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TRANSFORMING AGRICULTURE IN SOUTH SUDAN

FROM HUMANITARIAN AID TO A DEVELOPMENT ORIENTED GROWTH PATH

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TRANSFORMING AGRICULTURE IN SOUTH SUDAN
FROM HUMANITARIAN AID TO A DEVELOPMENT ORIENTED GROWTH PATH

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Abbreviations and acronyms

ACLED	Armed Conflict Location & Event Data Project
CAADP	Comprehensive Africa Agriculture Development Programme
CAHWs	Community Animal Health Workers
CAMP	Comprehensive Agriculture Master Plan
CDD	community-driven development
CMI	Michelsen Institute
CPNCK	Kivu Cooperative of Coffee Traders and Planters
ECRP	Enhancing Community Resilience and Local Government Project
FAO	Food and Agriculture Organization of the United Nations
FCV	fragility, conflict and violence
FFS	farmer field schools
FSAD	Food Security and Agricultural Development
FYI	Foundation for Youth Initiative
GEF	Global Environment Facility
GDP	gross domestic product
GIEWS	Global Information and Early Warning System on Food and Agriculture
HDP	humanitarian-development-peace
IDPs	internally displaced persons
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
IOM	International Organization for Migration
IPC	Integrated Food Security Phase Classification
JICA	Japan International Cooperation Agency
MAFS	Ministry of Agriculture and Food Security
NGO	non-governmental organization
P4P	Purchase for Progress
PfRR	Partnership for Recovery and Resilience
PFS	Pastoralist Field Schools
POs	producer organizations
PPP	purchasing power parity
PROPEL	Ongoing Participatory Engagement and Learning
R-ARCSS	Revitalized Agreement on the Resolution of the Conflict in the Republic of South Sudan
RUFI	Rural Finance Initiative
SME	small and medium enterprise
SORUDEV SSR	South Sudan Rural Development: Strengthening Smallholders' Resilience
SSA	sub-Saharan Africa
SSADP	South Sudan Agribusiness Development Program
SSAPU	South Sudan Agricultural Producer's Union
SSLRP	South Sudan Livelihoods Resilience Project

SSNP	South Sudan Safety Net Project
SSR	Security Sector Reform
SUN	Scaling Up Nutrition
UNICEF	United Nations Children's Fund
UNMISS	United Nations Peacekeeping Mission in South Sudan
USAID	U.S. Agency for International Development
VEMSA	Village Economy Market Saving Associations
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure
VSLA	Village Savings and Loan Association
WFP	World Food Programme

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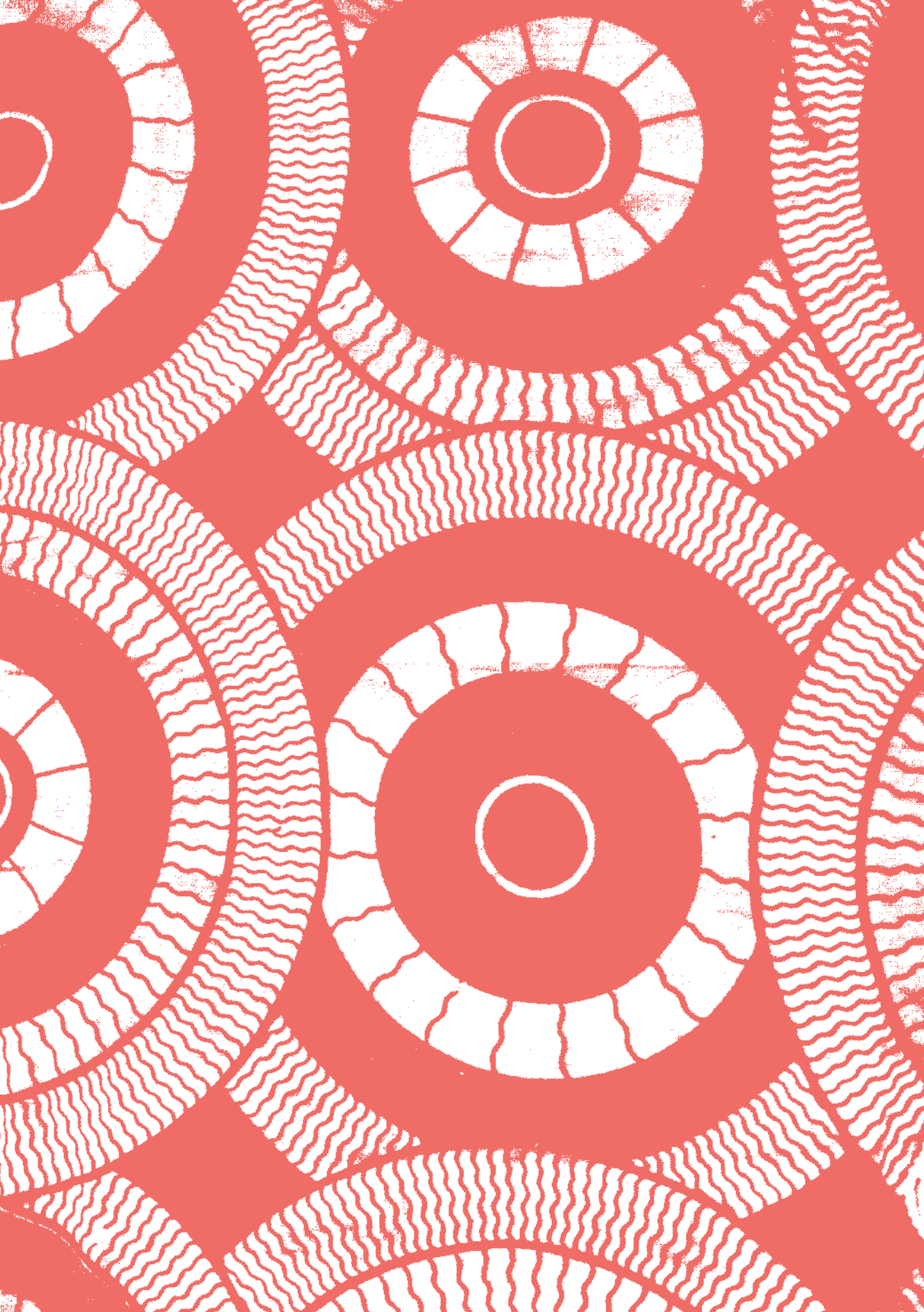

Executive summary

OVERVIEW

1

The need for transforming agriculture and the food sector from current humanitarian aid dependence to a more development-oriented growth pathway remains a high priority in South Sudan, even as the near-term outlook for peace, security and macroeconomic stability is uncertain. Such a pathway requires a comprehensive approach that goes beyond the narrow domain of agricultural productivity improvement and value chain development to rebuilding human and social capital and trust among communities that have been eroded throughout years of conflict and government failures. This report aims to address this complex development challenge. It combines an extensive synthesis of the issues related to the agricultural and food system, business environment, policies, as well as institutions and governance spanning several economic sectors in South Sudan. Furthermore, the report includes an assessment of past experiences in South Sudan as well as other similar fragile, conflict and violence (FCV) affected countries. It derives from this analysis a set of investment strategies and enabling conditions for the transformation of food systems in the country, and provides a comprehensive synthesis of the existing knowledge that can be built upon by development institutions who plan to engage in the agricultural and rural development agenda in South Sudan.

Since its independence in 2011, South Sudan has undergone persistent crises and conflicts and overall, after decades of civil war emerges as an extremely fragile country. Years of conflict (Figure A) have led to one of the lowest human development outcomes globally. In South Sudan, 45 percent of the population under 15 years of age has one of the lowest life expectancies at birth in the world (58 years), massive population displacements and extremely high poverty levels (about 80- 90 percent of the people depending on estimates) (Figure B). Despite widespread humanitarian aid, since July 2020 food insecurity has been dire with over 60 percent of the population at risk due to acute malnutrition, of which 24 percent are children under five years of age, and the trend is worsening (Figure C). The drivers of this crisis are increasingly anchored in macroeconomic mismanagement, in addition to conflict and weather-related shocks. Furthermore, rural infrastructure (Figure D) and resilience to shocks and domestic food production lag behind similar situations in sub- Saharan fragile and conflict-affected countries.

Despite these enormous challenges, South Sudan's agricultural potential represents a development opportunity not only to improve food security, but also livelihoods, jobs and peace in the country. Agriculture, including crops, livestock and fishery, is still the major source of livelihoods for most South Sudanese people. Yet the productivity sector is among the lowest in the world, with rudimentary food value chains. Developing agrifood systems can have a tremendous job-multiplier effect beyond primary production, yielding to new and adequate job opportunities in the more downstream segments of the food value chains.

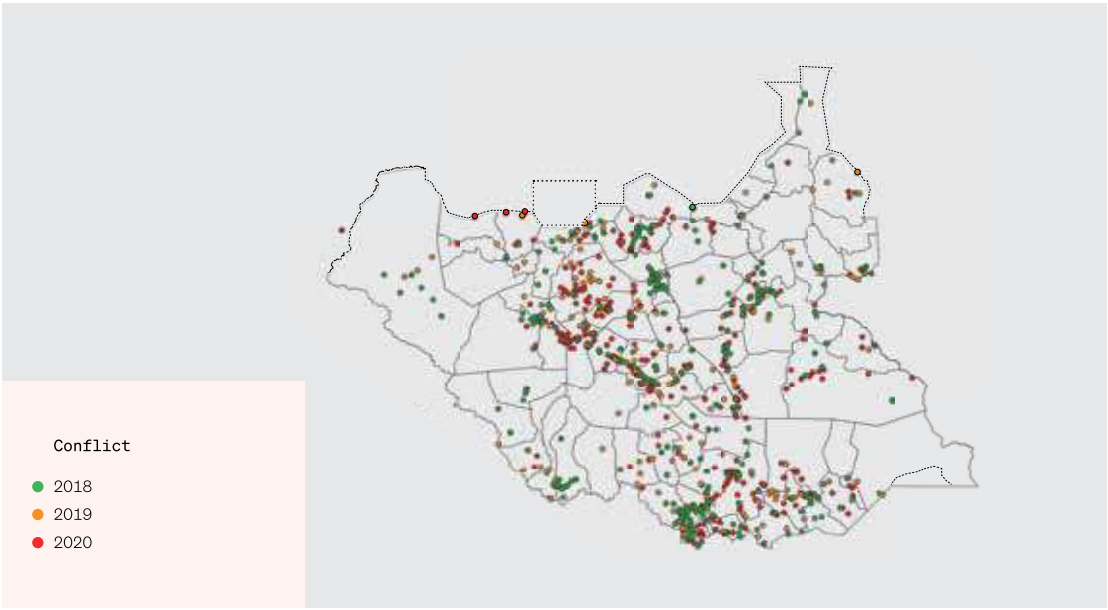

Figure A
Conflict over 2018-2020

Source: Authors, based on data from ACLED (Armed Conflict Location and Event Data Project). 2020. CDT spotlight: growing pressure in South Sudan.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

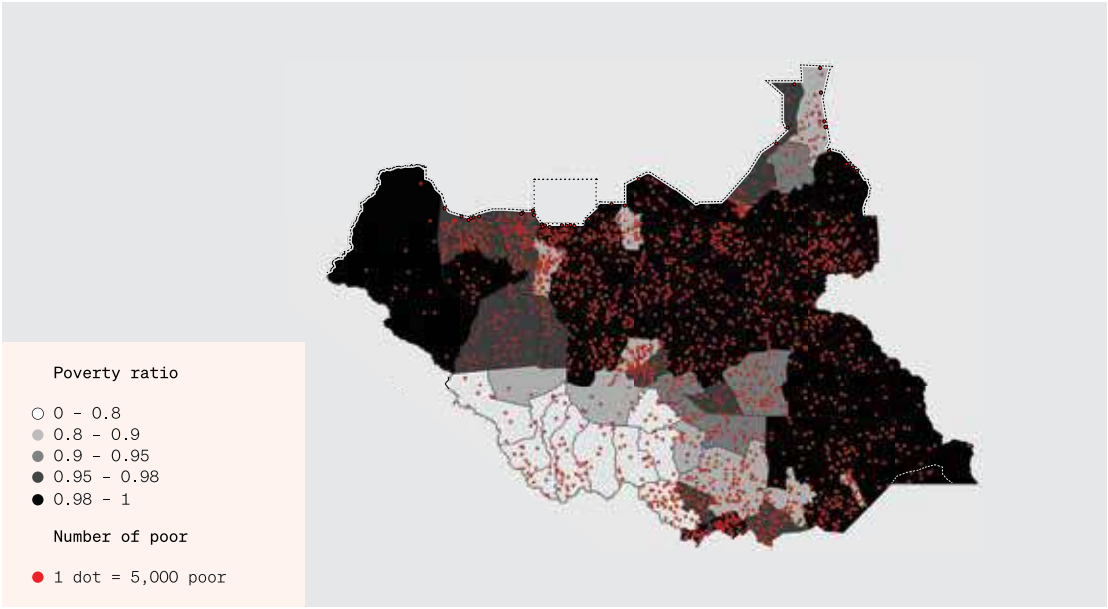

Figure B
Poverty incidence and density in 2018

Source: Authors, based on data from World Bank Group. 2018. *Central African Republic - Emergency Food Crisis Response and Agriculture Re-Launch Project.* Project performance assessment report No. 127422. World Bank Group/JPEG, Washington, DC.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

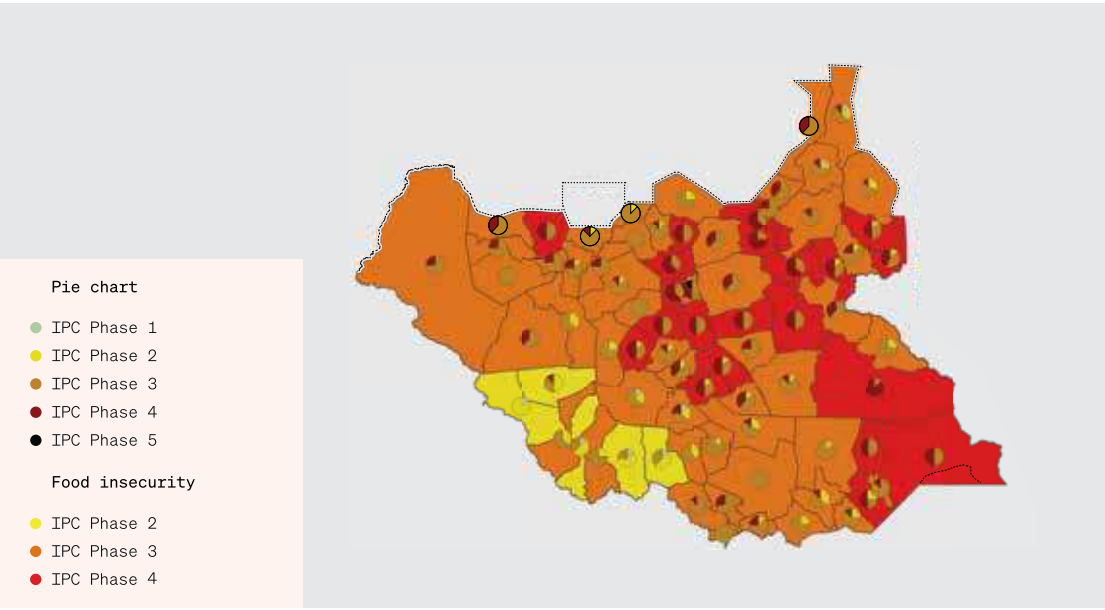

Figure C
Most frequent food insecurity phase over 2017–2020

Source: Authors, based on data from FEWS NET. 2021. *Widespread emergency (IPC Phase 4) outcomes anticipated at the peak of 2020 lean season.* South Sudan Food Security Outlook: June 2020 to January 2021.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

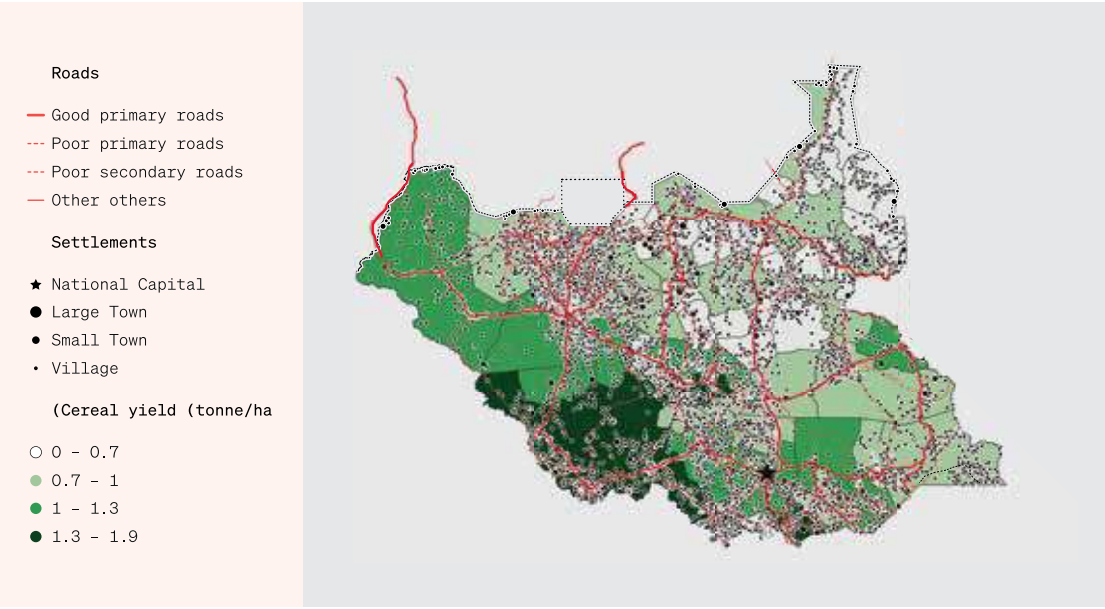

Figure D
Roads, settlements, and crop yields

Source: Authors, based on data from or the OpenStreetMap. 2020. UNOCHA. 2021. South Sudan humanitarian snapshot, OCHA, FAO and WFP 2020. *Special Report – 2019 Crop and Food Security Assessment Mission (CFSAM) to South Sudan.*
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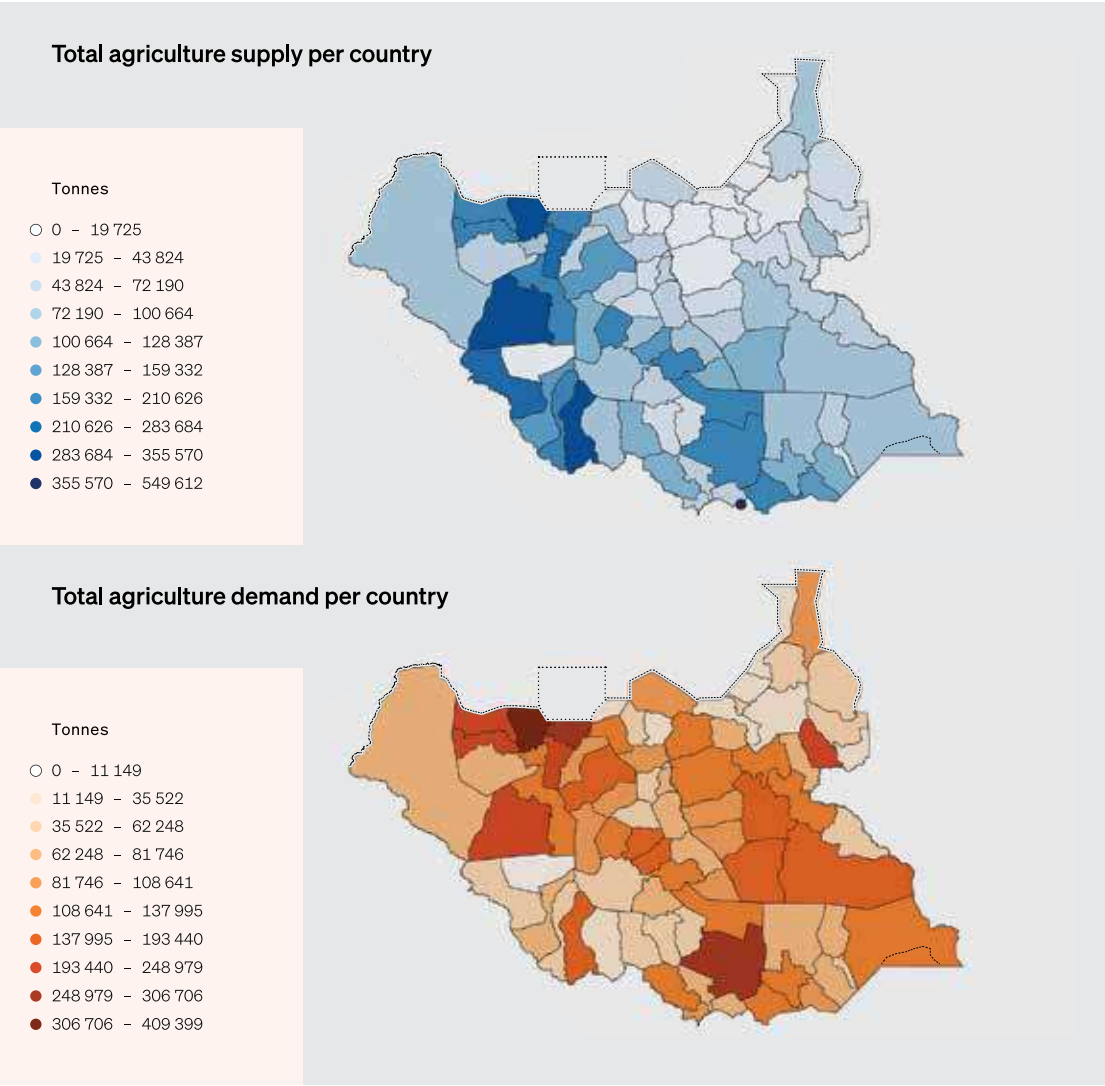

Figure E
Estimates of agricultural total supply and demand by country

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

2

DEVELOPING AGRICULTURE IN SOUTH SUDAN: BUILDING BLOCKS AND BOTTLENECKS

South Sudan's natural resource base would allow a wide array of crop, livestock and fishery food chains. Development of cereal value chains is limited by low productivity levels (about a quarter of that of Southern Africa), a situation that predates the economic crisis and conflict. In addition to cereals, other crops also have good potential to contribute to improved nutrition outcomes (e.g. groundnuts and vegetables). Developing livestock value chains could also present opportunities in areas with more abundant pasture and water resources, if managed well, to mitigate the social and conflict related risks. Fisheries and aquaculture resources are underutilized and could have good potential as an additional source of protein for the population.

