By 2016, approximately 50,000 metric tonnes of food had been contracted through P4P. 2. **Increased women involvement in cooperatives.** The P4P programme had a strong gender component, which was introduced because leadership and membership of women in the cooperatives was low. Activities included organizing community conversations within cooperatives and developing a community conversation manual to encourage discussion of issues pertinent to gender and women's participation within cooperatives. A fund was also created to enable women to engage in business activities so they could earn enough money to register in cooperatives. Eight women's rural saving and cooperative savings groups were supported with technical input and training. The membership of women in cooperatives was high, with as many as 40 percent of total members being women. The P4P gender programme was designed to incorporate women groups that were trained to become, for example, maize wholesalers. Women became part of multipurpose cooperatives and part of the management of cooperative unions. Under the FFV programme, there were many more female retailers than male. 3. **Increased understanding within WFP Programme team.** As a result of P4P and collaboration between WFP Ethiopia programme and supply chain teams, there was an increase in understanding within WFP programme staff of food demand, quality required, availability and where local procurement is feasible. However, often initiatives and funding mechanisms were misaligned regarding engagement with smallholder farmers, which negatively impacted on the establishment of P4P interventions. 4. **Reduction in WFP local procurement over time.** Since 2016 when the P4P programme ended there has been a reduction in the amount of locally procured food, despite the introduction of WFP new corporate procurement policy that stipulates that at least 10 percent of food should be procured from smallholder farmers.	The P4P programme was discontinued in June 2016 due to resource constraints and was partly replaced by the Smallholder Market Support project (SAMS). Key informants observed that P4P was one of several pilot initiatives that were corporately 'imposed' on WFP Ethiopia. It was therefore fragmented from the rest of the Ethiopia portfolio, not well integrated within the programme or supply chain team, and not mainstreamed within WFP activities. However, the initiative had continuing influence on the development of other interventions such as Cash-Based Transfer activities (CBT) linked to the Productive Safety Net Programme (PSNP), and the Home-Grown School Feeding pilot, which in turn set a pattern for the Government's much larger Emergency School Feeding Programme (ESFP). By stabilizing demand, smallholder farmers have been encouraged to continue to invest in capabilities.
	Access to fresh food	1. **Reduction of fresh food losses.** As part of the Fresh Food Voucher (FFV) pilot Programme, working with retailers, WFP supported the provision of plastic storage crates to help reduce fresh food losses. This project saw a very positive uptake in Amhara region, although there were challenges around Dessie where the market was unstable. Nevertheless, many traders advised WFP that their interventions were life-changing for them.[196] The University of Jimma worked with WFP to develop	According to a 2019 impact evaluation, [197] the FFV programme (and others) has not led to sustainable improvements. Innovative and multi-dimensional approaches to address this complex

[196] As described by key informants

[197] WFP Ethiopia, 2019b.

Country	Area of focus	Outcomes	Comments on sustainability
		training in the use of plastic crates and the setup of cold storage units for fresh food. Based on feedback from staff that provided the training, retailer performance improved significantly, and the approach was successfully adopted by other Government projects.	challenge, particularly in understanding the role of income and strengthening local markets to support nutritious diets, are needed.
	Transport operations	1. **Road access and transport times not improved.** Special Operation 200752 initiated by supply chain with WFP engineering in 2016, invested in the construction of the Geeldoh Bridge to facilitate access to two woredas in Somali region for the timelier, cost effective and efficient distribution of humanitarian assistance and improved local socioeconomic impact. The bridge was constructed over the Wabe-Shebelle River that divides the woredas. The intent was to reduce the transport turnaround time, and therefore costs for deliveries, through the Djibouti and Berbera corridors. By the end of 2021, road access to the bridge still had not been improved by the regional road transport authorities. The reasons for the delay could not be verified. 2. **Diversification of transport corridor operations.** During the COVID-19 pandemic and period of civil unrest (2021/22), the CO has considered ways to diversify transport corridor operations for the import of food commodities. In doing so, WFP has capitalized on the transport capacity of other countries, which has helped to alleviate the acute shortage of Ethiopian trucks. For example, via the southern corridor through Kenya, Uganda, and Rwanda. Previously, transporters from other countries were not allowed to enter Ethiopia, but following engagement with the Government, WFP facilitated permission for Kenyan and Somaliland trucks to deliver supplies to Adama.	Overall, the supply chain unit's experience of what should become a more sustainable approach to addressing transport needs, has been positive.
Rwanda	Impact of WFP Regional Food Supply Agreement with Africa Improved Food on farmers' livelihood and rural development in Rwanda	1. **Employment.** AIF was established specifically to produce for WFP. New job opportunities emerged. During construction of AIF infrastructure, 15,000 people were employed. Currently there are 208 people working at its manufacturing site.[198] 2. **New market and increased income for smallholder farmers (SHF) and cooperatives.** AIF procures raw materials from the local market. AIF is currently working with 45,000 farmers. AIF buys 22,238 MT of maize from within Rwanda against their requirement of 30,000 MT.[199] In 2017, AIF sourced 3,544 MT from smallholder farmers in Rwanda, but in 2021 AIF sourced 19,118 MT from smallholder farmers in Rwanda.[200]. 3. **Growth in cooperatives sector.** This growth is nurtured by the Farm to Market Alliance (FtMA) where farmers' yield has increased and they are able to sell commercially to schools, manufacturers, cooperatives and to WFP. 4. **Improved food standards.** Farmers are required to produce a specific quality of raw material for AIF to use in its production in order to meet WFP standards. AIF trains SHF's on moisture control, shelling	AIF started its business in Rwanda producing for WFP, but is now serving other clients and exporting its products. AIF now produces a new product, NutriPro Family Porridge through a new partnership signed in 2019 with a second company, Tropical Brands Africa.

[198] AIF, n.d.a

[199] Data sourced from AIF PowerPoint Presentation, 2022

[200] Data sourced from AIF PowerPoint Presentation, 2022

Country	Area of focus	Outcomes	Comments on sustainability
		and handling to decrease post-harvest losses, creating awareness on quality control and assurance. To motivate the farmers to continue producing and maintain standards, AIF pay a premium of 10 percent more to the SHF and allow them to retain a certain percentage of their produce for their own consumption. AIF hosts a small field team, whose responsibilities are relationship building, aggregation, and post-harvest handling services. Maize rejections due to aflatoxin during the first season of the year have decreased from 92 percent in 2017 to 5 percent in 2015[201]. 5. **Improved capacity of SHF.** AIF invests resources in training of farmers on production of quality crops and encourage farmers to increase their yield to meet market demand. In order to guarantee the quality of the crops that they purchase, AIF also provides capacity strengthening for SME's in the local value chain on post-harvest handling and increase awareness of quality control & assurance. 6. **Vibrant transport sector.** Before WFP started working with AIF, according to informants, the transport sector was very dormant. Particularly in terms of overland, cross border movement of food from Rwanda. The number of registered trucks in Rwanda have grown progressively every year since 2015 which recorded 4,933 trucks and 2020 recording 9,680.[202] 7. **Increased local investment.** In order to fulfil its contractual obligations with WFP, AIF built offices, processing plants and equipped these plants to produce the super cereal, for sale locally and to export to other countries in the region. 8. **Boosted local economy.** • WFP previously imported super cereal from Europe. Through AIF, WFP has created local capacity that is not only able to produce the products locally but has also opened up an export market for Rwanda. Money that was initially paid to foreign countries now circulates in the local economy • Local transporters are able to do cross-border business and expand their operations into the region. Any cross-border truck movement related to new exports by AIF is increased revenue into the economy.[203] 9. **Growth of the business sector.** Other companies have opened up with the hope of providing services to organizations that are doing business with WFP. E.g., Laboratories have opened up locally with the hope that WFP will start testing the manufacturers' products locally. However, linkages are yet to be established. 10. **Increased revenue for the Government.** In meeting their tax and statutory obligations, AIF and entities associated with AIF operations have increased revenue for the government, including revenue gained from exporting products manufactured by AIF.	
	WFP work on smallholder's market	1. **Commercialization of farming.** In collaboration with other partners, WFP has empowered SHF with the intent of creating markets and enabling them to commercialize their farming. The Farm to Market	Increased partnerships between the private sector and SHF increases