Beyond agricultural value chains, opportunities exist for the development of agriculture small business activities. Development of these markets stands out as the highest priority: in recent years, the country has increasingly become dependent on food import markets and humanitarian food assistance to feed its population, while low purchasing power hampers the development of domestic SMEs. Decline in real income by some 70 percent since 2011 and high poverty levels have significantly reduced the purchasing power, as half of the population spends more than 75 percent of their income on food (FAO and WFP, 2020).

Access to financial services is another daunting challenge on both the demand and supply sides. Commercial banks significantly scaled down their activities after the 2016 conflict and now have marginal activities in the country. Access to formal credit for production activities may be the most challenging financial service to develop. Despite their limits, alternative models such as group-lending and village savings and loan associations exist and provide a preliminary basis for investments.

Years of conflicts and chronic underinvestment have led to a crucial lack of a broad range of infrastructure in the country. With the lowest road density in Africa (15 km of road per 1000 km^2 of arable land) and a damaged network, investments in rural roads are critical for the agricultural transition of the country (Figure D). Their lack of safety is another bottleneck in the development of value chains. Only an estimated 4.6 percent of South Sudan's population has direct access to electricity, which suffers severe shortages of supply and extraordinarily high tariffs. Off-grid solutions could help accelerate rapid expansion of electricity access in a cost-effective manner, and benefit agrifood storage and processing. South Sudan's telecommunications sector is also among the least developed in the world. Furthermore, about 0.1 percent of agricultural land is irrigated while water management is a critical bottleneck for farm production.

South Sudan has a policy framework that provides the basis for transformation of agrifood systems, but it is outdated and lacks implementation capacity. The country developed sector and sub-sector policies in the early 2010s, however, officially they have seldom been endorsed and therefore need updating. The 2013 Comprehensive Agriculture Master Plan (CAMP) provides an ambitious framework for investments in the country, with a long-term horizon on which future investment strategies should build, but to a large extent it still has to materialize. Initiatives such as the Scaling Up Nutrition (SUN) or the Comprehensive Africa Agriculture Development Programme (CAADP) framework provide other opportunities worth exploring.

Investing in viable conflict resolution mechanisms is another way to achieve peace locally. Control over land and natural resources is central to South's Sudan conflict history. Intra- and inter-ethnic fighting is widespread and remains frequent, despite the encouraging peace milestones in 2018 and 2020. Enforcing justice will be key to avoiding outbreaks of violence in the near future, together with the support of traditional leaders. Furthermore, improving land tenure through securing rights is another critical action contributing to political stability and agricultural transition. Our review shows that decentralization of the decision-making process, and building on traditional governance systems of management of natural resources, land and conflicts can generate results in fragile situations.

Since 2016, significant efforts have been made to improve the coordination of international aid to South Sudan, in particular thanks to the Partnership for Recovery and Resilience (PfRR) where future efforts should be made. The Government of South Sudan, which currently stands out as a missing player, would need to progressively take ownership and lead these coordination efforts.

FOSTERING TRANSFORMATION OF AGRIFOOD SYSTEMS IN FRAGILE AND CONFLICT-AFFECTED ENVIRONMENTS

3

International guidelines highlight that the interventions in such fragile and violence affected contexts must be conflict-sensitive, while aiming to establish peace and create development adapted to the local situation; furthermore, they must be crisis-resilient and gender-sensitive. Stable partnerships and government ownership are the key factors of success. While the latter is particularly challenging in South Sudan and requires long-term capacity building, community ownership is a parallel path to pursue, as some local approaches have proven to be effective in the country. This report draws practical lessons from the following categories of interventions as the most relevant to South Sudan's agricultural transition.

First, investments in social and human capital through community-based approaches, two of which are highlighted in the report. The "caisses de résilience" is an effective mechanism combining social, technical and financial dimensions of community engagement that has generated a positive impact on the resilience, livelihoods and women empowerment of conflict-affected populations in a number of FCV countries. Community-driven development (CDD) approaches with the dual goal of giving communities control over prioritizing their infrastructure and service needs, have also resulted in positive outcomes in the FCV situations.

Second, strengthening farmer organizations can be an effective way to enable access to technology, inputs and markets. The emerging farmer cooperative movement in South Sudan is an asset to build upon, provided several of its shortcomings are addressed, in particular regarding its organizational and financial capacities.

Third, pursuing territorial approaches offers the possibility to consolidate social and environmental dimensions to contribute to peace. Applied in the disputed Abyei administrative area in South Sudan, such negotiated territorial interventions resulted in a breakthrough and can be replicated in other areas under specific conditions.

Fourth, there are opportunities to support the development of a nascent private sector. International guidelines to foster agribusinesses in fragile and violence-affected countries converge on the needs to improve the policies, government capacity and human capital. Taking a value chain approach facilitates developing coherent investment opportunities that are geared towards internal markets to benefit communities. Though challenging, promising experiences of local value chains can be scaled up in South Sudan - yet access to inputs, markets, roads, energy, storage, information and finance are still critical requirements for successful private sector development in the country.

Last, restoring human and institutional capacities is essential at various levels. At the community level, investments in farm advisory and animal health services and social inclusivity can build on good practices from the past. At higher administrative levels, capacities are required to further guide the transformation of the sector and provide the critical public services.

INVESTMENT STRATEGIES FOR SOUTH SUDAN'S AGRICULTURAL TRANSITION

4

These four strategies are (1) agriculture production, (2) community resilience and social capital, (3) value chain and jobs, and (4) peace consolidation. Table A summarizes their main objectives and the investments they encompass which are structured based on the following dimensions: (i) address the multiple consequences of decades of conflict with a perspective that extends beyond humanitarian support to enable the country to develop its agricultural potential;

(ii) anchor to the existing policy and investment framework while taking into account the institutional and governance weaknesses of the country and; (iii) build on the South Sudan and FCV countries experiences and identify ongoing initiatives that could be upscaled. The four strategies are not exclusive of each other and would be combined over time and space. The main features of each of these four strategies include: (i) rationale; (ii) description of proposed investment pillars with short-, medium- and long-term priorities that are aligned to the CAMP; (iii) the identification of promising ongoing interventions on which to build that could be further upscaled; (iv) roles of stakeholders; (v) key policy reforms and capacity development needs and (vi) a spatial analysis.

Table A
Summary of the four investment strategies developed

Investment strategy	Main Objectives	Set of investments
1. Agricultural production	◆ Food security and nutrition. ◆ Agricultural growth and diversification.	◆ Productivity enhancement. ◆ Extension services. ◆ Animal health. ◆ Farmers' organizations. ◆ Seed sub-sector.
2. Community resilience and social capital	◆ Resilience to conflicts and other shocks. ◆ Poverty reduction. ◆ Social cohesion. ◆ Human capital.	◆ Community-driven development (CDD). ◆ "Caisses de résilience." ◆ Women empowerment.
3. Value chain development and jobs	◆ Economic wealth. ◆ Income. ◆ Jobs, youth employment.	◆ Private sector development. ◆ Agribusiness. ◆ Cooperative movement. ◆ Value addition in agriculture. ◆ Enhance access to finance and markets.
4. Peace consolidation	◆ Peace consolidation. ◆ Conflict resolution.	◆ Territorial development. ◆ Natural resource management. ◆ Enhance land tenure security. ◆ Peace negotiation process.

Source: Authors' own elaboration.

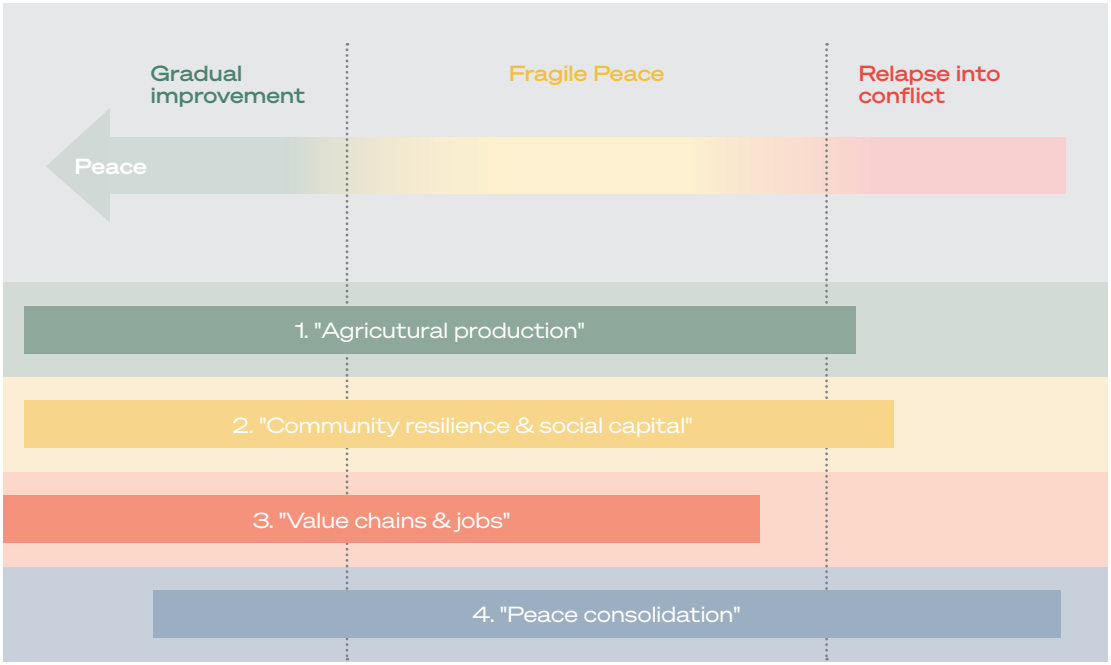

Figure F
Spread of investment strategies over conflict evolution

Source: Authors' own elaboration

Given the context of unpredictable development in South Sudan, there is a need for flexible and adaptive ways to combine investments with these four strategic investment strategies. The level of insecurity, violence and instability is the most important risk factor affecting food security outcomes in South Sudan. Beyond direct human suffering, that is, starvation, other factors are the insecurity caused by looting of assets, restriction of movement of people and agricultural inputs, goods and animals, the reluctance to invest in productive assets and value chain development, in addition to an increase in the influx of internally displaced persons (IDPs) and refugees. This could affect the development outcomes, mainly under Strategies 1 and 3. In turn, the proposed strategies could all potentially bring peace dividends. Community-based approaches have proven to be one of the most resilient interventions in fragile areas and contribute to peace stabilization and conflict mitigation. CDD approaches build on existing forms of social capital to address challenges and strengthen local capacity to effectively resolve localized conflict. Strategy 4 is specifically designed to address the causes of open conflicts over natural resources management. Figure F visualises this indicative combination of the implementation of these four investment strategies across the spectrum of security situations on the ground.

Figure G illustrates how the four proposed strategies could vary geographically depending on how security and peace evolve over time. These strategies present a simplistic way to visualize changing the focus of investment strategies across the space to adapt to the security conditions on the ground.

The right-hand map shows an improving security situation while the left-hand map shows some deterioration, bearing in mind that the road to full stability is not a linear one. Community- based Strategies 1 (green) and 2 (yellow) would be required in large parts of the country and should be adapted according to local needs related to the persistence of conflicts and fragility, while improved stability would increase the agricultural potential (more than 1). Strategies 3 and 4 would be more localized. The red dots in the right-hand map show how the improving peace situation would facilitate some value chain development interventions (Strategy 3), which again should be considered as purely indicative. In turn, an aggravated intensity of conflicts would require more from Strategy 4 (blue stars) with the understanding that some of the interventions foreseen in Strategy 4 would also be required, much beyond specific hotspots to broadly consolidate peace, such as work on securing land tenure.

As a way forward, this analysis can provide ideas for the government and development partners as an input for increased effectiveness and coordination of the development efforts in the country as it relates to food security. This discussion could also be aligned with the existing or upcoming priority setting processes such as CAMP, CAADP, PfRR, the United Nations-led Food System Dialogue and the upcoming European Union/FAO Food System Assessment. It would lead to a consensus on how to best prioritize and blend the proposed investment strategies and identify critical policy and governance gaps. All of these priorities should be addressed by the government, so as to ensure sustainable financing and implementation of the proposed strategies.

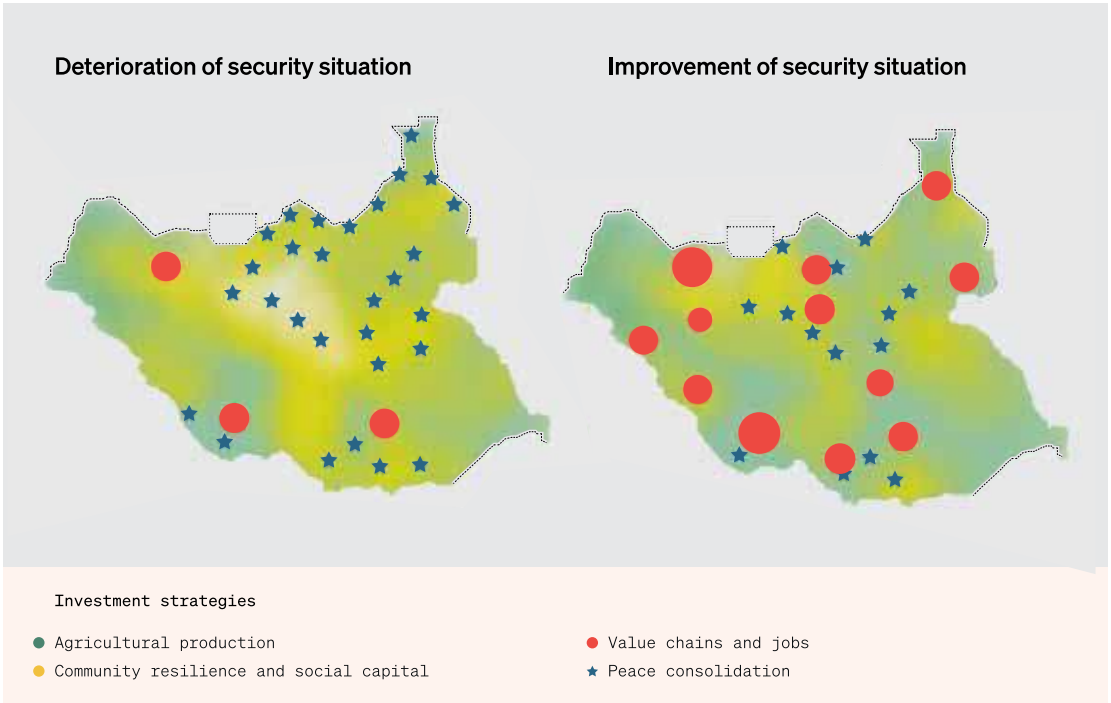

Figure G
Illustrative spread of investment strategies for agricultural development in South Sudan depending on the security evolution

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

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Introduction

A CRUCIAL AGRICULTURAL TRANSITION IN A MOST CHALLENGING COUNTRY: SOUTH SUDAN

1 **South Sudan is the youngest country in the world.** It became independent in 2011 after decades of civil war and the comprehensive peace agreement with the Sudan was signed in 2005. However, the first decade of its sovereignty has been marked by an ongoing crisis. In December 2013, just two years after becoming an independent state, South Sudan descended into a political crisis, in part due to divisions within the ruling Sudan People's Liberation Movement. This led to civil war and a major humanitarian crisis, thus reversing the optimism that had prevailed since the signing of the Comprehensive Peace Agreement in 2005. During the last two years, the overall incidence of violence in the country has gradually declined, however violence persists in many areas and peace remains fragile. More recently there has been an escalation of intercommunal violence (ACLED, 2020; Figure 1) despite the signing of the latest peace agreement in September 2018 by the main political and armed groups.

2 **Progress in the implementation of the peace agreement is slow and structural drivers of conflict remain unaddressed.** Although conflict dynamics and the role of actors have changed over time, conflict in South Sudan can be linked to three major structural drivers (CSRF, 2017). The first driver is a political-military competition of the elite with the state and oil fields (as the main source of income for the state). The competition resulted in different alliances, militarized politics, and power-sharing agreements as a means to address conflict at this level. The second driver comes from citizens: most of them feel isolated from the central state government, and parts of the population have been excluded from or marginalized within government representation and decision-making. The third driver is the lack of secure livelihoods or access to natural resources (grazing areas, water and land), which has intensified community conflicts involving these essential resources. Community-level conflict is exacerbated by the militarization of cattle raiding and ethno-political divisions. Conflict drivers are sensibly interconnected, influenced by past conflicts and a range of proxy causes such as the lack of sustainable state revenues and the widespread availability of arms. To sustain authority in the context of power competition at the national level, political leadership relies on its influence on local dynamics and actors as proxies to advance their agendas, including through violent means.

3 **In addition to conflict, 2019 and 2020 brought additional hardships to the rural population,** as the agricultural sector was hit by an unprecedented dual impact of desert locusts and flooding, adversely affecting the main planting seasons in an already fragile food security situation. In addition, the displacement of population remains massive, with IDPs and refugees in neighbouring countries estimated at respectively 1.6 and 2.2 million in March 2021 (UNOCHA, 2021; UNHCR, 2021; Figure 6). South Sudan is at present an extremely fragile country on all grounds.

4 **Demographically, South Sudanese population is young and diverse.** South Sudan's population is estimated at between 11.2 million and 14.8 million people, depending on the source. With a total area of 645 000 km^2, South Sudan has one of the lowest population densities in the world with between 13 and 18 people per km^2, versus 45 in sub-Saharan Africa (SSA), which about three times more. The population growth rate is high at an estimated 4 percent per year, and the population is very young with an average age of 19, and 45 percent of the population is under 15 years of age. The average number of people per household is seven. It is estimated that about 82 percent of the population is rural. Considering that there are more than 65 ethnic groups and 70 languages are spoken, the sociocultural diversity of South Sudan is high (World Bank Group, 2016). The largest ten ethnic groups constitute approximately 80 percent of the population.

5 **The decades of conflicts and underinvestment have led to low human development outcomes.** Only about 27 percent of the population (40 percent men and 16 percent women) above the age of 15 is literate, and only 25 percent of the population has regular access to basic health facilities. The under-five mortality rate was 100 per 1000 children in 2012 and has stagnated at this level since then. Consequently, the life expectancy at birth is currently 58 years - one of the lowest in the world. In 2020, South Sudan ranked 185th out of 189 countries according to the Human Development Index (Human Development Report, 2021).

6 **Women face particularly difficult conditions due to the traditional patriarchal system and the consequences of the conflict.** The maternal mortality ratio was the highest in the world in 2017 with 1150 deaths per 100 000 live births, compared to the world average of 204 deaths per 100 000 live births. Over 84 percent of women in South Sudan are illiterate, and 50 percent of girls under the legal age of 18 are married. Some 20 percent of the girls drop out of secondary school due to early pregnancy. Sexual and gender-based violence in the country has ranked South Sudan among the highest in the world: about 65 percent of women and girls report some form of physical or sexual assault in their lifetime. As a result of the conflict, slightly more than one-quarter of all households are female-headed.

7 **Related to the prolonged conflict and associated missed economic development opportunities are high poverty rates in the country.** According to the World Bank, about 82 percent of the population in South Sudan is classified as poor, based on the USD 1.90 purchasing power parity (PPP) poverty line in 2011 (World Bank Group, 2021a), while UNDP estimates that some 92 percent of population lives in poverty. This is driven by a spectacular decline in real incomes by some 70 percent since 2011 as a result of conflict-related loss of livelihoods (IMF, 2019). High levels of poverty are also related to IDPs, which stood at 1.6 million in March 2021 (UNOCHA, 2021), while the number of South Sudanese refugees in neighbouring countries was estimated in March 2021 by UNHCR at over 2.2 million (see Figure 6). Geographically, both the incidence and rate of poverty are the highest in the north-central and southeastern part of the country, which are the areas with the highest conflict activities and IDPs. Furthermore, the high incidence and rate of poverty in the eastern and southeastern counties are driven by difficult environmental conditions and lack of roads infrastructure (see Figure 1).

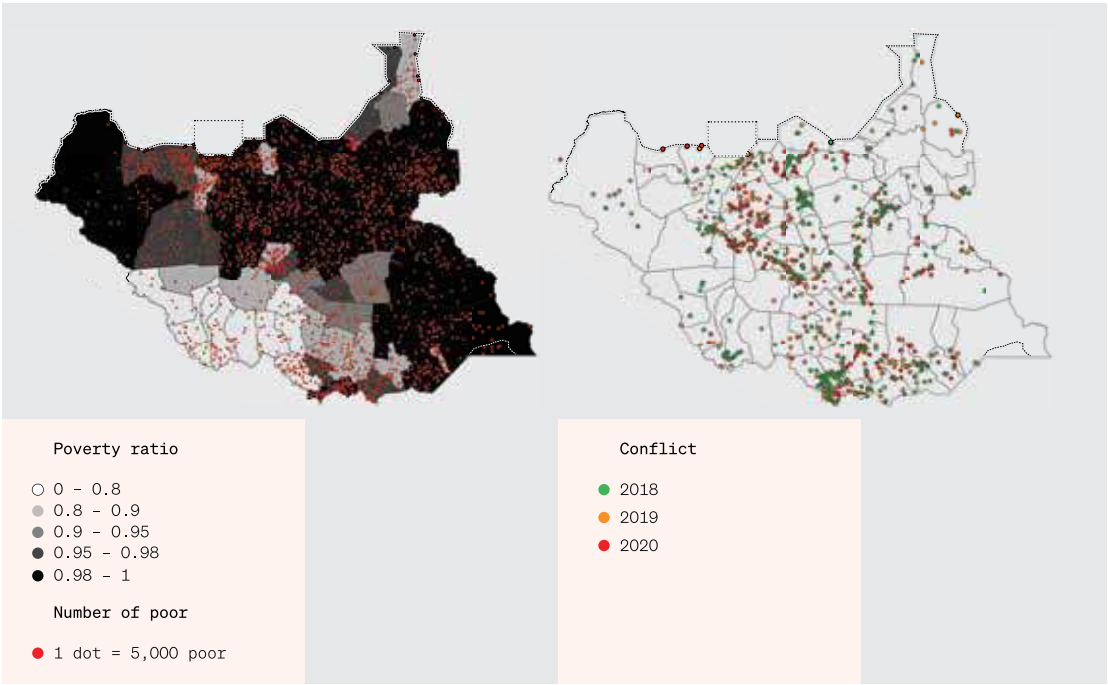

Figure 1
Poverty incidence and density in 2017 (left) and conflict over 2018–2020 in South Sudan

Source: Authors' elaboration based on data from World Bank Group. 2018. *Central African Republic - Emergency Food Crisis Response and Agriculture Re-Launch Project.* Project performance assessment report No. 127422, World Bank Group/JPEG, Washington, DC; ACLED, 2021. CDT spotlight: growing pressure in South Sudan. Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

8

Our analysis points out that South Sudan also lags behind in the majority of other development dimensions when we benchmark it against other fragile, conflict, and violence (FCV) affected countries in SSA.[1] Annex 2 details the methodology and data we used[2] and Figure 2 presents a 'flower diagram' of various development outcomes. Yet, South Sudan appears to be doing better than its peers *vis-à-vis* the indicators associated with environmental sustainability (e.g. short-term forest loss, availability of renewable resources and water quality index), which seems to be related to low levels of economic activities. For instance, between 2001 and 2019, South Sudan lost only 1 percent of its forest as compared to 6 percent for half of the FCV countries, even though some observers have expressed concern about recent increases in deforestation. However, South Sudan performs relatively poorly among the indicators measuring governance effectiveness, food insecurity, human capital development, refugees and people displacement. The ongoing civil war has created significant humanitarian needs and massive population displacements, while deeply deteriorating the human and social capital of the country compared to other FCV countries in SSA.

1 The countries considered are Burkina Faso, Cameroon, Central African Republic,Chad, Congo, Democratic Republic of Congo, Mali, Mozambique, Niger, Somalia, Burundi, Congo, Eritrea, Gambia, Liberia, Sudan and Zimbabwe.

2 For each indicator, South Sudan performances were compared to the median performance of its peer group. Annex 2 also presents a complementary approach in which countries are ordered along a score calculated as the unweighted means of all considered indicators This ranking shows that South Sudan performs worse than most FCV countries in the SSA.

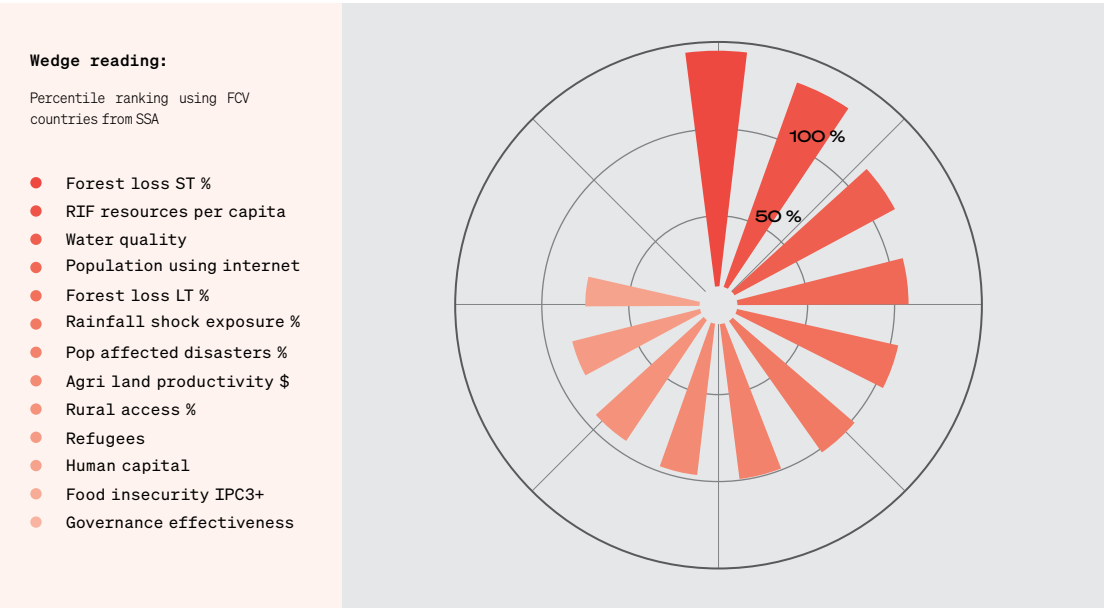

Figure 2
Performance of South Sudan relative to the median performance of FCV countries from sub-Saharan Africa (see Annex 2 for methodology)

Source: Authors' own elaboration.

9 **Rural infrastructure, resilience to shocks and agricultural productivity also lag behind those of other FCV countries in SSA.** Access to rural areas remains a critical challenge for South Sudan: the proportion of rural population who live within 2 km of an all-season road is only 14 percent compared to 22 percent for the median of FCV SSA countries. Up to 90 percent of the South Sudan population has no access to electricity while mobile networks are limited to major towns, covering about 20 percent of the country. As regards resilience, South Sudan is much more subject to floods and disaster-related shocks. The share of the population exposed to rainfall shocks between 2009 and 2013 was 25 percent, as compared to an average of 16 percent for the peer group. Some 5 percent of the population was affected by natural disasters during the period 2000–2019, as compared to 2 percent for the FCV SSA countries. Finally, while the agricultural land productivity was USD 67 per hectare in South Sudan in 2016, on average it was USD 103 per hectare in the FCV countries peer group in the SSA.

10 **Related to widespread poverty in South Sudan are high levels of food insecurity.** Food insecurity has sharply increased since December 2013 according to the Integrated Food Security Phase Classification (IPC), with several geographical areas regularly found in the risk of famine category (Figure 3). The number of people in the highest three phases (crisis, emergency and catastrophe) has tripled between 2014 and 2020 to reach an estimated 6.5 million (55 percent of the population). The latest projections from July 2020 put the number of people at risk at 7.5 million (over 60 percent of the population). The level of food insecurity varies between the different parts of the country with the highest concentration in northeast and east, e.g. Jonglei (particularly the counties of Akobo, Duk and Ayod), currently affected by violence worsened by floods, as well as extremely low levels of rural accessibility in some counties. Food insecurity appears to be mostly driven by the economic

impact of conflict, as well as population displacement, low crop yields, climatic shocks and difficulties of humanitarian access, rather than the violence itself (World Bank Group, 2021b; United Nations Security Council, 2019; IPC, 2020). Indeed, displacement and insecurity have disrupted all sectors of the markets that South Sudanese rely on for their livelihoods, from agricultural production to the transformation of produce, trade networks, and demand (von der Goltz, 2020).

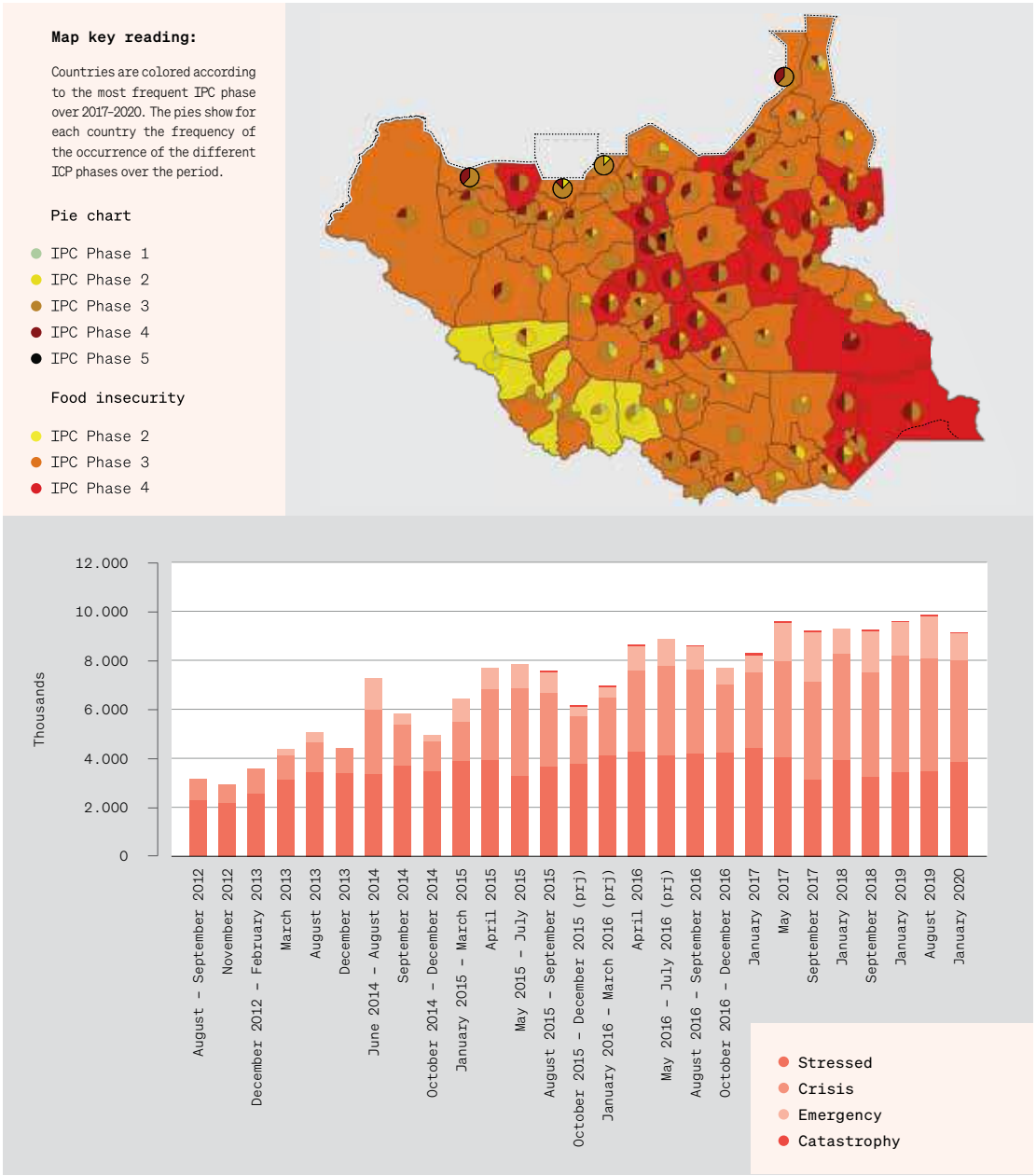

Figure 3

Evolution of food insecurity 2012–2020 (top) and most frequent food insecurity phase per country over 2017–2020 (bottom)

Source: Authors, calculations based on data from FEWSNET. 2021. *Widespread emergency (IPC Phase 4) outcomes anticipated at the peak of 2020 lean season.* South Sudan Food Security Outlook: June 2020 to January 2021. Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

11 **As a result of poor diversity and poor quality of food, acute malnutrition is widespread** driven by high food insecurity, increased morbidity/disease outbreaks, poor childcare practices, limited access to basic services and poor infrastructure, including clean water supply and sanitation (IPC, 2020). Approximately 1.6 million people were in need of treatment for acute malnutrition in 2020, including 1.3 million children under five years of age. Some 24 percent of all children under five have been estimated as suffering from wasting according to the SUN database. Cereal consumption accounts for about 48 percent of total basic food consumption in terms of value, livestock approximately 30 percent, fish 4 percent, roots 2 percent, seeds about 3.8 percent and other non- cereal crops combined, 12.7 percent. In January 2020, 48 counties out of a total of 79 counties in the country were facing a serious malnutrition situation (IPC Acute Malnutrition Phase 3 and above), most of them located in the Jonglei and Upper Nile States, and some counties in Eastern Equatoria and Northern Bahr el Ghazal classified as critical (IPC Acute Malnutrition Phase 4). The prevalence of acute malnutrition is also cyclical, with a situation that deteriorates during the lean season (May- August).

12 **The drivers of food insecurity and malnutrition are increasingly anchored in macroeconomic mismanagement, in addition to conflict and weather-related shocks.** (World Bank Group, 2021c; Mawejje, 2020). Some 90 percent of the national budget in 2020 was funded by oil revenues. Without the mechanisms to buffer oil prices and production fluctuations, the drop in oil revenues since 2011 (some 72 percent) has led to a 55 percent contraction of the real gross domestic product (GDP) over the same period. Real non-oil GDP also decreased by 37 percent and household disposable income by 70 percent (IMF, 2019). Monetization of the budget deficit by the government, exchange-rate pass-through (changes in domestic prices due to changes in the value of the currency), combined with conflict and food production shocks have all contributed to skyrocketing inflation: price rises reached annual rates of up to 550 percent over the 2015–2018 period. These macroeconomics trends have led to the destruction of small-scale market-linked activities that have traditionally been a significant source of cash income. In addition, a significant share of civil servants has undergone a cut in their salaries (when they get paid at all), further contributing to the declining purchasing power and as such weakened market demand. The COVID-19 pandemic further contributed to food price increases in 2020–2021 due to supply side disruptions. In fact, a recent analysis of the World Bank (2021c) shows that market failures attributed to excessive inflation have had the greatest direct impact on food insecurity in South Sudan since late 2015, surpassing previously dominant conflict-related factors.

13 **Despite the massive humanitarian assistance to the country, the food security and nutrition outcomes have deteriorated in recent years.** In 2019, South Sudan was the third largest recipient of humanitarian aid after Yemen and the Syrian Arab Republic. The country received USD 1.6 billion gross official development aid (ODA) in 2018, with the United States of America accounting for 41 percent of the total amount (OECD, 2021). Most of the support took the form of food aid and other humanitarian assistance (71 percent). Among the largest humanitarian initiatives, the World Food Programme (WFP) assisted 5 million people in South Sudan in 2020 through food assistance, cash transfers (over USD 27 million to 600 000 people in 2018), school meals, and nutrition outreach (WFP, 2021). Food assistance comprises about 13 percent of cereals and roots consumed nationally during lean seasons, and has become the main supplier of staples for about 13 percent of households (7–8 percent around harvest time). While it used to be significant only in the three original

conflict states (Upper Nile, Jonglei and Unity), food aid has since become prevalent elsewhere during the lean period (FAO and WFP, 2020). The United Nations Peacekeeping Mission in South Sudan (UNMISS) was established in 2011 and now includes about 18 000 deployed personnel (UNMISS, 2020a).

14 **South Sudan has high agricultural potential to feed itself and to export food to neighbouring countries too.** The country has about five times the area of agricultural land per capita compared to Kenya, Uganda or Ethiopia. Out of the estimated 64 million ha of agricultural land, that is, about 4 percent (about 2.8 million ha) has been cultivated either continuously or periodically. The actual area cultivated in any year has ranged from about 800 000 to 1.3 million hectares (about 1 percent and 2 percent of the total land area). According to FAO and WFP (2020), about 930 000 hectares were put under cultivation in 2019. Apart from the conflict, the main reason for the under-utilization of arable land is the prevalence of manual cultivation methods, which limit the area cultivated by households to the 0.4-1.7 hectares, depending on labour availability. Furthermore, close to 80 percent of farm labour is provided by women who combine this activity with their other domestic chores. Mechanization remains marginal and is limited to land preparation and sowing essentially in demarcated medium- to large-scale farms (FAO and WFP, 2020). The widely different climatic zones, fertile soil and plentiful rainwater offer a very important potential for agriculture, by creating ideal conditions for a vast diversity of food products.

15 **The agrifood sector is also the most important source of livelihoods for the majority of people in South Sudan.** The sector is estimated to account for 36 percent of the non-oil GDP. The agriculture sector employed about 50 percent of the population in 2018 (about three-fifth of the female and one- third of the male employment). In a broader sense, food systems are the primary source of livelihood for around 88 percent of rural households and about half of urban households. For those households that practise agriculture, food systems are usually the main source of income (90 percent), while about 60 percent of the population is dependent on livestock rearing for food security and income generation (FAO and WFP, 2020). There are some jobs in downstream segments of food value chains such as transport and processing. While comparisons over time are difficult, the role of agriculture as an employer has increased during the conflict for urban residents, many of whom rely on their own production for sustenance.