[201] Data sourced from AIF, 2022

[202] Data obtained from Rwanda Revenue Authority RRA

[203] The New Times, 2014

Country	Area of focus	Outcomes	Comments on sustainability
	integration and aflatoxin control.	Alliance (FtMA), a value chain development programme, is a private and public sector partnership whose aim is improve SHF's livelihood, linking them to commercial markets, resulting in improved incomes and resilience. The Alliance includes Syngenta, Bayer, WFP, and the Alliance for a Green Revolution in Africa and Yara International ASA. FtMA helps farmers to transition to commercial agriculture. As at 2018, FtMA was supporting more than 85,000 SHF.[204] 2. **Reliable food pipeline established in the food system**. WFP has contributed to change through FtMA, Smallholder Agricultural Market Support (SAMS) and partnerships. E.g., Farmers are linked to buyers including Minimex through WFP. There has been impact through the creation of community groups and cooperatives. What farmers cannot sell to Minimex, they are able to sell to WFP. WFP is able to buy beans from cooperatives for its programmes, and cooperatives in turn buy from the SHF. 80 percent of WFP food commodity requirements were being purchased locally and from smallholder farmers. In 2018 WFP procured 47,705 MT of food worth USD 37.3 million.[205] 3. **Increased capacity of SHF**. WFP Nutrition Unit and supply chain provide training to SHF on post-harvest handling to minimize loses and produce nutritious foods in demand on the market.	sustainability. SHF have been incorporated into the food supply chain and are now delivering more than before. In the maize value chain in 2017, contract compliance between cooperatives and formal buyers was around 25 percent. There has been a huge increase to beyond 100 percent.[206]
	Supply chain optimization of the National Fortified Blended Food (FBF) and capacity-strengthening activities.	1. **Government capacity on fortified blended food production**. The Government of Rwanda has introduced a locally manufactured product for local consumption and branded it. It is a fortified food with the same formulation as that produced by AIF, with the intention of scaling up to the national level. WFP now proposes to stop distributions and build Government capacity on managing the supply chain. 2. **Food standards**. WFP is working on a strategy with the Government and Rockefeller foundation to push whole grain to improve sustainability of food system. Whole grain has lots of benefits, is cheaper (12 percent cheaper per metric ton), addresses short term hunger, the nutrient content (iron, protein, and vitamin) is higher. Though Minimax is WFP preferred supplier for fortified maize meal, they struggle to meet WFP standards. 3. **Input on Government Policy formulation and review.** WFP is very closely involved in policy formulation and review, building government capacity in the process. For example, WFP supply chain team have supported the Ministry of Education on a procurement model and operational guidelines for school feeding (ongoing work). In addition, the WFP Food Technologist is a member of three technical committees, ensuring that WFP proactively engages in specification of national standards. Recently, WFP have engaged in the standards on milk products and fortified sugar (these standards are in review stage and not finalized).	WFP involvement in the development and review of policies, as well as WFP leadership as the chair of the Technical Committee for Nutrition and food Special Dietary Uses, ensures that the Government take ownership and guarantees continuity.[207] However, the changes due to capacity strengthening are not always sustainable. For instance: "While the strategic Outcome 3 [of WFP Rwanda's CSP] was able to support capacity-strengthening activities, the intended enhancement of the electronic Logistics Information Management System (e-LMIS) under

[204] WFP, 2021a

[205] WFP, 2019c

[206] Source: Key informant interview

[207] WFP Rwanda, 2019b

Country	Area of focus	Outcomes	Comments on sustainability
			the FBF programme could not be achieved."[208]
Sudan	Post-harvest loss interventions	1. **Reduction in losses through hermetic storage bags.** WFP have provided hermetic storage bags to productive SHFs to reduce losses. Qualitative evidence for reduction of losses through the use of hermetic storage bags exists, but insufficient data to quantify. 2. **Extensive adoption of hermetic grain bags not yet seen.** Extensive adoption of hermetic grain bags more widely amongst SHFs has not yet been seen, but the programme is still in infancy. To date, just three selling points with agri-dealers have been established for sale of hermetic bags.	Sustainability of hermetic storage bags is dependent on uptake by the private sector to sell hermetic bags. The main constraint is likely to be the limited profitability of the grain bag as a stock item for dealers.
	Procurement	1. **Diversification of business for traders.** The number of traders in Sudan has remained stable. However, as a result of increased volumes being procured by WFP Sudan, it is recognized by key informants that traders have branched out into other business, including transport. 2. **Increased incomes and access to finance and agricultural inputs for SHFs**. WFP Sudan procures sorghum from the Agricultural Bank of Sudan (ABS). The contract between WFP and ABS has been in place since 2017 and WFP have been the biggest partner for ABS on sorghum. Through this contract WFP are able to ensure that the farmers supplying ABS are paid and treated well, enforcing WFP focus on benefitting vulnerable populations. It is understood that ABS support farmers financially and with agricultural inputs. They also provide farmers with a reliable market. However, quantitative evidence on outcomes for farmers is not available and WFP Sudan is in the process of developing activities so that the contracts that farmers hold with ABS are better understood. 3. **Standards of storage in Sudan have not increased adequately as a result of WFP procurement contracts**. Since WFP started a large contract with ABS in 2017, the ABS storage and cleaning facilities for sorghum have not been improved and do not meet WFP demands. However, following a review in November 2019 of the Agricultural Bank of Sudan's (ABS) capacity, WFP supported the ABS' request for assistance to rehabilitate grain silos in Gedaref, as their outdated equipment has been a major constraint to increased efficiency and effectiveness of operations. The silo rehabilitation project started in 2021 with an assessment of technical needs. The aim being was for the silos to provide a better platform for food grading and bagging, as well as efficiency and quality to support food exports and national market supply. Similarly, more broadly amongst traders, there has been limited increase in trading infrastructure (storage or cleaning capacity) amongst traders. There has been limited investment in trading infrastructure by traders as a result of increased business. However, it was noted that wholesalers are starting to demonstrate to WFP that they are investing in storage capacity to meet WFP standards, as a result of WFP training. However, these improvements have not yet been realized with all traders and many traders are reluctant to invest in storage capacity.	A key challenge for WFP has been to convince Agricultural Bank of Sudan staff to embrace the need for change and to improve grain storage capacity.

[208] WFP Rwanda, 2019b. P. 12.