16 **Furthermore, agrifood systems can have a tremendous job-multiplier effect beyond primary production.** The sector productivity is currently among the lowest in the world (with an agricultural land productivity of USD 67 per hectare in South Sudan, versus USD 103 in the majority of other FCV countries in the SSA region). If given a chance, a job-creation opportunity could be related to the emergence of medium-sized professional farmers, as seen in other SSA countries. Such medium-scale farms (5-100 ha), now amount to roughly 20 percent of total farmland in Kenya, 32 percent in Ghana, 39 percent in the United Republic of Tanzania, and over 50 percent in Zambia. The emerging segment of this dynamic, commercially oriented, small/medium-size farmers has been driving productivity growth and the jobs generation. For example, between 2008 and 2014, medium-scale farms in the United Republic of Tanzania created 13 million days of additional work annually for hired workers. Yet in the immediate context of South Sudan, the main job-multiplier lies in reviving market-oriented activities and market links that used to exist in the up and downstream segments of the food value chains (processing, transport, marketing, trade). Indeed, an easier option for recovery consists of resuming

traditional processing and marketing of crops (cereals, vegetables, groundnuts), dairy products and dried fish. This would essentially require helping farmers and processors to make small investments to buy inputs or risk additional travel, as well as restoring traditional aggregator networks (von der Goltz *et al.,* 2020).

17

The livestock sub-sector also represents important opportunities but is sensitive. Despite a lack of recent field data, FAO estimates the livestock population at 36.2 million animals (three times the number of human inhabitants). Cattle-based pastoralism is the customary livelihood of many groups in the targeted areas. Cattle are central to the country's economy and the sociocultural life of many communities. Pastoralism, based on seasonal migration in pursuit of pasture and water, is usually combined with small-scale, rainfed cultivation of staple crops including sorghum. The 2013 and 2016 crisis have taken a heavy toll on pastoral communities and cattle raiding is becoming a large source of local conflicts. Provided the no-harm principle is carefully followed so as not to further ignite conflict, investing in the livestock value chain and a better integration between crops and livestock could bring important benefits. With the large number of cattle in the country, there is enormous potential for animal traction that can be harnessed for an increased area under crop production and productivity. Besides, it could provide a significant amount of animal manure to increase yields. Significant economic benefits could be gained from addressing challenges facing the livestock sub-sector: inadequate access to pasture and water (sometimes as a result of the violent conflict, such as cattle raiding), widespread animal diseases (including transboundary ones), and the consequences of increasing frequency and scale of floods.

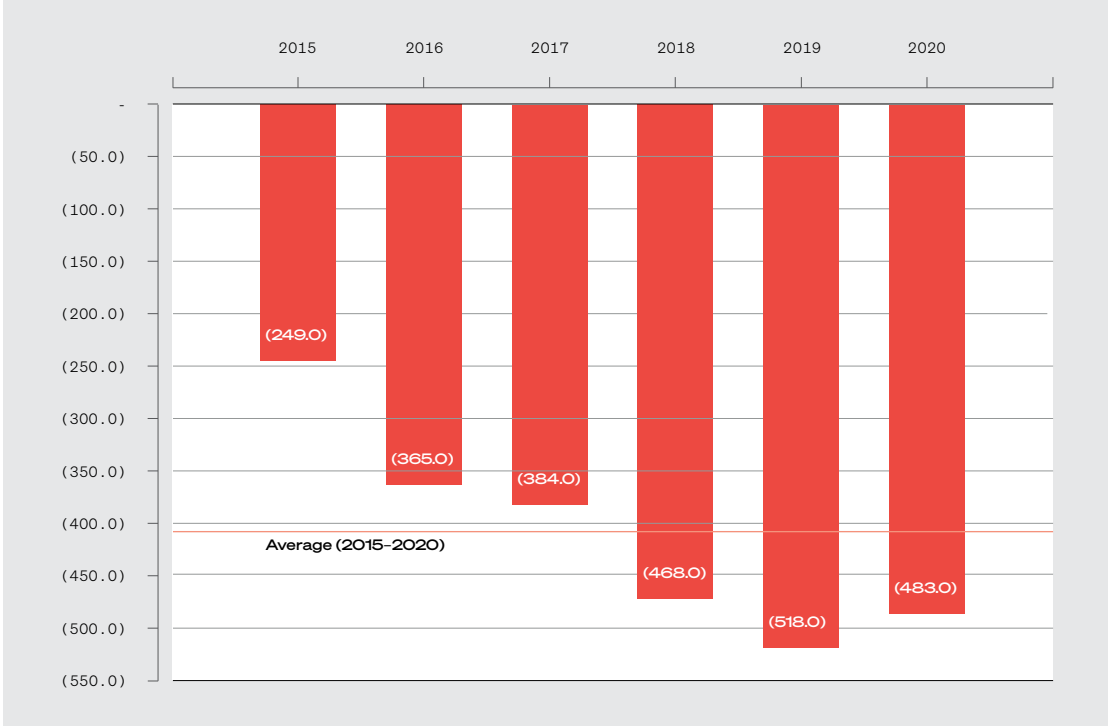

Figure 4
Grain deficit in South Sudan from 2015 to 2020 in '000 tonnes

Source: Authors own elaboration, based on FAOSTAT.

18 **The fisheries sub-sector could also offer good potential.** South Sudan has abundant fishery resources with an estimated total area of 80 000 km^2 of fishing ground that is centred along the White Nile River system, which encompasses the largest permanent wetland in Africa. It is one of the few countries in SSA without any evidence of overfishing. The current consumption per capita offers potential for growth given its nutritional value. The main bottleneck for the development of the sub- sector is the lack of post-harvest processing facilities and difficult transportation to consumption centres. However, fishery is considered to be a relatively more resilient source of livelihoods – unlike livestock which is subject to looting – nor is it sensitive to flooding, locusts and other pests.

19 **Despite its agricultural potential, South Sudan has seen a widening grain deficit in recent years** (Figure 4). National production of cereals and tubers met only 52 percent of the demand in 2019. The production gap was largely filled by food imports and food aid. In 2019, South Sudan imported USD 89.6 million unmilled cereals, making it the tenth largest importer globally.

20 **The sector is also poorly diversified due to the conflict,** which has led to a concentration of agricultural activities in the most essential subsistence crops (von der Goltz and Harborne, 2021). Cereals account for some 80 percent or more of the cultivated area. Sorghum is the main cereal, followed by maize and millet; overall, about 80 percent and 63 percent of the farm households grow sorghum and maize, respectively. The commonly grown pulses or legumes in South Sudan are cowpeas and beans, grown by 27 percent and 11 percent of farm households, respectively. Oilseed crops, such as groundnuts (58 percent) and sesame (34 percent) also have an important place in the South Sudanese farming systems (FAO and WFP, 2020). Many farmers have stopped cultivating higher value crops like gum arabic, potato, sesame, and fruits (mango, lemon, banana and guava) due to conflict- related risks. Farmers have also lost animals to disease and theft and are reluctant to keep livestock in an insecure environment due to the risk of armed cattle raiding. Farming in less risky but less suitable areas has exposed farmers to climate-related risks.

21 **The impact of climate change on food production is already felt and is predicted to worsen** (Omondi, 2020). According to the Climate Change Vulnerability Index, South Sudan was ranked in 2017 as one of the five most affected countries by climate change in the world. Climate change in South Sudan has generally been predicted to experience a reduction in rainfall and increase in rainfall variability, with a projected rise in the surface temperature between 1.5 and 3°C. However, in some areas such as northern South Sudan, recent rainfall data show increasing rainfalls in 2019 and 2020, which has led to serious flooding affecting crop production (Figure 5). It was estimated that floods in 2019 led to the loss of 72 611 tonnes of cereal, affected 856 000 people and displaced 389 000 people (Figure 6). The worst affected states (76 percent of people affected) were Jonglei, Lakes and Unity. At the same time, decreasing rainfall combined with an increase in temperatures in eastern and southern parts of the country could reduce water availability for agriculture and impact on crop production. In addition, land degradation is jeopardizing the productivity of the most cropped areas of the country (Figure 5, UNEP and Ministry of Environment Republic of South Sudan, 2018).

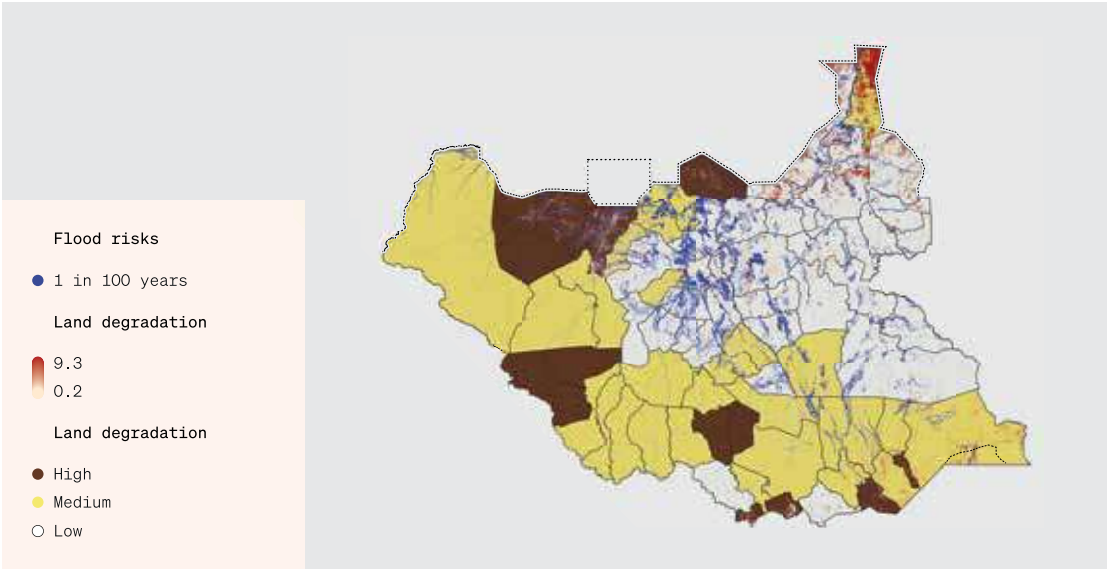

Figure 5
Natural risks: floods, drought and land degradation

Source: Authors based on GFDRR / World Bank Disasters, risks and displacement Intersectional Risks in South Sudan (https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/documents/fcv-world-bank-and-iom-disasters-conflict-and-displacement.pdf); FAO/GIEWS. 2018. *Special Alert No. 342 : The Sudan, 26 January 2018.* Rome [online]. https://www.fao.org/publications/card/en/c/I8508EN/AUC. 2015. First Forum for Environment and Security in Africa (MESA) Project in Nairobi, Kenya from 31 August to 4 September 2015. In: *African Union.* [online].
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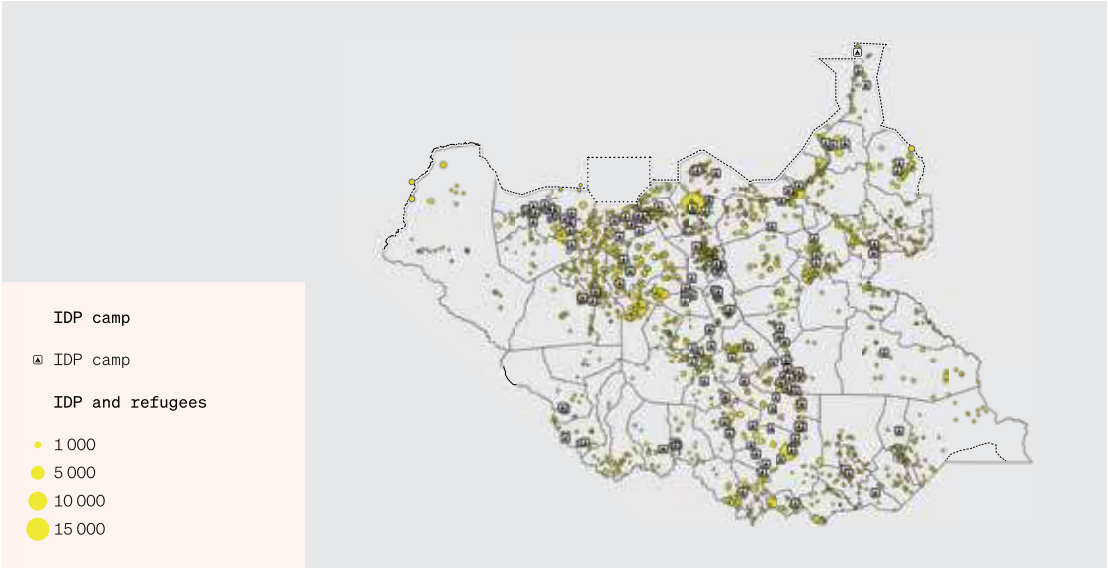

Figure 6
Displaced people and IDP camp

Source: Authors, data based on IOM. 2020. *World Migration Report 2020.* Geneva. https://au.int/en/newsevents/20150831/first-forum-monitoring-environment-and-security-africa-mesa-project-nairobi.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

22 **The objective of this analytical work is to identify viable public and private investment strategies and related policy and institutional support requirements** that will help the transition of the agrifood sector in South Sudan from humanitarian relief to a more development-oriented growth path. By 2012 the humanitarian aid had reached over USD 1 billion per year by 2018, of which at least 75 percent went to food aid while the number of people suffering from food insecurity (at IPC-3+) had increased from 9 percent to 60 percent. At the same time, South Sudan had an enormous agricultural potential in terms of land, water and animal resources that could meet its food requirements and much more. The decades of conflict have largely eroded South Sudan's agricultural production and negatively affected agriculture-based livelihoods. The country is now an important net food importer and depends on massive humanitarian food aid. The recent improvements in the security situation in some parts of the country and ongoing peace process are encouraging signs that South Sudan could gradually improve its food security and nutrition situation. This would require continued support through the government's efforts towards transformation from humanitarian aid dependency to development-oriented agriculture growth. Analysing this path does not suggest that South Sudan will no longer need humanitarian aid in the years to come. However, the key hypothesis is that development gains are possible even in areas affected by conflict, while at the same time differential strategies are needed to recognize the situation on the ground.

23 **Given the COVID-19 related travel restrictions, this analytical work was essentially undertaken remotely.** The analysis relies largely on secondary sources of data and information. It also draws on extensive consultations with the Ministry of Agriculture and Food Security (MAFS), development partners, non-governmental organizations (NGOs) active on the ground and the private sector, including financial institutions, representatives of farmer organizations (FOs) and commercial farming sector (Annex 1). To this extent our findings provide a comprehensive synthesis of the existing knowledge about the agrifood systems, which would provide useful insights for those interested of supporting the agricultural and rural development agenda in South Sudan.

24 **Chapter 1 synthesizes the existing knowledge of the South Sudan agrifood sector.** It describes the existing policy, as well as institutional policies and governance – elements already in place for successful agricultural transformation – and identifies the critical gaps that need to be addressed for the country to become food secure. Annex 4 lists the data used for the spatial analysis we achieved.

25 **Chapter 2 focuses on the synthesis of the relevant international and specific South Sudan experiences in transition from humanitarian aid to development-oriented food systems.** It identifies the key lessons taken from previous development programmes in similar situations to ensure the success of future interventions. The analysis at this stage also identifies good practices and promising initiatives in FCV situations, some conditions where they could be up scaled or replicated in South Sudan, and the main bottlenecks that need to be addressed for these initiatives to have an impact at scale. Finally, it sheds light on specific South Sudan initiatives and potential partners on which to build further investments. The case studies illustrate and distinguish the key findings.

26 **Chapter 3 assesses four inter-related investment strategies for the transformation of South Sudan's agrifood sector, both along the temporal and spatial dimensions:** improved agricultural productivity; investments in community-driven development; services to increase resilience in the absence of functional public support programmes; agricultural value chain development with a view to creating jobs; and interventions on conflict resolution based on territorial development and natural resource management in areas where conflicts are persistent around these issues.

27 **Finally, we conclude with an analysis of how the above investment strategies should be blended over time and space** into development interventions that can be conflict-sensitive and flexible, and which strategies would be the most impactful to ignite and sustain growth in the context of South Sudan.

28 **The novel contribution of the study is threefold.** This report provides, to the authors' knowledge, the most comprehensive review of the potential drivers of the agricultural transformation of agrifood systems in of South Sudan, drawing from a wide array of literature and building upon past public and private experiences in similar countries. It acknowledges that, given the complexity of the political- economy considerations behind the fragility and vulnerability of the South Sudan development trajectory, the challenges faced by agricultural production and agribusinesses are multisectoral in nature. Therefore, the path towards development-oriented agricultural growth in South Sudan is not only embedded in productivity, but also in: social and human capital; conflict resolution; community development; capacity-building; financial services; road, energy and telecommunication networks developments; as well as regulations, institutions and state-building. Finally, it uses spatial analysis to illustrate the trends identified in the analysis, and to deepen an understanding of the factors expected to drive the transformation of food systems in South Sudan over the coming years and decades.

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Chapter 1
Developing agriculture in South Sudan: building blocks and bottlenecks

29 This chapter presents the baseline situation of the current development context of agrifood and related sectors and reviews the status of development of agriculture and related value chains. It will identify the key policy, institutional and human capacity and governance frameworks already in place to facilitate transformation of agrifood systems, in addition to which critical gaps need to be addressed for the country to become more food secure.

1.1 EXISTING AGRICULTURAL VALUE CHAINS

30 **Years of conflict have profoundly disrupted markets in South Sudan and the remaining value chains are rudimentary** (World Bank Group, 2019; von der Goltz *et al.,* 2020). Numerous markets stopped functioning as a result of the conflict, floods and production shocks, and moreover the remaining ones are poorly integrated. This is mostly a consequence of the underdeveloped road network and high transportation costs due to multiple taxation (both official and unofficial), time spent at customs, checkpoints and roadblocks. Most value chains involve a single processing step after harvest. A richer range of food products and value chains may survive, but only as niche activities offering few jobs and little value addition. Investment in South Sudan's food sector could address not only food security needs, but also generate income and lay the foundation for livelihoods by creating direct, indirect, and induced jobs in the larger food system (World Bank Group, 2019).

31 **Value chains can be rebuilt around the key staples that are critical to the food security of South Sudan.** In the current situation, the World Bank Group analysis (World Bank, 2019) of the existing value chains recommends giving priority to sorghum, maize, cassava, beans, and groundnuts because they are core elements of the national food security basket, in addition to vegetables that are already promoted by NGOs and the United Nations as part of the humanitarian response. This selection is based on a combination of local production capacity, food security potential, household consumption, livelihood sustainability (employment), export potential, local market demand, feasibility of production, and availability of base inputs. Figure 7 displays the current agricultural productions areas in the country. Given the limited data on food markets in South Sudan, the study carried out a preliminary analysis of the main supply and demand areas for agricultural products. Figure 8 displays estimates of the total agricultural supply and demand in the country, exports and imports included (Annex 6). It confirms the need for better connectivity of production and consumption centres to improve South Sudan's food self-sufficiency, and to enable the development of agricultural value chains (e.g. World Bank Group, 2012).