Country	Area of focus	Outcomes	Comments on sustainability
		4. **No increase in women traders responding to tenders.** There have been no women responding to tenders in Sudan. 5. **Sorghum supplier businesses are expanding as a result of contracts with WFP**. WFP informants noted that several wholesalers that started small-scale now have large contracts with WFP.	
	Transport	1. **WFP Sudan have played an important role in preventing food transport crisis through supporting the supply of fuel.** In late 2017 there was a serious fuel shortage in Sudan[209] which necessitated WFP taking on the international and local procurement, and operational provision of fuel, with services being managed as a common service.[210] During the evaluation period, the increasing number of requests from aid organizations led to an expansion of field-based depots for fuel (to a total of 16). The priority was to provide fuel for transport companies (included as part of their service contracts with WFP), particularly during rainy seasons. This approach had a very positive effect on transport performance, particularly when compared to other WFP operations in the region. By early 2021, WFP held over 70 fuel service level agreements (SLAs) with INGOs, UN agencies and donors.[211]	
	CBT	1. **Increase in retailers and livelihoods for host communities.** Although WFP Sudan do not have quantitative evidence, informants noted that at almost all distribution sites that cash distribution was introduced at, the number of small retailers has increased.	
Uganda	Local procurement and smallholder market access initiatives (Agricultural Markets Support Programme in South West Uganda/ Home Grown School Feeding (Karamoja Feeds Karamoja)	1. **Increased presence of nutritious foods in markets.** Key informants and WFP annual reports suggest that more locally produced nutritious foods are now available in markets as a result of WFP supported farmers from the Agricultural Markets Support Programme. However, there is an absence of outcome data to verify this change over time. In addition, it is noted that Covid-19 delayed progress under the Agricultural Markets Support Programme. The role of the WFP supply chain team in the Agricultural Market Support Programme is unclear. 2. **Purchases from smallholder farmers increased, although still very small in comparison to overall national grain supply system.** As part of the Karamoja School Feeding Programme and WFP and Government objectives to increase local sourcing of both dry and fresh foods, WFP procured 80MT of graded maize worth USD 31,256 from two supported farmer organizations in the Karamoja region in 2020, compared to 34 MT purchased in 2019 from across Uganda, including from the Karamoja region. In 2020, WFP conducted a farmer follow-up survey that indicated an increase in sales volumes at 13,236 MT (11,785 men and 1,457 women) through farmer organizations across	

[209] Fuel shortages were caused partly by oil refinery breakdown and lack of foreign currency to import fuel.

[210] All bilateral logistics services were provided on a 100 percent cost recovery basis plus 4.5 percent overhead through a Bilateral Service Provision platform.

[211] Fuel was accessed via service agreements and WFP service marketplace system (SMP).

Country	Area of focus	Outcomes	Comments on sustainability
		Uganda, especially maize grain, compared to the 2019 results at 137 MT[212]. However, limited data was available to assess a change over time. 3. **Increased capacity of subnational government personnel as a result of WFP training on agriculture and market support.** However, the wider outcomes in the food systems as a result of this training are unclear.	
	Food fortification	1. **Millers in Uganda only buy fortificants to fortify food for WFP; therefore, WFP requirements have not had a wider impact on the standards followed by local millers for the Ugandan market.** Although Uganda National Bureau of Standards (UNBS) requires millers who mill above a certain MT of grain per day to fortify their milled maize, most maize in Uganda is milled by millers who produce less than the threshold. As a result, most maize meal is not fortified. If larger millers complied with the standards, it would lead to increased costs and possibly loss of market share, so they do not fortify the maize meal. Therefore, UNBS does not enforce compliance. In contrast, WFP Uganda contracts require local millers to fortify their milled maize. Fortificants are not available locally and so millers import the fortificants. This only affects large millers in Uganda. Interviews reported that most (80 percent) maize meal is milled by small producers who are not required by UNBS to fortify their foods. These millers would not bid for WFP procurement.	Not enough evidence from evaluation to comment.

[212] WFP Uganda, 2020.

Annex 12. Findings Conclusions and Recommendations

Recommendation	Conclusions	Findings
Recommendation 1: Enhancement of Inclusiveness in Procurement and Distribution **WFP should consider promoting high levels of stakeholder participation in order to maximise the competitiveness of food systems**. Such an approach would focus on the inclusion of stakeholders who would otherwise be precluded from commercial interactions with WFP by virtue of different constraints, but especially economies of scale, lack of commercial expertise, or lack of finance. **Specific constraints may further restrict the participation of women and other disadvantaged groups**. The following measures are recommended: 6. Consider the implementation of **initial research to identify and assess the constraints to stakeholder participation** in the following areas: • Accessing finance to purchase, transport and store grain. • Price and producer discovery. • Responding to commercial tenders, both on-line and in hard copy. • Meeting quality standards. • Adequate financial management. In addition, specific constraints faced by women and other disadvantaged groups should be researched including in the areas of: • Public access. • Physical safety and respect. • Social networking. • Access to technology and computer literacy. 7. **Incorporate measures within Supply Chain activities to relieve the identified constraints**, including the following: • Liaison with financial service providers to investigate the potential for the use of WFP contracts as partial security for revolving loans to suppliers. • Convening regular Supply Chain Stakeholder gatherings open to all potential suppliers, designed to achieve one or more functions including:	See conclusions on production and procurement (paras 195-201) and inclusiveness (paras 214-218)	EQ4 (paras. 103-107); EQ7 (Box 12); EQ8a (para 136); EQ8b (para. 138-141); EQ8c (paras 142-145); EQ 12a (para 186)