Figure 7

Main agricultural production areas and their contexts in South Sudan

Source: Authors' data based on FEWS NET. 2018. *Livelihoods Zone Map and Descriptions for the Republic of South Sudan (Updated)*. Washington, DC; and FAO and WFP. 2020. *Special Report – 2019 Crop and Food Security Assessment Mission (CFSAM) to South Sudan*.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

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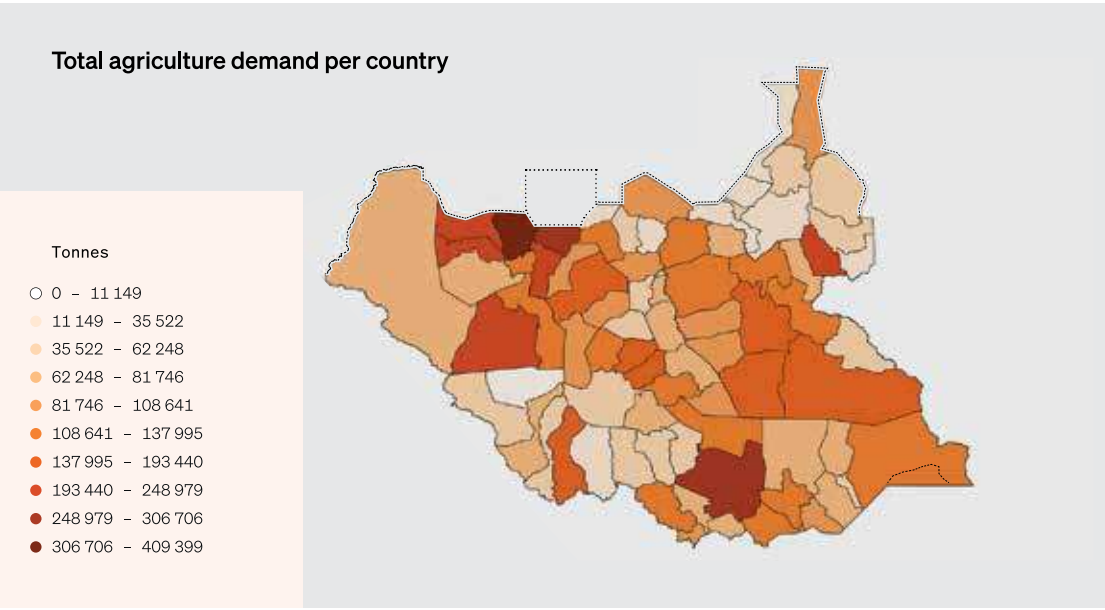


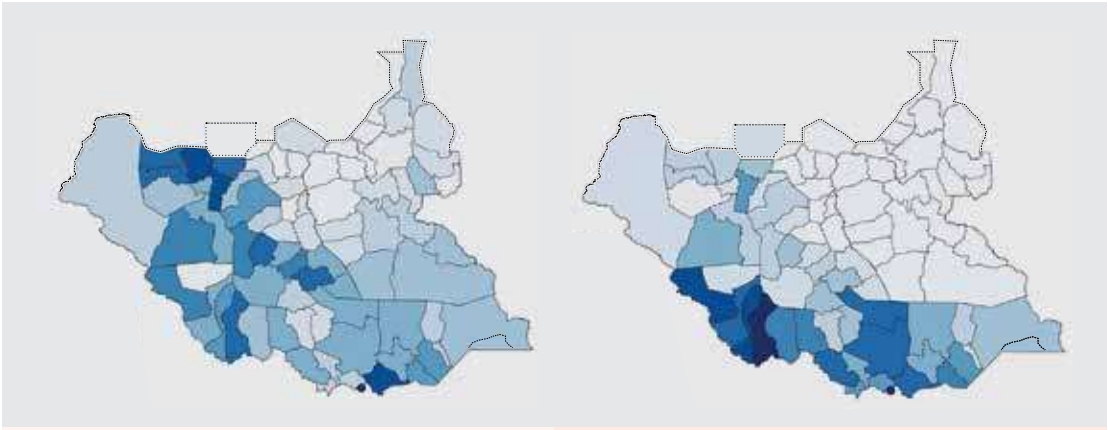
Figure 8
Estimates of total agricultural supply and demand in South Sudan (authors, see Annex 6)

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

32 **There may also be opportunities for a broad range of other potential value chains, including high-value commodities:** pulses, nuts and seeds (sesame, sunflower), horticulture (bananas, mangoes, lemons, pineapples, onions, okra, tomatoes, eggplants, sweet potatoes, cabbages) and coffee, tea, sugar, gum Arabic, shea butter. The beekeeping and the honey value chain are currently supported for instance by development partners such as Oxfam and USAID (SAFER), with interesting results (Buchanan-Smith and Longley, 2020).

1.1a Crop value chains

33 **Cereal is an important part of the South Sudanese diet, but current production does not meet demands.** Cereal value chains (particularly sorghum and maize) make up about 49 percent of the diet in South Sudan (World Bank Group, 2019). With an estimated net cereal production of about 818 500 tonnes (after deduction of some 20 percent post-harvest losses and seed use) and a total cereal consumption is estimated at about 1.3 million tonnes in 2020, the production volumes only cover about 63 percent of the domestic cereal needs (FAO and WFP, 2020). Figure 9 shows the main supply areas of sorghum and maize in the country. The county level data come from FAOSTAT and FAO/WFP field mission reports (FAO and WFP, 2020; and previous editions). The remaining demand is met through imports (essentially sorghum and maize from Uganda) and food aid. Indeed, food assistance has become a noticeable component of the South Sudanese food value chains and was the main supplier of staples for close to 19 percent of the households during the lean season and 14 percent around harvest time in 2019 (FAO and WFP, 2020). Inflation is high, with the prices of wheat, sorghum and maize respectively 45 percent, 75 percent and 90 percent higher in December 2019 than the previous year (and 15-20 times above their levels in July 2015).

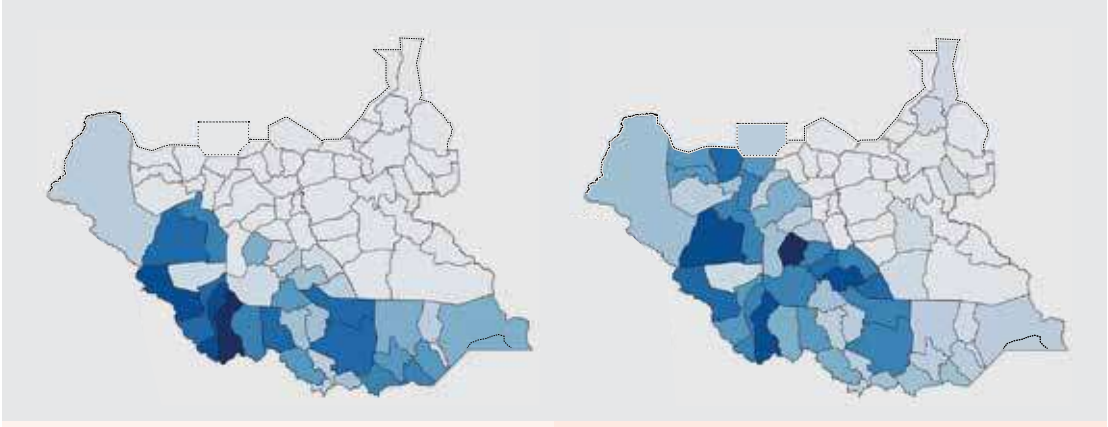


Tonnes

- 0 – 1 118
- 1 118 – 2 822
- 2 822 – 5 701
- 5 701 – 9 055
- 9 055 – 12 980
- 12 980 – 18 198
- 18 198 – 21 278
- 21 278 – 26 918
- 26 918 – 41 407
- 41 407 – 518 240

Tonnes

- 0 – 209
- 209 – 623
- 623 – 1 093
- 1 093 – 1 522
- 1 522 – 2 001
- 2 001 – 2 523
- 2 523 – 4 484
- 4 484 – 6 224
- 6 224 – 8 773
- 8 773 – 10 352



Tonnes

- 0 – 3 214
- 3 214 – 12 833
- 12 833 – 18 080
- 18 080 – 22 811
- 22 811 – 27 593
- 27 593 – 37 629
- 37 629 – 55 957
- 55 957 – 72 490
- 72 490 – 126 220
- 126 220 – 165 486

Tonnes

- 0 – 202
- 202 – 502
- 502 – 1 211
- 1 211 – 1 800
- 1 800 – 2 497
- 2 497 – 3 388
- 3 388 – 4 749
- 4 749 – 6 691
- 6 691 – 8 442
- 8 442 – 9 257

Figure 9

Estimated supply per county of main crops in South Sudan

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

34 **Beyond cereals, other vegetal value chains also have good potential to contribute to improved nutrition outcomes.** Groundnuts (northern states) and cassava (greenbelt and southern areas of the Ironstone Plateau) are the main non-cereal crops grown in the country (Figure 9). They both play important roles as safety nets for the farmers. Vegetables are also an important part of the South Sudanese diet. Their short maturity, quick ground cover, relative high productivity, and adaptation to more marginal soil conditions allow farmers significant flexibility with how they incorporate the crop into their farming system. Through NGOs and the United Nations, promotion has focused on female farmers and women-headed households as a source of nutrition and quick returns on investment with a good profit margin. Most farmers cultivate vegetables in their home gardens or in small field areas ranging from 0.1 ha to 0.5 ha. Net vegetable production and yields have been increasing in recent years.

35 **The supply of crops is limited by conflict impact and low productivity levels.** The latter predates the economic crisis and conflict in South Sudan. In 2018, its cereal yield (kg/ha) was about 18 percent of the average percent in South Africa, and about a third (31–41 percent) of that of Kenya, Uganda, or Ethiopia (Figure 10). The average area harvested per household was about 1.12 ha in 2012. Conflict and people displacement have also massively reduced the number of farm households and of area farmed (FAO and WFP, 2020).

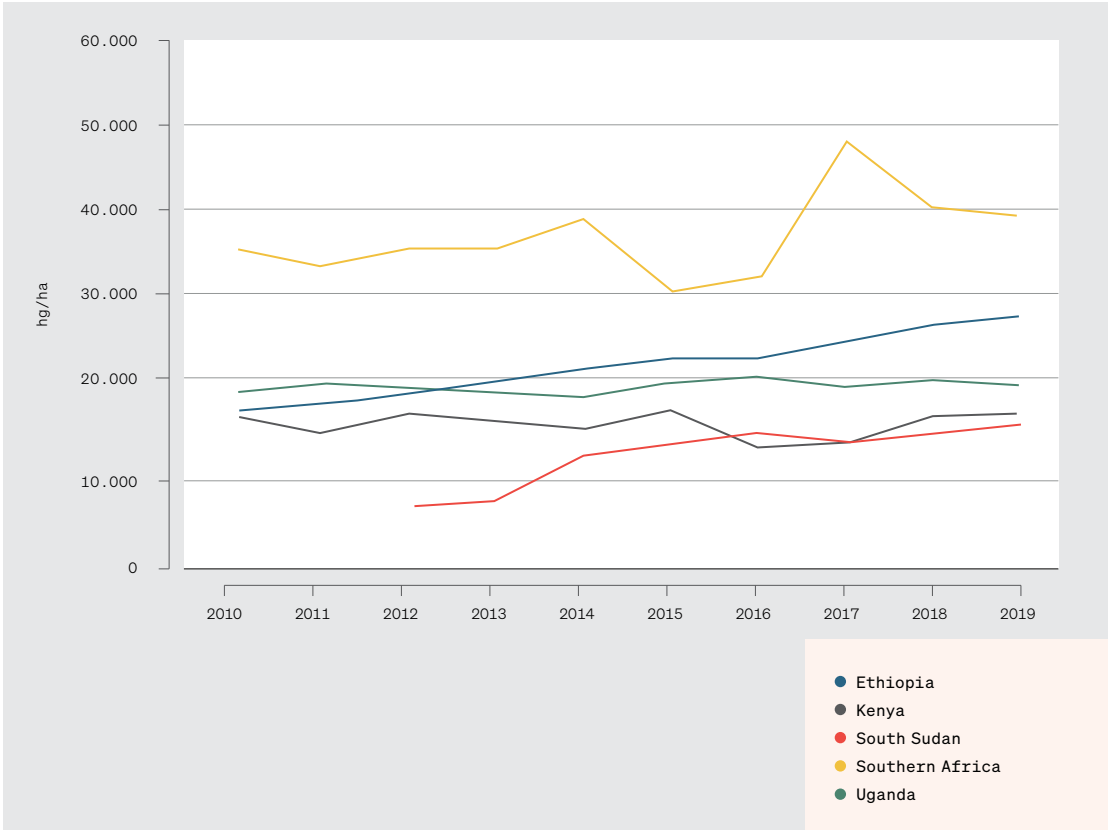


Figure 10
Comparison of the cereal yield (kg/ha) of South Sudan and its neighbours, 2010–2018

Source: Authors, based on data from FAOSTAT. 2021. Consumer price indices and food inflation, September 2020 update.

36 **The two main inputs are manual labour and local planting material (seeds and cuttings),** with farmers relying on shifting cultivation practices to sustain soil fertility in most areas (FAO and WFP, 2020). The country can only meet about 17 percent of its seed needs domestically and the remainder is imported from Uganda, Sudan, Kenya, Italy and the Netherlands. The use of animal manure is increasing and is applied by keeping large herds of cattle for an agreed number of days on individual farms through negotiations on the price with cattle keepers. Animal traction has been promoted by FAO as well as numerous NGOs in Central Equatoria, Eastern Equatoria, Lakes, Warrap and Bahr el Ghazal states. Its adoption appears to be slowly improving, nonetheless still constrained by the lack of spare parts, high cost of mould-board ploughs, raw materials for local blacksmiths and low levels of operator skills. Several types of pests and diseases are infesting crops every year in South Sudan but remain untreated, whereas weeds and vertebrate pests are treated manually. Chemical inputs such as commercial fertilizers, pesticides or herbicides are not used by small farmers on field crops, although some use of herbicides has been observed on large-scale mechanized farms in the Upper Nile with access to supplies from bordering areas of the Sudan.

37 **A sub-sector of medium- to large-size crop farms is developing in South Sudan, facilitated by the security situation on the ground.** Average farm sizes have recently increased together with the adoption of animal traction (e.g. lakes and parts of Warrap states). There is evidence of a small number of emerging commercially-oriented farms that are cultivating larger areas of cereals, groundnuts and cassava thanks to tractor services, labour gangs and animal-traction expansion. The development of these larger farms seems to have halted since the 2016 conflict due to fears concerning access to farther fields (FAO and WFP, 2020).

38 **Most mid-size to large mechanized farms are located in the Upper Nile State, and to a lesser extent in Northern Bahr el Ghazal and Greater Equatoria States** (FAO and WFP, 2020). The two dominant crops are sorghum and sesame, grown in farms ranging from 340 to 630 ha with mechanization limited to land preparation, sowing and sesame harvesting (mainly located between Renk and Malakal counties). Almost all agricultural inputs (fuel, tractor spare parts, hand tools, seeds) and tractor-hiring services are provided by Sudanese merchants through informal cross-border trade. These relationships build on a cross-border pattern of land use established before the independence by traders and farmers from both South Sudan and the Sudan. One of the main challenges encountered by commercial farmers in the Upper Nile State, especially in Renk, is the establishment of land ownership rights, as the same plot can be allocated to two or more farmers by different authorities, thus creating disputes. In Northern Bahr el Ghazal State, mechanized large and mid-size farms can be found in the irrigated Aweil Rice Scheme and a sorghum farming area in Ton Chol, both heavily affected by flooding. Anecdotal evidence gathered by the study team also identified a number of mid- to large-size farms around Juba owned by government officials and well-connected elite. The farms cover about 500–700 feddans (200–300 hectares) and essentially grow the country's main staples. They appear to have high production costs which could be indicative of management issues, and furthermore farms with no relation to the elite are also facing security risks. This information implies that while there have been early indications that some elites may have started to diversify away from the crude oil sector to agriculture, the current level of commercial activity in the sector still seems too low to encourage solutions that would reduce conflict and violence on the ground.

39 **Volatility is another issue for the cereal supply** (World Bank Group, 2021b). Most farmers cannot access water management equipment and therefore face threats of inundation without the benefit of increased water availability during the growing season. Widespread floods towards the end of 2019 led to significant losses (about 15 percent) of agricultural production in damaged areas, affecting nearly one million people (WFP, 2019), while the desert locust destroyed an estimated 20 percent of production on affected lands (WFP, 2019; USAID, 2020). The climate evolution requires farmers to adapt to changing conditions, which in turn entails water management support (e.g. building water storage facilities, providing pumping and irrigation equipment) and crop adaptation, for example, research and provision of seeds for locally adapted crops (World Bank Group, 2021b).

40 **Interviews across South Sudan before and during the conflict show that farmers consider pest and crop diseases, shortage of seeds and water management to be their main constraints** (FAO and WFP quoted by World Bank Group, 2019). Tight production supplies and import dependency together with weak local currency and fuel shortages have driven cereal prices upward. Their level was very high in late 2019 and early 2020, resuming a sustained upward trend that began in late 2017.

41 **The development of the seed sub-sector is hampered by the indiscriminate distribution of seeds by some food emergency projects.** To cope with emergency needs, a number of partners (FAO, NGOs) distribute free seeds for cereals, pulses or vegetables as part of crop kits (also including small tools and other inputs). While serving a very short-term purpose, these activities pose a number of problems including in some cases delays in procurement and delivery, inadequacy of the varieties and species to the local conditions (see Case study 5), and more importantly, they may undermine the efforts of private actors that intend to invest in the seed business (interview with the Seed Trade Association of South Sudan).

42 **The switch in seed procurement is gaining momentum.** In the FAO resilience programme assessment (FAO, 2016), key recommendations are geared towards developing greater coherence between development and humanitarian programming and exploring how in-country seed multiplication could supply inputs for conflict-affected communities. The identified key challenges were the lack of seed quality control and certification systems. In South Sudan, FAO increasingly supports more resilient seed value chains through the development of seed fairs, whereby vouchers can be used by their recipient to purchase their choice of inputs from traders previously selected by the scheme. FAO also provides foundation seeds to seed-growing groups, including the establishment of seed banks, the development of seed multiplication schemes and the construction of community- based seed stores. However, there is little evidence of sustainable results, such as the establishment of sustainable seed production groups that can be run as businesses. Several donors tried to develop the seed sector by supporting outgrower schemes through seed companies. For example, the Magwi Seed Company Ltd (MASCO), which is supported by a FSAD-GIZ funded project, was created in 2014 and works on the production of quality seeds through a seed outgrower arrangement while providing technical and extension support to farmers. In 2019, MASCO procured 103 metric tonnes of quality seeds (maize, sorghum, groundnut and bean) from smallholder seed outgrowers while allowing staple food production and productivity increases in Magwi. In 2020, the company sold 500 metric tonnes of seeds to FAO, World Vision and other NGOs representing a consequent boom into farmers' income.

43

1.1b Livestock value chains

Livestock is not part of formal value chains in South Sudan, but rather an integral part of the local livelihoods and a key social asset. Most livestock production, especially cattle, is undertaken in the more arid and semi-arid zones such as East Equatoria and Northern Bahr El Gazal (Figure 11) within either nomadic pastoralist or mixed crop-livestock systems (FAO and WFP, 2020). Over 80 percent of the people of South Sudan rely mainly on agropastoralism and livestock for their livelihoods. A study by the Intergovernmental Authority on Development (IGAD) in 2015 estimated the livestock contribution to South Sudan national GDP at USD 3.0 billion, but only a small fraction of its commercial value is actually being realized (AfDB, 2013). Livestock is often considered therefore as a value chain with high commercialization and investment potential (CAMP, 2013; AfDB, 2013; World Bank, 2019). However, livestock is not viewed as an industry in South Sudan but rather as a status symbol that commands the respect of the community (AfDB, 2013; Ounga, 2019; Cullis, 2021). Most of the household financial capital is held in the form of livestock. Cattle and small ruminants are mainly used for payment of a dowry, settlement of disputes, meat consumption during cultural events such as marriage and funerals, and provision of milk. Agropastoralists and pastoralists routinely exchange livestock for cereals in particular during the dry season or in times of crises. Sales of small ruminants are an important source of income that largely determine pastoralists' capacity to purchase food items, while poultry dominate poorer household sales (Cullis, 2021). In addition, cattle ownership in pastoral and agropastoral communities is complex, as different household and wider family members have different rights of access and disposal over individual animals. This bundle of rights and obligations therefore requires complex negotiations before cattle can be sold.

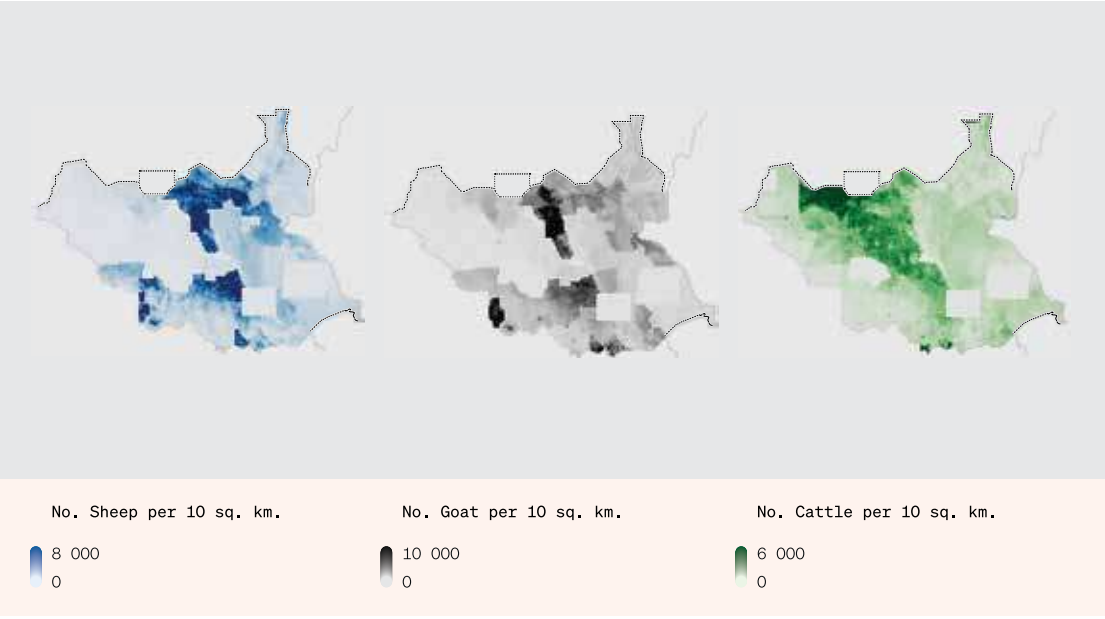


Figure 11
Livestock density in South Sudan

Source: Authors, based on 2010 data taken from FAO. 2022a. Gridded Livestock of the World (GLW3) [online]. www.fao.org/livestock-systems/en/
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

44 **South Sudan is known for its large livestock numbers but reliable statistics on this are limited.** The most recent documented estimate of cattle numbers was produced by FAO in 2009 and suggests a cattle population of 12 million heads, plus about 24 million heads for sheep and goats. Since this time, updates have been calculated using conservative cattle population growth (0.06 percent per annum) derived for Ethiopia, and lead to an estimated 13 million heads for 2019 (FAO and WFP, 2020). However, the 2013 and 2016 violence uptakes, increased cattle raiding and floods led to increased poverty with pastoralists selling livestock as a means of survival. Looted and distress asset livestock sales have resulted in millions of dollars' worth of livestock changing hands and being sold outside the country (Cullis, 2021). As a result, the current state of South Sudan's herds is highly uncertain. State distribution is even harder to assess as violence and floods increased not only an enforced and voluntary livestock migration in the country but also across international borders (FAO and WFP, 2020; Cullis, 2021).

45 **Over the past decade, livestock production systems in South Sudan have been undergoing profound changes.** Distress livestock sales have become the norm since independence. The normal cattle-cereal exchanges collapsed to such low levels that huge numbers of livestock were marketed to secure food (Cullis, 2021). A K4D assessment (Catley, 2018) also highlights the disruption of the terms of trade between livestock and cereals. In the areas of Jonglei and the Upper Nile between 2013 and 2017, the goat-sorghum price ratio increased by a factor of eight in favour of sorghum. In countries with similar livelihoods such as Niger or Chad, governments and donors have implemented grain banks and market information systems to provide support for herders to buy cereals during the harvest season when prices are low. In South Sudan, in some areas the complete failure of markets and associated purchase opportunities has triggered extreme food insecurity and even famine. On other occasions, insecurity has brought livestock marketing to a standstill and fully disrupted livestock market integration. These changes have been documented in detail (Cullis, 2021) and linked to the Civil War, inter and intra-ethnic conflict, customary and "militarized" cattle raiding and communal violence, extended rains and increased flooding, and market shocks. It was reported that the projected GDP from livestock production lost between USD 1.2 billion and USD 2 billion annually during 2014 and 2018. These shocks directly impacted household food consumption and mother and child nutrition.

46 **The milk production systems, led by women, are also undergoing changes with negative impacts on child nutrition.** A study by Vétérinaires sans Frontières Suisse in Northern Bahr El Gazal (Ounga, 2019) shows that milk is an important livestock product, which is produced and consumed by over 80 percent of the rural community. It is a core food for young children, pregnant and lactating mothers and is a critical food at specific times of year, when other foods such as cereals, are not readily available. Production is mainly carried out by a traditional agropastoral system based on cattle, goats and sheep and trade is often undertaken by women (Cullis, 2021). Over 92 percent of the milk produced from households, homesteads and at cattle camps is consumed directly (Ounga, 2019). Despite its economic potential, care has to be taken to develop this value chain to prevent social damage. Indeed, a recent field analysis financed by UK AID (Cullis, 2021) highlights that the recent increase in milk sales has diverted milk from households' own consumption, increased malnutrition in children and negatively affected the customary gifting of milk and milk products by the wealthy to poorer households. The commercialization of milk has therefore weakened existing social networks.

47 **Cattle raiding is a major issue in South Sudan that needs to be addressed to improve security and develop the livestock value chain.** Cattle theft takes place predominantly in the Unity and Jonglei states (FAO and WFP, 2020). It has increased since the 2013 Civil War, with a proliferation of militias and militarized cattle raiding linked to the increasing extreme violence against women and children, eroding long held social frameworks and enhancing a culture of distrust. Cattle thefts not only render the victims' households destitute, but also push the affected youth to engage in retaliatory raiding. It creates a vicious cycle that undermines household food security, livestock production and increases violence. Cullis reports that many young men have no alternative but to live in cattle camps and undertake daily tasks that relate to the care of livestock (Cullis, 2021). They "quickly learn that cattle are essential for 'life' and that to build their own herds, to marry and to achieve recognition in their families and communities that they are required to raid."

48 **Development of livestock value chains in South Sudan should thus consider carefully the "do no harm" principles.** Livestock production is so embedded in the social systems and intertwined with conflict that investments in these value chains might ignite or enhance localized conflicts or jeopardize the already stretched social networks. Furthermore, pressure on grazing land and water resources is another risk factor. Poultry would be worth the investment as it is likely to be less cause of tension. In addition, it is a good source of income for women and IDPs, and its production would be close to the homestead with no need for access to land. Moreover, it constitutes a source of nutrition by providing meat and eggs (World Bank, 2019).

1.1c Fishery value chains

49 **One-fifth of the South Sudan population depends on fisheries for its livelihood.** While reliable data do not currently quantify the fish sector and markets in South Sudan, a 2010 survey estimated a 14 percent share of households that engage in fisheries as a means of livelihood (AfDB, 2013). FAO (2021c) considers this number to be closer to 17 percent today, with fishers themselves amounting to around 220 000 people. About 208 000 of them are subsistence fishers and another 12 000 commercial ones. The total jobs related to the fish value chain (trade, processing, fishing craft and gear manufacture and repair) could be well over 600 000. Women, involved both in fishing and fish trade, constitute at least half of this number.

50 **The fishery production potential of South Sudan is large.** In 2013, the fishery production was believed to be in the range of 100 000–300 000 metric tonnes per year (CAMP, 2013). FAO estimated more conservatively the 2018 catch production to be around 32 000 tonnes. There is a consensus on the stable and underexploited state of South Sudan's fishery stocks, with a sustainability catch threshold considered at 200 000 tonnes per year by the authorities. Fishing is very seasonal, with two- thirds of the catch being caught during the rainy season (May to September), and essentially localized in the wetlands of the White Nile River and the Sudd swamps between Malakal and Bor.

51 **Aquaculture also has great potential.** FAO estimates the annual output of the sector at around 20–25 tonnes. While commercial fish farms do not appear to exist in the country, subsistence aquaculture has been promoted by development partners and NGOs to improve food and nutrition security, livelihoods and rehabilitation of war returnees, and led to the construction of small-size earthen

ponds essentially located in the greenbelt area. Before independence, aquaculture used to be widespread in the country and it still may have vast potential in the Central, Eastern and Western Equatoria states, in the Northern and Western Bahr El Gazal states, as well as in Warrap state (FAO, 2008). Its development would require capacity building as well as finding technical solutions to issues such as adequate fingerlings and feed supply.

52 **Despite its production capacity, South Sudan is currently a net importer of fish** (FAO, 2021c). CAMP (2013) calculated that a yearly 140 000 tonnes catch could provide 17 kg of fish per person per year, while FAO estimates the 2017 consumption at 2.6 kg. The gap between demand and supply is currently partly met by large imports (estimated at about USD 617 000 in 2018), essentially smoked fish from Uganda, and to a lesser extent from the Democratic Republic of the Congo. Canned fish imported from various countries is also available in the market. Before the border closure, there existed a significant export of fresh fish from Jonglei, Lakes, Unity and Upper Nile States to Khartoum (CAMP, 2013).

53 **The availability and accessibility to markets is the main bottleneck for fish sector development as well as the main reason driving the decision to process the product.** One of the main bottlenecks for the development of the value chain is access to urban markets, with underdeveloped road and market infrastructures. In most areas remote from urban centres, fishers are constrained to sell their fish to traders with a low bargaining power. As cold storage remains marginal, the shelf life is usually prolonged by drying or smoking. Lack of storage facilities and processing technologies has contributed to high post-harvest losses (about 40 percent). FAO identifies the access to quality fishing equipment and gear, poor fish stock management (giving rise to stock poisoning and habitat pollution), weak skills and means to scale up operations, insufficient funding for the relevant organs responsible for fisheries management, lack of extension workers, absence of coordination between fishery stakeholders as other challenges facing the sub-sector (FAO, 2021c).

54 **Fishing communities could become cornerstones to building producers' organizations** (FAO, 2021c). Compared to livestock keeping, fishing is generally considered by communities as a way of life of the lower classes. Yet most fishing communities in South Sudan are close-knit, often economically and socially independent, with strong traditional values, governance and dispute resolution mechanisms, and have better access to mobile phone networks than most other rural areas. Therefore, they provide opportunities to start fishing groups and furthermore, to foster cooperatives. FAO notes four active fishery cooperatives officially registered by the Directorate of Co-operative & Rural Development in Jonglei, and three in Terekeka.

1.2 AGRIBUSINESS ENABLING ENVIRONMENT

1.2a Investing in small business in South Sudan despite the challenges

55 **The development of the private sector in South Sudan is faced with enormous challenges** as can be visualized in Figure 12. South Sudan appears to be among the lowest ranking countries both in terms of institutional fragility and security/violence. It was also voted as the most difficult country to do business with, ranking 186 out of the 190 countries evaluated on the *Ease of Doing Business* (World Bank Group, 2020).

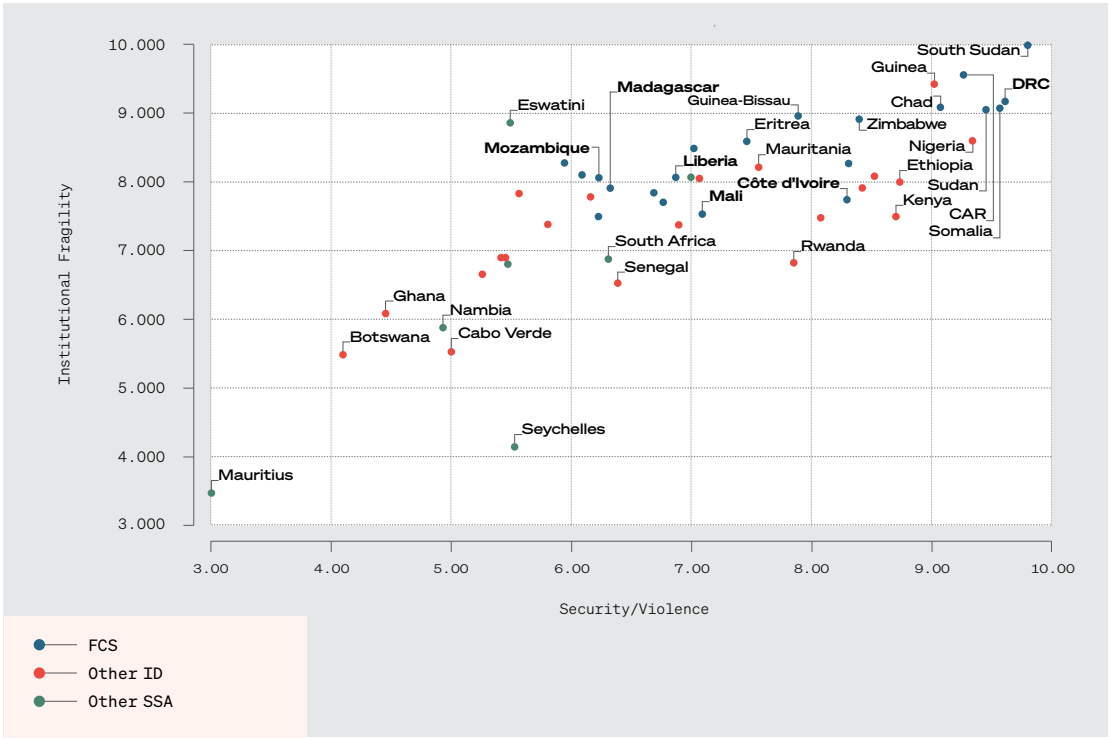


Figure 12
Dimensions of state fragility in sub-Saharan countries

Source: IFC. 2018. *IFC SME Ventures: summary investing in private equity in Sub-Saharan African Fragile and conflict-affected situations.* IFC, World Bank Group. www.ifc.org/wps/wcm/connect/region__ext_content/ifc_external_corporate_site/sub-saharan+africa/resources/sme-ventures-nov-2018.

56 **Besides the lack of stability and peace, private sector development faces many structural constraints:** hyperinflation, poor infrastructure development, lack of proper firm legal base (business registration, agriculture sector policies and regulations, and import/export regulations), limited access to necessary information/data, lack of clear land acquisition processes, limited intellectual property protection, unclear dispute resolution processes, informal taxes and non-transparent taxation regime, informal markets (inputs, outputs and labour) and limited financial services . For instance, agricultural traders consistently point out that the lack of funds, bad and dangerous roads, low demand and inflation are their worst problems (World Bank Group, 2020).

57 **Potential exists for private sector investment.** South Sudan has several national policy documents on private sector development: (i) South Sudan Private Sector Development Strategy; (ii) South Sudan Investment Climate Reform Programme; (iii) South Sudan Access to Finance Programme; and (iv) South Sudan Enterprise Fund. However, the policies are not active due to the absence of an operational framework and lack of resources. These policies and programmes can support the development of trader networks to provide seeds, low-energy farm equipment, output markets or renewable energy. In December 2013, the government held a conference to facilitate private sector agriculture investments where some priority opportunities were introduced (e.g. Aweil Rice Irrigation Scheme, Nzara agro-industrial complex, Yirol oil mill). Since then, the investment environment has deteriorated extensively due to internal disputes.

58 **In recent years, several positive initiatives have supported small business development in South Sudan.** The Foundation for Youth (FYI) Initiative with funding from the United States of America African Development Foundation seems to be yielding positive results. Under the Terekeka Peanut Paste and Organic Cooking Oil Building Capacity project the targeted enterprise received help to purchase peanut oil processing equipment. It enhanced its knowledge and skills in modern farming, expanded its market, established office space, provided working capital to overcome the cash shortage and started to generate profits that not only sustain the business but also promote its continued growth. Currently, the cooperative employs 350 personnel and is run from the Terekeka office. Another success story is the Akari Sorghum Milling Capacity Building project, which enabled the Akari Development Association to improve its managerial capacity, double its sorghum milling, acquire knowledge and skills in modern farming, expand its production portfolio as well as its markets. The company has now added sorghum milling as a core activity, opened its office in Luri, Central Equatoria, and more than doubled its profits and its members' income.

59 **The South Sudan Business Forum is a platform that could be leveraged.** It was formed in 2009 as part of the South Sudan Private Sector Development project under the Ministry of Commerce, Industry, and Investment and was initially supported by the Multi Donor Trust Fund managed by the World Bank. This platform fosters a dialogue between private and public actors on economic issues relevant to the development of the economy, including legislations, implementation of reforms and administrative processes. Local feedback reports that this platform was successful at creating mutual trust between the parties and cooperation was effective in discussing legal reforms in policy, laws, regulation and administrative procedures.

60 **Small business development in South Sudan remains today a complicated process with mixed results in terms of number of viable enterprises.** Lessons learned from the South Sudan Agribusiness Development Programme (SSADP) supported by a consortium of various actors (the Netherlands, Cordaid, SPARK, Agriterra) show that out of 750 potential entrepreneurs only one-third graduated. A smaller proportion developed their businesses, out of which only a handful managed to set up a viable enterprise. Besides the tremendous difficulties encountered by the private sector in South Sudan, the challenges faced by such programmes include the difficulty to identify potentially good candidates and the lack of a permanent system to cocoon, accompany and coach these enterprises once the projects finish. The programme is currently in its second phase (2018–2023).

1.2b Market functioning

61 **Understanding the key drivers of market development is essential.** A 2019 market survey (von der Goltz *et al.*, 2020) found that most traders were South Sudanese although foreigners had a tendency to stay, more consistently, long term. These findings, according to Mosel and Henderson a few years earlier, (Mosel and Henderson, 2015) are positive. It was reported that traders were interested in retaining the possibility to leave quickly should security deteriorate, and most of the foreigners had made a quick profit without investing in permanent structures such as storage facilities or shops. Another evolution recorded between 2015 and 2019, is the role of the exchange rate. In 2018, traders importing inexpensive goods from Uganda reported making more of a profit from the exchange rate

differential rather than from the price differential. As a result, access to dollars represented the most significant obstacle to trade in South Sudan and was linked to corruption and nepotism. In 2019, deciding between imports and local produce had more to do with the difficulties encountered when sourcing locally, showing an evolution in market drivers. With basically no access to dollars at the official rate, exchange rates were no longer such a key issue.

62 **South Sudan has changed from being a country primarily reliant on household food production to one primarily reliant on food markets.** Most households currently purchase their food from the market, yet their access to food is increasingly constrained by low purchasing power (FEWS NET, 2021). In 2019, the International Monetary Fund (IMF) found that real income in South Sudan has declined by approximately 70 percent since 2011. About 82 percent of the population in South Sudan is considered to be poverty level according to the most recent estimates, based on the USD 1.90 PPP poverty line in 2011 (World Bank Group, 2021a). Due to high prices and low purchasing power, household income is primarily and increasingly spent on food, for example, during 2018 harvest time (December) an estimated 52 percent of the population was spending more than 75 percent of their income on food (FAO and WFP, 2020). Poverty levels are expected to remain high compounded by severe food insecurity and limited access to basic services across the country. COVID-19 has worsened the situation in urban areas where people face reduced daily incomes coupled with high food prices (FEWS NET, 2021).

63 **Farmers, processors, and traders agree that low demand is a major obstacle for market development** (von der Goltz *et al.,* 2020). Food prices are high considering that customers are strapped for cash. Inflation has been a major driver of the rise in food insecurity since before South Sudan's independence. For instance, mismanaged macroeconomic decisions in 2015 have resulted in additional food insecurity far beyond the direct impacts of violence. Given the influence of inflation on market prices and food security, it is crucial that economic stabilization occurs (World Bank Group, 2021b).

64 **Social strategies are used to coping with poor market conditions.** Exchange mechanisms within or outside of the community are considered as key to dealing with hyperinflation, economic crisis and market disruption as well as social protection and should not be discarded. Inflation also poses a tough challenge for businesses, particularly through its impact on demand and business risk (World Bank Group, 2020).