○ The introduction of financial service providers and dissemination of information on requirements to access finance. ○ Provision of information and training in WFP tender procedures, including standards ○ Introductory information on courses in business and financial management, and computer literacy ○ Business to business networking (locations and formats that allow stakeholders to network safely and effectively (this may require attention to location, accessibility, meeting format and timing). • Development of curricula for training in business and financial management, and computer literacy. 8. **Consider setting aside a proportion of annual procurement volumes as small lots with a maximum number open to any one bidder**. 9. In the longer term consider solutions such as: • Introduction and promotion amongst suppliers of the E-Soko platform for market discovery (https://esoko.com) that can provide a buyer-focused Market Information System on a commercial basis, • Providing training in warehouse management, and support for the certification of warehouses to assist traders to aggregate commodities and to participate in low cost electronic marketing platforms (that could include WFP as a buyer) such as the G-Soko platform managed by the EAGC. • Decisions as to whether and where WFP would wish to engage with these services, would require an assessment of the services themselves, their costs and the benefits that they might provide both to WFP and to stakeholders (i.e. producers, producer groups and traders). 10. **Consider the sponsorship of new entrants to wholesale supply markets by guaranteeing lines of credit** (that are limited but nevertheless adequate to undertake wholesale purchases) provided to new businesses by financial service providers. In this instance, WFP would specify the credit limit, nominate the borrower and guarantee up to 20% (or other negotiated proportion) of the value lent for a period of up to 12 months		
Recommendation 2: Access to Markets **WFP COs should consider mainstreaming infrastructural development and in particular the rehabilitation of trunk roads, feeder roads and waterways as a component of market development.** Steps towards this approach would include:	See conclusions on development of physical infrastructure (paras 207-208)	EQ3 (para 72-75); EQ 8c (para 145); EQ 9a (para 151); EQ 11 (para 183-195)

7. Preparation of materials to promote and explain the low cost rehabilitation methods that have proven successful in South Sudan within WFP. 8. Compilation of lists of problematic areas in each country where market development is constrained by poor access (due to the condition of feeder roads, trunk roads, and waterways). 9. Promotion of the choke point approach to road rehabilitation with relevant national or local authorities. 10. Convening of in-person workshops in those countries where the specific technologies are relevant, so that experienced staff can provide training and assistance in the development of rehabilitation programmes. 11. Undertake baseline data collection to determine the condition of existing markets prior to rehabilitation work. 12. Follow up with regular post-rehabilitation market assessments to determine impacts and provide the necessary justification for future maintenance (if appropriate).		
Recommendation 3: Data Collection and Analysis **WFP RBN should consider the adoption at CO level of data collection and management systems specifically to monitor changes in food systems, addressing three thematic areas:** a). procurement/market development, b). transport and storage, and processing and c). capacity development. Changes should include the specific concerns of disadvantage groups within each area. Establishment of the monitoring process would include: 5. Undertaking preliminary research to identify the relevant stakeholders (those other than direct beneficiaries who might be affected by Supply Chain activities in each area), prioritize their concerns, both positive and negative, and identify potential outcomes. 6. Developing indicators and methodologies that could be used to assess the extent of potential outcomes in each thematic area. Specific considerations that might be addressed include: a. Procurement and market development: • Regular (annually revised) value chain analyses for common staples to determine the value added and the potential profit derived from transactions at each stage of food systems, to determine how returns to investment are distributed within each sub-sector. • Changes in the extent to which women and other disadvantaged groups are represented amongst stakeholders, in terms of numbers and economic/volumetric proportions.	See conclusion on development of government capacity (para 209) data collection and analysis (paras. 211-213)	EQ5 (paras 108-111)