65 **Positive but limited initiatives can be built upon to support market developments.** A successful conflict-sensitive approach to support markets in conflict areas has been promoted by Mercy Corps (Mercy Corps, 2014), which draws on the effort of local chiefs from Nuer and Dinka communities to stimulate and keep trade alive between their two areas (Unity and Jonglei States). On the humanitarian aid side, through its Purchase for Progress (P4P) project WFP tried to procure locally at least 10 percent of its cereal needs since 2010. Its country portfolio evaluation shows that over the 2011–2016 period, less than 1 percent of WFP's food requirement for South Sudan could be procured locally (WFP, 2017). In 2019–2020, WFP purchased around 677 tonnes of maize, much below its initial target. The project provided seemed too expensive for transactions that remained marginal due to: (i) a lack of infrastructure and storage facilities; (ii) insufficient quality of goods and of

organization of farmers; (iii) farmers' reluctance to sell their crops due to WFP's payment delays (three months after the start of production). Indeed, farmers preferred to keep their surpluses to progressively buy what they needed rather than keeping cash at home. A last initiative to mention is the joint market monitoring initiative (JMMI) of FAO/WFP/REACH, which could be a good asset on which to build market information systems in the absence of a public one.

1.2c Access to finance

66 **While the critical development of small (household) business activities in South Sudan depends on the access to financial services, it is a daunting challenge both on the demand and supply side.** In general, only a minority of the population saves money (39 percent of the people surveyed by Altai Consulting, 2019) and even less borrow it (24 percent). When they do so it is essentially a way to tackle hardships rather than a way to jumpstart a business. When it comes to formal financial institutions, according to Findex 2017, only 8.6 percent of South Sudanese adults (age 15+) had a financial account, 3.6 percent saved in a formal financial institution, and 3.4 percent borrowed money from it. On the demand side, barriers to access to formal financial services include deep distrust, distance, affordability (Altai Consulting, 2019) as well as financial literacy. The supply side is constrained by factors such as a weak financial infrastructure, lack of credit infrastructure, burdensome documentation requirements and the lack of product innovation. Commercial banks significantly scaled down their activities in the aftermath of the 2016 conflict and financial intermediation is now a marginal activity in the country. Meanwhile, local shops play a role in providing loans and developing inbuilt social networks that act as informal safety nets by selling food on credit or opening tabs.

67 **Access to formal credit for production activities may be the most challenging financial service to develop.** Due to continuing shocks (instability, volatility of the national currency, inflation, availability of collateral) banks are unwilling to lend. In 2019, the private sector credit to GDP stood at 1.7 percent as compared to the 50 percent average for sub-Saharan Africa. When available, the provision of credit prioritizes short-term financing on a timeline of weeks or months (Altai Consulting, 2019). In addition, the microfinance sector was practically decimated following the 2016 conflict. Even the apex institution, the South Sudan Microfinance Development Facility, is currently not operational. Of the few remaining microfinance institutions, the interest rates are incredibly high (54 percent as of 2020, per discussion with RUFI) and operations are mostly located in Juba. In addition, the risk in doing business is very high for a SME without any backup. Recent experiences with lending to young entrepreneurs thus failed (according to team interview with Netherland Cooperation on 17 December 2020 and Cordaid on 18 January 2021).

68 **Among the alternative models, group-lending is relevant to South Sudan's difficult context but has limitations for agribusinesses.** A lesson learned from the credit experiences in South Sudan indicate that in remote rural areas people prefer group lending to individual loans (EU, 2018; GIZ, 2020). Decades of war did not deter the people from wanting to build relationships and cooperate with each other through solidarity groups. According to a study from Dube and Dube (2016):

In war afflicted areas (of South Sudan), people form groups according to their political, ethnic or other inclination. The group acts as a protecting wall and a source of information to the group members. It is therefore crucial that any form of financial mechanism that the state or any party provides in such societies, should be channelled through these groups rather than individuals.

Therefore, a group-lending model appears to be highly relevant in the South Sudan context. It is inclusive of the poor by practising collateral-free lending, which relies on peer monitoring and pressure to enforce loan repayments. While the loans are granted to individual members, the group remains liable for repayment. Thus, if one member defaults, the other group members cannot receive additional credit until the outstanding loans are repaid. Success stories based on this model in post- conflict countries include Bangladesh (Grameen Bank), Angola (this model supported the rebuilding of social capital and livelihoods) and Burundi (conflict resolution and bank trainings) (Dube and Dube, 2016). However, while group lending can help vulnerable populations run agricultural activities by levelling out incomes and investments and coping with emergencies and make short-term investments, it remains limited for agribusinesses. For instance, if farmers are interested in borrowing for agriculture production or post-harvest activities based on the same crop cycles, lenders may have limited liquidity to respond to all the demand. In addition, group lending products tend to be less flexible, cannot be tailored to each borrower's specific needs, and usually have high interest rates.

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The Village Savings and Loan Associations (VSLAs) experience shows how a group-lending model has been adapted to the specific context of South Sudan (Neaverson *et al.,* 2019b; SORUDEV-EU, 2018; FSAD-GIZ, 2020). The VSLAs model creates self-managed and self-capitalized savings groups that use members' savings to lend to each other. There is a common agreement within the donor community, NGOs and the United Nations that VSLAs are effective mechanisms for the poor to manage emergencies, and smooth income and expenses that can be scaled up. In a fragile and rapid changing environment, VSLAs have demonstrated their adaptability capacities to cope with shocks through a community-led decision-making process. In the UK-funded BRACE IRRIS project (2014), communities dealt with the potential problem of cash savings in VSLAs losing value because of hyperinflation. As a result, the VSLA cycle was shortened and individuals invested paid out savings in hard assets like livestock and/or loaned the money to members with interest. Another lesson from IRRISS is that VSLAs contributed to improved community cohesion as a result of group-based decision- making and risk-taking. Engaging local leaders also appeared to be at the core of a successful VSLA and buy-in from communities. Nonetheless, VSLA have the same limits as other group lending models when it comes to developing viable entrepreneurs-run agribusinesses. Considering South Sudan's fragile state, it would be worth investigating opportunities to link VSLAs to formal financial institutions. These linkages could provide VSLAs members with the opportunity to open group and individual accounts, allowing them to safely store their money and generate transaction histories needed to access other types of financial services such as credit. Linkages could also give

members access to digital banking services (currently offered by some South Sudanese banks) and the opportunity to transact more conveniently. Similar experiences are currently being tested in Ghana.

70 **The Rural Finance Initiative (RUFI) has also shown positive results.** RUFI is a cross-border microfinance institution initially incorporated as a limited liability company in South Sudan in 2008 and in Uganda in 2017. It provides financial services to 1800 clients in South Sudan and has four branches in Uganda serving 2350 clients, mainly South Sudanese refugees. In contrast to RUFI's expansion in Uganda, South Sudan is "a place to move cautiously." In the aftermath of the 2016 conflict, RUFI had to close two out of its four South Sudanese branches. According to its CEO, there is a need for permanent peace and stability of the South Sudanese pound against foreign currency to invest further in the country. In the meantime, RUFI is engaged with a consortium of NGOs (SPARK/AGRITERRA/CORDAID) funded by the Netherlands to provide a combination of lending and saving products to individuals especially youth and groups (women, cooperatives, VSLA). Because of the high inflation, only short-term loans are provided. The average loan for small individual businesses (with collateral) is about EUR 800 while for the SMEs the top ceiling was EUR 25 000. Group loans are formed mainly by women (3-5) taking loans of about EUR 100–300.

71 **The Cooperative Bank of South Sudan is another potential institution to work with despite its slow emergence.** It was established in 2010 as a subsidiary of the Cooperative Bank of Kenya (70 percent shareholders are Kenyan cooperatives) with the purpose to support South Sudanese cooperatives to get inputs and sell their products to the markets. This cooperative movement is slow to emerge and only represents 40 percent of the cooperative bank's business: 200 cooperatives were financed in 2019, 80 percent of which are saving and credit cooperatives for on-lending to their members. Some of these loans are used to finance farm machinery. The bank is considering establishing two new branches in Western Equatoria, which has a good potential for growth with the presence of 100+ cooperatives. One of the main challenges faced by the bank is the lack of collateral from borrowers, given their lack of assets and the fact that member farmers' land cannot be used as collateral in the current situation. The bank used to have a couple of effective schemes guaranteed by development partners, however they were disrupted by the conflict in 2016. It is now developing a new innovative scheme with no collateral requirements, provided the borrowers comply with criteria such as a certificate of registration of the cooperative, steady savings, good agricultural production practices, basic bookkeeping, good credit history (previous short-term lending was reimbursed with no delay/default).

72 **Regarding payments, mobile money is a promising but technically challenging path to allow secured transactions between farmers and businesses.** This is the newest payment instrument launched in South Sudan and has been in operation for slightly over a year. There are two main providers in the market (M-Gurush, launched January 2020, and NilePay, launched in June 2019) and a third recent entrant (Capital Pay, not yet active). While NilePay and M-Gurush provide mobile money services in all the ten states in South Sudan, 70 percent of the mobile money activity is in the capital city. The uptake has been slow for both providers mainly because of the lack of trust and awareness of the general population, but also due to the limited merchant ecosystem (some merchants such as fuel stations are accepting mobile payments). Currently, activity on the mobile platforms is driven by the cross-border service, where South Sudanese can receive transfers from

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relatives in neighbouring countries (mostly Kenya and Uganda). There are prospects for new providers to enter this market, particularly mobile network operators, which is expected to significantly improve access to these services.

Grant financing might be the most reasonable approach to foster South Sudan's agribusinesses. As concluded by the series of studies on jobs made by the World Bank in 2020:

> Grant financing is likely to be the more reasonable approach for broad business support in the short run. Hardly any firms – large and small – take loans, and businesses make it clear that they operate in markets where demand is low and risk high. For early recovery, outright grant funding is therefore likely to be more viable at scale than access to finance support.

Grant financing still has potential linkage with finance. For example, grants can be partial and linked with VSLAs or savings products of microfinance institutions, savings and credit cooperatives, or banks (if available).

Figure 13
Map of South Sudan's infrastructure and settlements

Source: Authors, based on data from World Bank. 2021. Open Street Map; UNOCHA. 2017. *Annual Report 2017*. Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

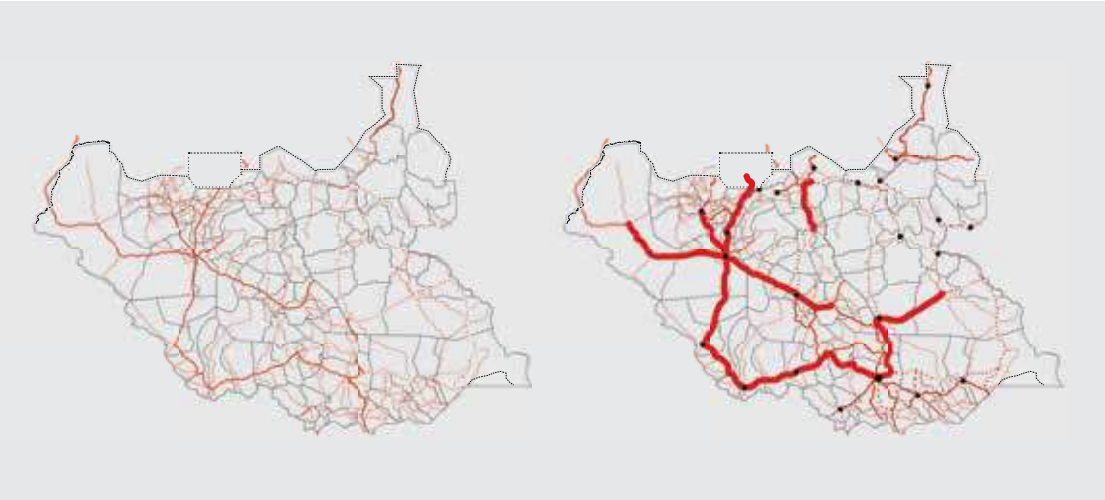

Figure 14
Accessibility of the road network in the wet and dry seasons in South Sudan

Source: Authors based on OpenStreetMap; FEWS NET. 2021. *Widespread emergency (IPC Phase 4) outcomes anticipated at the peak of 2020 lean season.* South Sudan Food Security Outlook: June 2020 to January 2021; and Logistics Cluster. 2021. *Annual Report 2020.*
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

1.2d Infrastructure

74 **Years of conflicts and chronic underinvestment have led to the lack of all major types of infrastructure** needed to develop agribusiness, including: network of roads (both trunk roads as well as rural/feeder roads); off-farm storage and processing facilities; cold chain facilities (e.g. cold storage); reliable supplies of electricity and water; access to low-cost communications networks (AFDB, 2013; World Bank, 2019; von der Goltz *et al.,* 2020). Figure 13 overlays the road and electricity network with settlements.

75 **The country's road density is the lowest in Africa** with 15 km of road per 1000 km^2 of arable land. Of the estimated 12 642 km of roads in South Sudan in 2013, about 2 percent were paved and only about 4000 km had been rehabilitated (UNOPS, 2016; World Bank, 2019). While some roads were rehabilitated during the period from 2007 to 2012, the ensuing conflict in 2013, heavy rains, increased levels of traffic, overloaded trucks and lack of maintenance have damaged the network. The destruction or disruptions of major trade routes has further hampered trade. In addition, most roads are interrupted or difficult to travel in the wet season (Figure 14).

76 **Road investment is critical for market and agriculture development in South Sudan.** World Bank (2012) makes a strong and detailed case for how improving rural connectivity would unlock South Sudan's agricultural potential. A key lesson from the USAID funded FARM project (2012) is also the high importance of investing in road infrastructure while promoting private sector development and market linkages. These investments have created new opportunities for entrepreneurs to facilitate the movement and trade of agricultural surplus. Farmers along secondary roads had reported that even when FARM helped them grow surpluses, they faced barriers in accessing markets. Road improvements have led traders to come to village markets to purchase agricultural surpluses.

Additionally, new entrepreneurs serve as intermediary traders, sourcing from neighbouring villages and selling to larger traders on market days. The World Bank study on "reducing poverty through improving agro-logistics in South Sudan" (2017) confirms this point when it states that most markets, which have a major road (interstate, primary and secondary roads) between them, are integrated meaning that price fluctuations between them have been stable over time. This statement is valuable for surplus markets and even stronger for deficit markets. However surplus markets show very low integration and trade, as there are no major roads between them. Some other factors also explain the absence of strong linkages between surplus and deficit areas: trade route and vehicle related barriers, storage means and access, financial access and payment mechanisms, and information constraints. At project level, limited surpluses, poor roads, few traders, inadequate storage and limited business skills constrain the project's opportunities to improve farmers' access to markets (USAID, 2012).

77 **In addition, road infrastructure rehabilitation has been perceived as the most important response** in terms of impact through improved access to health and education facilities, improved security, reduced time of travel, improved market access and trade development, increased food and commodity supplies, market growth and new and improved shops (EU, 2018). According to the EU programme evaluation, an impact was achieved thanks to the geographical concentration and synergies built by design across projects (ZEAT BREAD and SORUDEV) as well as a sizeable focus (50 percent budget allocated) on rural road rehabilitation that also favoured a contribution to long- term social and economic positive effects.

78 **Beyond the existence of roads, their safety stands out as major bottleneck to developing value chains.** Not only do farmers have little access to transport for delivering goods to markets, but hiring third parties to transport goods is costly (World Bank, 2019) and fees at checkpoints significantly add to that cost. Furthermore, market traders consistently perceive bad and dangerous roads as one of the most prominent obstacles (von der Goltz *et al.,* 2021). A priority for early recovery is therefore to reconnect with as many producers and aggregators as possible to the markets (von der Goltz *et al.,* 2020). This would allow for products to reach food deficit areas, and to feasibly connect surplus areas to markets where they can compete with imports.

79 **Lack of storage facilities leads to post-harvest losses ranging from 15 to 50 percent.** Beyond the most common farm storage, which is the traditional open hut, government-run storage, commercial facilities such as concrete warehouses, and mobile humanitarian storage are also used (World Bank, 2019). Cold chains infrastructure is severely underdeveloped and therefore a capital-intensive investment, however, commercial operators are building capacity to provide cold chain solutions. Currently, charcoal coolers are the only available option for cold storage units but they have a limited presence (Logistics Cluster, 2018; World Bank, 2019).

80 **Only an estimated 4.6 percent of South Sudan's population has direct access to electricity, with rural areas access being significantly lower than urban ones** (Republic of South Sudan, 2017). Altai Consulting observed that 35 percent of their rural survey respondents declared access to electricity, showing that most people do so through their community rather than their homes (Altai Consulting, 2019). The per capita electricity consumption is the lowest in the world at 1-3 kWh.

The World Bank's *Doing Business Report 2019* ranked South Sudan 187th out of 189 countries for access to electricity, with only 1 percent of the population that has access to grid electricity (World Bank, 2019).

81 **The power sector in South Sudan is experiencing severe supply shortages and extraordinarily high electricity tariffs.** South Sudan's installed power capacity is estimated to be roughly 130 MW; however, the country's power demand is estimated at 300 MW, an amount that is expected to grow during peacetime (IEEE Spectrum, 2020). Much of the country's generation is currently not operational due to lack of fuel and spare parts (Deng, 2019). Grid customers currently pay an average tariff as high as USD 0.42 per kWh, among the highest in Africa despite the poor quality of supply. In addition, contractual disputes between the privately owned sole grid-electricity producer and the government off-taker have been resulting in frequent blackouts even for connected customers. Both unavailability and unreliability of power are major barriers to investment in larger-scale commerce and industry.

82 **Sector stakeholders have limited capacity and their roles need to be further defined.** The Ministry of Energy and Dams is responsible for the power sector, **and** the South Sudan Electricity Corporation (SSEC) is mandated to supply electricity across the country. However, with only about 700 staff - including only 40 engineers and 20 accountants - SSEC has operations in Juba and a few of the larger cities, although activity is extremely limited outside of the capital and power assets are in severe states of disrepair. In Juba, the Juba Electric Distribution Company (JEDCO) was recently established to manage distribution of grid power, though conflicts of interest between its private and public shareholding have left its mandate unclear and diminished its efficacy.

83 **Off-grid solutions such as solar home systems and solar-PV based mini-grids could complement grid expansion and rehabilitation and help accelerate rapid expansion of electricity access in South Sudan in a cost-effective manner.** Recent innovations in standalone solar systems result in more service for less money, more product offerings meeting quality standards, and new business models such as pay-as-you-go that lower the upfront barrier of acquiring the systems. Coupled with energy efficient appliances, standalone solar systems are no longer considered an expensive option for electricity access and can in many cases be effectively used to power small-scale agribusiness and other productive appliances. Recent conflict in South Sudan has inhibited interest from private off- grid solar distributors, but as the security situation improves so will market opportunities for the private sector, especially with the right incentives in place.

84 **Given sectoral challenges, several major agricultural projects in South Sudan that are now reliant on expensive standalone diesel generation could significantly benefit from planned energy sector investments.** These include:

i. the Upper Talanga Tea Project in Palotaka, which would be well situated to benefit from a planned 400kV interconnection line to Uganda and its associated substations;
ii. the Awil Rice Scheme in Upper Nile State, which would benefit from a planned 200kV line between Juba and Renk;
iii. the Anzara Cotton Factory in Western Equatoria State, a good candidate for investment in captive power or isolated grid systems; and
iv. various agricultural activities in the vicinity of Juba that are expected to benefit from a new 20 MW solar plant currently under development

These sites could also plausibly act as anchor customers for standalone or mini-grid renewable energy systems, significantly reducing costs and improving reliability, while also providing low-cost electrification opportunities for nearby communities.

85 **South Sudan's telecommunications sector is also among the least developed in the world** (Altai Consulting, 2019). Network coverage is deficient in most parts of the country and practically non- existent in many rural areas. Following the outbreak of the conflict in 2013, many towers were destroyed or deliberately damaged and as a result, investments plummeted. About 38 percent of rural residents own a phone. Phone ownership depends on the socioeconomic conditions, mainly wealth and literacy, and shows a high gender gap (56 percent of males own a phone, against 34 percent of females). Some 74 percent of rural residents have to travel at least 30 minutes to reach an adequately functioning network.