- Annual assessment of relevant food commodity markets (i.e. those potentially affected by WFP supply chain activities) using tools such as the market functionality Index in order to monitor development progress.

b. Transport and Storage, and Processing

- Recognizing the inherent difficulty in determining national storage or fleet capacities, it is recommended that assessment should consider the economics of transport, storage and processing, in terms of returns to investment, and investor confidence for stakeholders both contracted by, and independent of WFP.
- Changes in the extent to which women and other disadvantaged groups are able to participate both as investors and as employees within each subsector.

c. Capacity development

- **Monitoring of capacity development should be based upon the change in performance of the institutions supported rather than the direct outputs of the intervention**. This will require monitoring programmes tailored to the functions of the institutions supported. Assessment may not be possible on a regular basis (e.g., Disaster risk and reduction management institutions can only be properly assessed by the nature of their performance in the event of a crisis) but will generally require baseline data against which any changes can be measured.
- Insofar as women and other disadvantaged groups are concerned, the assessment of capacity should determine both changes in the extent to which different groups are represented within institutions supported by WFP, and more importantly, changes in the extent to which those groups are able to benefit from the enhanced capacities of those institutions.

7. **Establishing baseline data both as benchmarks of change and as a check on the effectiveness of the methodologies and indicators selected**. Given the inherent difficulties in both measuring outcomes within food systems and attributing changes to Supply Chain activities, the following considerations are also recommended:

a. Methodologies should where possible be based upon panels of respondents for each set of stakeholders affected by WFP supply chain interventions including smallholders, traders, processors, wholesalers, transporters and retailers. The panels should be set up in anticipation of a ten-year data collection exercise.

b. Panel data should include control groups that are well enough matched with panel groups to allow difference in difference analyses to be made without making assumptions about differential effects.

c. **In those instances where analyses are unable to generate data that is statistically robust it is recommended to complement quantitative data assessment with occasional qualitative assessments when important changes become evident**. The qualitative assessments would be designed to validate and explain observed changes and to suggest ways in which development could be strengthened. 8. Assessing the resources required to allow a dedicated food system data collection and analysis unit to operate according to the principles and procedures described above with sufficient functionality to provide useful input to supply chain decisions at CO level.		
Recommendation 4: Reduced Post-Harvest Losses WFP Cos should consider strengthening post-harvest loss reduction activities by: 3. Advertising and paying a premium to smallholders for all grains delivered in hermetically sealed bags, to offset the cost of the bag. 4. Developing commercial relationships with maize shelling businesses or establishing their own maize shelling operations to allow smallholders to reduce harvest time by delivering and selling unshelled maize cobs (as practiced by Kumwe Harvest and AIF in Rwanda).	See conclusions in Production and Procurement (paras 195-201)	EQ3b. (Box 7 and paras 86-91); EQ3c (paras 92-93). EQ 8c (para 144); EQ11 (para 180-182)
Recommendation 5: Climate Change Mitigation WFP major focus on transport and distribution allows few opportunities for the mitigation of climate change. **Nevertheless, WFP Supply Chain units should consider the regular estimation the carbon footprint of WFP distribution exercises for purposes of both the comparison of different distribution modalities and emission audits**. Estimates of carbon dioxide emissions for transport of food between different locations using different modalities can be readily obtained using on-line emissions calculators (e.g., https://www.carboncare.org/en/co2-emissions-calculator.html) to determine the carbon footprint per ton of food distributed for each shipment or distribution exercise	See conclusions on Data Collection and Analysis (paras 211– 213)	EQ1 (paras 54-59) and EQ1a (paras 62-64)

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Acronyms

ABS	Agricultural Bank of Sudan
ACR	Annual Country Report
AIF	Africa Improved Foods Rwanda Limited
ALNAP	Active Learning Network for Accountability and Performance in Humanitarian Action
AMS	Agricultural Markets Support
ASALs	Arid and Semi-Arid Lands
ATA	Agricultural Transformative Agency
B2B	Business to Business
BEE	Business Enabling Environment
C&F	Clearing and Forwarding
CAR	Central African Republic
CBT	Cash Based Transfers
CGAP	Country Gender Action Plan
CO	Country Office
CP	Cooperating Partner
CRF	Corporate Results Framework
CSB	Corn-Soya Blend
CSP	Country Strategic Plan
DAC	Development Assistance Committee
DEQAS	Decentralised Quality Assurance
DMP	Doraleh Multi-Purpose Port
DRC	Democratic Republic of Congo
DRM	Disaster Risk Management
e-LMIS	Electronic Logistics Information Management System
EC	European Commission
EMG	Evaluation Management Group
EQ	Evaluation Question
ERC	Ethiopian Railway Corporation
ERG	Evaluation Reference Group
ESFP	Emergency School Feeding Programme
ET	Evaluation Team
FAO	Food and Agriculture Organisation
FBF	Fortified Blended Food
FDC	Food Distribution Center
FFV	Fresh Food Voucher
FGD	Focus Group Discussion
FMIP	Food Management Improvement Project
FSQ	Food Safety and Quality
FtMA	Farm to Market Alliance
GDI	Gender Development Index
GDP	Gross Domestic Product
GGGI	Global Gender Gap Index
GHI	Global Hunger Index
GoK	Government of Kenya
HDI	Human Development Index

HGSF	Home Grown School Feeding
HLB	Humanitarian Logistics Base
HQ	Headquarters
iCSP	Interim CSP
IDP	Internally Displaced Person
IM	Information Management
IPC	Integrated Food Security Phase Classification
JP RWEE	Joint Programme on Accelerating Progress Towards the Economic Empowerment of Rural Women
KEPHIS	Kenya Plant Health Inspectorate Service
KII	Key Informant Interviews
KNCCI	Kenya National Chamber of Commerce
KPA	Kenya Ports Authority
KRA	Kenya Revenue Authority
LEWIE	Local Economy-Wide Impact Evaluation
LRFPP	Local and regional food procurement policy
LRP	Local and Regional Procurement
M&E	Monitoring and Evaluation
MASS	Ministry of Social Affairs and Solidarities
MFI	Market Functionality Index
MoU	Memoranda of Understanding
MPOS	Mobile Point of Sale
MT	Metric Tonnes
NFI	Non-Food Item
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OEV	Office of Evaluation
ONARS	National d'Aide aux Refugiés et Sinistrés
P4P	Purchase for Progress
PHL	Post-Harvest Loss
PLWG	Pregnant and Lactating Women and Girls
PPE	Personal Protective Equipment
PPP	Purchasing Power Parity
PSNP	Productive Safety Net Programme
QS	Quality Support
RAS	Refugee Affairs Secretariat
RB	Regional Bureau
RBA	Rome Based Agencies
RBN	Regional Bureau for the East and Central Africa region, Nairobi
RPME	Retail Performance Monitoring Evaluation
SAMS	Smallholder Market Support Project
SC	Supply Chain
SDG	Sustainable Development Goal
SGR	Standard Gauge Railway
SHF	Smallholder Farmer
SLA	Service Level Agreement
SNF	Special Nutritious Foods
SO2	Strategic Outcome 2

SPR	Standard Project Report
TL	Team Leader
TOC	Theory of Change
TOR	Terms of Reference
UN	United Nations
UNBS	Uganda National Bureau of Standards
UNEG	United Nations Evaluation Group
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNSCN	United Nations System Standing Committee on Nutrition
USAID	United States Agency for International Development
USD	United States Dollar