86 **Water management infrastructure is crucially lacking, both for human consumption and agricultural use.** Water resources and their management are a major health and environmental concern in South Sudan in terms of quantity but also quality, as there is a crucial lack of improved sanitation facilitation and no collection or treatment of wastewater. Only 41 percent of the population has access to safe water and 10 percent to improved sanitation (UNICEF, 2021). On average, six litres of water are consumed per person per day in rural areas, compared to the minimum requirements of at least 7.5 litres (UNEP and Ministry of Environment, 2018). Regarding agriculture, both the lack and excess of water currently impede production growth. Climate change is expected to worsen the situation. Based on an agricultural area of land of about 28.5 million ha, South Sudan's irrigation potential was estimated in 2011 at 1.5 million ha (AfDB, 2013; FAO, 2015). Over half of it is located in the Nile-Sobat River basin, which is highly dependent on upstream activities in Egypt and Sudan (UNEP and Ministry of Environment, 2018). In 2011, the area equipped for full control irrigation was estimated at 0.1 percent of agricultural land (32 100 ha), mostly for rice, fruit trees and tree plantations. Investments in water management infrastructure are critical for both crop (in particular rice and sorghum) and livestock sectors. This would not only allow for storage of excess water during wet seasons to be used during dry seasons but would also alleviate – at least to some degree – competition over grazing lands. Developing irrigation would need to go hand in hand with investments in research, extension, and advisory systems as well as legal and regulatory frameworks (FAO, 2015).

1.3 POLICY FRAMEWORKS RELEVANT FOR AGRICULTURE DEVELOPMENT, FOOD SECURITY AND NUTRITION

87 **The drivers of food insecurity and transformation of agrifood systems in general are increasingly anchored in macroeconomic mismanagement, in addition to conflict and weather-related shocks** (World Bank Group, 2021c; Mawejje, 2020). Some 90 percent of the national budget in 2020 was funded by oil revenues. Without mechanisms to buffer oil price and production fluctuations, the drop in oil revenues since 2011 (some 72 percent) has led to a 55 percent contraction of the real GDP over the same period. Real non-oil GDP also decreased by 37 percent and household disposable income by 70 percent (IMF, 2019). Monetization of the budget deficit by the government, exchange rate pass through (changes in domestic prices due to changes in the value of

the currency), combined with conflict and food-related production shocks have all contributed to skyrocketing inflation: price rises reached annualized rates of up to 550 percent over the 2015–2018 period. These macroeconomics trends have led to the destruction of small-scale market-linked activities that have traditionally been a significant source of cash income. In addition, a significant share of civil servants has undergone cuts in their salaries (when they get paid at all), further contributing to the declining purchasing power and as such weakened market demand. The COVID-19 pandemic further contributed to food price increases in 2020–2021 due to supply-side disruptions. In fact, a recent analysis of the World Bank (2021c) shows that market failures attributed to excessive inflation have had the greatest direct impact on food insecurity in South Sudan since late 2015, surpassing previously dominant conflict- related factors.

88 **South Sudan has initiated promising reforms to stabilize macroeconomics indicators, which could ease food accessibility and enable agricultural growth** (World Bank, 2021c). The authorities have started an ambitious reform process that has prioritized modernization of the country's public financial management systems. The Public Finance Management Oversight Committee was formed in April 2020 (with participation from the government, development partners and civil society) along with a technical committee and a secretariat. The government has committed to a macrofiscal reform programme and is working with the IMF, the World Bank, and other development partners on implementing the targeted reforms. In support of this effort, the IMF Board approved a Staff Monitored Programme for the period 31 March–31 December 2021 that focuses on restoring fiscal discipline, monetary and exchange rate reform, debt management, and strengthening governance. If the government's commitments materialize, improved fiscal transparency, macroeconomic stability, and the prudent use of oil resources could potentially create the conditions needed to foster agricultural growth in the medium term.

89 **Since independence, South Sudan has formulated high level guiding documents that provide a vision for the new country but that are partly outdated.** The South Sudan Vision 2040: "towards freedom, equality, justice, peace and prosperity for all," was developed as soon as in 2011. It is guided by the need to progressively exit from conflict towards a more prosperous country by 2040 and is organized around seven strategies to deliver the vision, aiming to "build a nation" that is:

i. educated and informed;
ii. prosperous, productive and innovative;
iii. compassionate and tolerant;
iv. free, just and peaceful;
v. democratic and accountable;
vi. safe, secure and healthy; and
vii. united and proud.

Largely aimed at building the governance and institutional structure of the new country, its economic content is only covered by its second strategy, including among other sectors, through the objectives to increase agricultural productivity, to enhance food security and to improve livestock and fish production. The South Sudan Vision 2040 remains broad in nature and retrospectively appears idealistic, in view of the deterioration of the situation that followed. Instead, the South Sudan National Development Strategy (July 2018–June 2021) was developed under more difficult circumstances focusing on consolidating peace and stabilizing the economy. Its key principles include peace, security, rule of law, democracy and

good governance. It aimed at guiding investments during these three years but was never really implemented. One of its six "strategic deliverables" was to secure food with the aim to increase "net cereal production" from 60 percent to 80 percent (interpreted here as level of cereal self-sufficiency).

90 **At sectoral level, South Sudan has developed a set of policies that could potentially provide a useful framework for agriculture and food security development.** This includes the Agricultural Sector Policy Framework (ASPF) (Republic of South Sudan, 2012) as well as 14 sub-sector policies (Table 1). It was developed by the Ministry of Agriculture, Forestry, Cooperatives and Rural Development in 2011 and 2012 through a consultative process with the aim to synthesize the various existing policies into a single framework. It recognizes the important potential of the country in terms of the abundance of agricultural land (e.g. the theoretical arable land covers 30 percent of the country), climate and ecosystem diversity, of the scope for productivity increase of the crop sub-sector, of the critical livestock sub-sector as well as the important market opportunities for South Sudan agricultural products both domestically and in neighbouring countries. The goal of the policy framework is to ensure food security for all through increased agricultural productivity. The mission assigned to the ministry is:

> To create an enabling environment for the transformation of agriculture from a subsistence system into a modern, socially and economically sustainable system through science-based, market-oriented, competitive and profitable farming while maintaining the integrity of the natural resource base for the benefit of future generations of South Sudanese people.

Table 1
Status of agricultural policies

Policy document	Status
Agriculture sector policy framework	Passed by the National Assembly on 12 December 2013. Yet to be reviewed by senior management of MAFS.
Agriculture mechanization policy	Approved by full Council of Ministers on 8 February 2013.
Agriculture market policy	Drafts presented by external consultant to MAFS to be reviewed and validated by the senior management of MAFS.
Horticulture policy	Approved by full Council of Ministers on 15 March 2013.
Seed policy (drafted in July 2012) Seed bill (October 2013)	Not yet presented to the Economic Cluster of the Council of Ministers (to be reviewed by the senior management of MAFS).
Food security policy	Approved by the full Council of Ministers on 8 May 2013 with amendments, on its way to the Transitional National Legislative Assembly (to be reviewed by the senior management of MAFS).
Rural finance policy	Draft presented by external consultant to be reviewed and validated by the senior management of MAFS.

Table 1
Status of agricultural policies (continued)

Policy document	Status
Agriculture research policy	Finalized in July 2012 with the objective of promoting the generation, acquisition, adaptation, and dissemination of new knowledge and improved technologies and policies necessary for transforming farming in South Sudan from subsistence to commercial. However, the policy was not yet presented to the economic cluster (to be reviewed by the senior management of MAFS).
Soil health policy	Approved by the full Council of Ministers on 15 February 2013 (to be reviewed by the senior management of MAFS).
Rural development policy	Approved by the full Council of Ministers on 8 May 2013 (to be reviewed by the senior management of MAFS).
National Agriculture and Livestock Extension Policy (NALEP)	Approved by the Council of Ministers in 2012, it promotes pluralistic and participatory extension services, including private extension and advocates for research priorities and extension messages to be driven by farmer needs.
Policy Framework and Strategic Plan 2012–2016 for livestock and fisheries	Outdated. Latest available document from the former Ministry of Animal Resources and Fisheries (MARF) that was promoting investment in training capacity for animal husbandry best practices, range and livestock research, water development for livestock use, wildlife conservation and management, community based natural resources management for drought preparedness.
Fisheries Policy for South Sudan 2012–2016	Outdated. Was aimed to maximize production and avoid overfishing, while preventing the destruction of fragile wetlands.
Other relevant documents	
By-laws of marketing cooperative society	To be reviewed and validated by the senior management of MAFS before presentation to the Council of Ministers.
Strategy for Cooperative Development 2012–2015	To be reviewed and validated by the senior management of MAFS before presentation to the Council of Ministers.
Model by-laws for housing cooperative	Draft to be reviewed and validated by the senior management of MAFS before presentation to the Council of Ministers.
Community Development Policy	To be reviewed and validated by the senior management of MAFS before presentation to the Council of Ministers.
The Cooperative Society Act 2011	Passed by the Council of Ministers and the National Assembly as a legal document; to be reviewed and validated according to the laws of South Sudan Cooperative societies.
South Sudan Cooperative Societies Regulations	To be reviewed and validated by the senior management of MAFS before presentation to the council of ministers.
National Cooperative Development Policy 2012–2017	To be reviewed and validated by the senior management before presentation to the council of ministers.
Private Sector Development Project	To be completed after presentations to ministries, state governors and international partners.

Source: Authors' own elaboration.

91

However, this policy framework is scarcely implemented due to a number of critical gaps and political economy considerations. First, it was prepared before 2013, which means that the stated policies are now largely obsolete given that the aim is usually to achieve results within a five-year time horizon (e.g. the ASFP Framework had established end targets for 2017). They do not account for the

recent security developments and the current fragile situation created by the revived conflict that unfolded since they were formulated. The MAFS, which currently manages them, does not have the same mandate as the Ministry of Agriculture, Forestry, Cooperatives and Rural Development which designed them. Second, many of these policies have not been approved and, as such, are still in the draft phase. Table 1 shows the status of these policies and demonstrates that, in sum, none of them can be directly implemented as of yet. In addition, while policies usually set a vision and the objectives and options for interventions to achieve these objectives, they usually lack a more concrete implementation strategy and budget allocation, as well as a monitoring framework and system. Furthermore, some of the set objectives appear unrealistic, as for instance the target of the country's food self-sufficiency by 2017. Finally, there has been no dissemination or consultation on these policies at state and county levels, who are expected to implement them as a part of the decentralization efforts.

92 **South Sudan is yet to develop an overreaching cooperative policy.** In the absence of this policy, the country has been operating on the following working documents: (i) the Cooperative Society Act which was enacted to law in July 2011; (ii) the National Strategy for Cooperative Development 2012– 2015 (awaiting stakeholders' revision); and (iii) the South Sudan Cooperative Regulation (developed in 2013). However, they lack substantive provisions for the regulation, administration and operation of cooperatives. They were never validated or reviewed by stakeholders or any external party and therefore might not meet the needs of their stakeholders.

93 **The country has a national nutrition policy and has been a member of the SUN initiative since 2016.** SUN seeks to achieve nutrition justice and end malnutrition in all its forms. However, this initiative is still largely a work in progress and lacks any specific operational results. There is also a food security council under the office of the president responsible for coordinating resources, supervising, planning and conducting monitoring and the evaluation of food security-related activities. Since its formal launch in 2014, it has not yet started any activities, but could be reactivated in the wake of the SUN initiative.

94 **South Sudan could also seize the CAADP opportunity.** The Comprehensive Africa Agriculture Development Programme (CAADP) is Africa's policy framework for agricultural transformation, wealth creation, food security and nutrition, economic growth and prosperity for all. It opens several opportunities for South Sudan:

i. the signature of a compact representing a shared commitment by all major stakeholders in agriculture (government, FOs, civil society, development partners);
ii. adhering to the commitments contained in the Maputo and Malabo declarations, such as the allocation of 10 percent of the budget to agriculture or the alignment of partners;
iii. the process of defining a National Agriculture Investment Plan (NAIP) as a major building block for agriculture transformation, and
iv. sub-regional and regional support such as capacity development (NEPAD), peer learning and peer reviewing of policy and investment frameworks. Despite the presence of a CAADP focal person in MAFS, South Sudan has not grasped these levers yet. It does not have a compact and allocates about 1 percent of its budget to agriculture. The ASPF is largely disconnected from the CAADP process.

1.4 CAMP – SOUTH SUDAN'S INVESTMENT FRAMEWORK

95 **The Comprehensive Agriculture Master Plan (CAMP) is the investment framework for agriculture in the country.** It was developed between 2012 and 2015 through a broad consultation process at central, state and local levels and was eventually approved on 7 March 2017 by the Transitional National Legislative Assembly. The CAMP covers all sub-sectors, including crops, livestock, forestry, fisheries, and institutional development subsectors, and as such mobilized four ministries: MAFS, the Ministry of Livestock and Fisheries, the Ministry of Environment and Forestry and the Ministry of Water Resources and Irrigation.

96 **CAMP has a long-term horizon of 25 years organized around five development themes:** (i) reconstruction and recovery; (ii) food and nutrition security; (iii) economic growth and livelihood improvement; (iv) agriculture sector transformation; and (v) the crosscutting and continuing theme of institutional development. The four first themes are to be sequenced over time while partially overlapping through four implementation phases. Phase 1 concentrated on public sector investments and was expected to run from 2016 to 2020 and included investing in institutional capacity building of the relevant institutions. Other interventions included in CAMP phase 1 are being implemented including vegetable growing in urban centres and the preparation of bills of establishment (Meat Act and Seed Act) which are now in the process of being enacted.

97 **CAMP includes some 110 investment projects to be implemented over a 25-year time period.** It puts an emphasis on building human resource capacity, supporting the development of a legislative and institutional framework necessary for public service delivery, and on appropriate regulation of private sector activities and markets. The specific investment projects are organized around four sub- sectors (crops, livestock, fisheries and forestry) categorized as high, medium or longer-term priority. The high category projects are designed to respond to more pressing needs and expected to have an immediate and substantial beneficial impact.

98 **However, most CAMP investments have not materialized so far.** This is mainly due to a combination of the resurgence of conflicts and consequent humanitarian crisis since its formulation, the lack of human and institutional capacities to implement the project, and the absence of mobilization of adequate financial resources. On one hand, the government dedicates only about 1 percent of its budget to agriculture. On the other hand, many development partners allocate a vast majority of their financial support to emergency and short-term interventions with a humanitarian purpose, sometimes at the expense of longer-term investment. Other shortcomings related to the implementation of CAMP include an overly ambitious scope that requires significant financial resources not available in the short and medium term. A further prioritization process would be required in order to agree on the most critical interventions, so as to allocate scarce budget resources and guide financial allocations from development partners who wish to align to the CAMP. It lacks a functioning monitoring and evaluation system that is needed to track financial resources flows and implementation results. Capacity development related to CAMP has only benefitted the line ministries at the national level, while state and county levels are expected to play a major role in implementation. Finally, the prioritization of CAMP investments should build upon recent successful interventions by various stakeholders which could be scaled up relatively easily.

99 **A recent attempt was made in early 2019 to revitalize medium-term investment in agriculture** through the preparation of South Sudan National Agriculture Sector Development Initiative (2019– 2021). Aligned with CAMP, its aim was to "develop a competitive, sustainable and gender sensitive agricultural sector that enhances household food systems, economic growth, and a peaceful co-existence in South Sudan." It proposed a set of priority programmes for a total of USD 150 million over three years to benefit all sub-sectors: agricultural information systems, seeds and crops, animal health and livestock, fisheries and wetland development, rangeland and forestry, rural infrastructure, value chain development and marketing, and support to policy, CAMP and state level institutions. However, the initiative remained as a draft and was neither financed nor implemented as such.

1.5 STATE, COUNTY AND LOCAL INSTITUTIONS AND GOVERNANCE

100 The weak capacities of the central government, the poor transport and communication networks, and regional differences call for decentralization of the decision-making process and implementation efforts. The country has a strong tradition of decentralized management of natural resources, land, conflicts that could provide a useful basis for building the reconstruction efforts.

101 **The MAFS and the MLF have a critical role in the development of their sectors, but suffer from significant institutional capacity and human resource shortcomings.** This limits their ability to lead the sectoral development agenda. A governance analysis run by the World Bank in 2017 examines efforts made to strengthen the country's state capacity from 2005 to 2016. South Sudan moved toward independence with low human capital development and an extremely limited infrastructure. Initial hiring decisions were highly influenced by patronage and loyalty considerations, tied to coalition building strategies. Aid interventions from a wide range of donors and development partners (including the World Bank) started with an "overly optimistic" level of ambition, but rapidly became more fragmented and were progressively abandoned in the face of the low coordination capacity of the government and the resurgence of conflict. Ex-post evaluations of these capacity-building efforts have been very critical, especially with regard to overly short-term support, insufficient attention to subnational levels and lack of monitoring (Bennett *et al.*, 2010). Assessing the current qualifications and skills of civil servants is difficult, as data are extremely constrained. The World Bank (2017) concludes that some improvements have occurred since independence as some skilled civil servants have been employed, but wider progress has been hampered by the 2013 and 2016 crisis as well as a recruitment freeze starting in 2012. The creation of additional states and counties in October 2015 triggered a new hiring wave at the subnational levels, which were however oriented towards administrative rather than service delivery staff, thus requiring limited monitoring and supervision.

102 **Local governance plays a critical role in sustaining peace.** South Sudan's constitution provides for the decentralization of governance (International Crisis Group, 2021). The Local Government Act of 2009 defines the primary responsibilities of local government divided into: county, payam and boma in rural areas, and city/town, blocks and quarters in urban areas. Provisions for public participation in local governance include the election of county commissioners and of country legislative councils, and the formation of citizen

development committees. In addition, federalism is a key tenet of the 2018 peace deal and a popular idea among many South Sudanese politicians. However, the quality of local governance has become highly variable and complicated by decades of social dislocation. Local governments face significant capacity and resource constraints, the perception of their effectiveness is weak and their public legitimacy unclear given the lack of citizen participation (Idris, 2017). In addition, states exercise considerable control over local governments, notably through the appointment of state governors and control of resources (Idris, 2017). Decentralization is therefore not a full remedy for South Sudan's problems and has even been counterproductive in some circumstances. For instance, the subdivision of South Sudan from its original ten states into 32 states increased central power by drastically shrinking the states' size, political authority and economic importance (Crisis Group Africa, 2021). Competition for local resources already drives local conflicts and could spike if fewer resources are available.

103 **Traditional authorities should be involved in local governance because of their historical legitimacy, effectiveness in conflict resolution and pivotal role between communities and local governments.** Traditional authorities were recognized in the 2009 Local Government Act, although their role was not precisely defined. Along with indigenous cultural systems they provided the only constant structures of governance throughout the history of South Sudan. Chiefs continue to be the main actors in the mitigation and resolution of local conflicts. According to the United Nations Development Programme (UNDP), 90 percent of everyday criminal and civil cases are dealt with and processed under customary law and by traditional chiefs and leaders. Working with chiefs and incorporating them into local governance responsibility would strengthen social cohesion, foster the creation of a common identity across tribes and help rally the population towards peace and development (Neaverson *et al.,* 2019b). Therefore, it has been suggested that traditional authorities should also be supported through capacity-building and adequate dissemination of the new laws.

104 **However, local governance systems have been badly affected by the conflict.** Many chiefs have been either displaced, replaced by external armed forces or forced to do the bidding of armed groups when they remained in place. While state local government structures enjoy legitimacy in law, their effectiveness is limited. A recent study from the Conflict Research Programme of the London School of Economics (McCrone and Bridge Network, 2021) suggests that:

South Sudan's peace building partners should recognize the complexity and potentially problematic nature of working with some actors, looking to other forms of public authorities to engage in peace- building work: teachers, local journalists, and other actors could be considered alternative suitable peace partners.

The research also indicates that "coupling peace-building efforts with more tangible dividends, that is, infrastructure programming or enforceable contracts over resources, creates the credible incentive."

105 **The capacity of states, counties and payams is extremely low.** Until December 2013, donors and partners invested heavily in developing the capacity of the nascent administration, both nationally and at state levels. For instance, the 2007–2013 Sudan Productive Capacity Recovery Programme (SPCRC) built the capacity of the ministries of agriculture, forestry, livestock, fisheries and animal resources of five states (Northern Bahr el Ghazal, Western Bahr el Ghazal, Lakes, Western Equatoria, Central Equatoria and Unity) and 14 counties (FAO, 2013). As donors withdrew with the escalation of the conflict, the capacity of government and state ministries declined, accelerated by the economic crisis. Today, staff retention at these levels has become a significant challenge, with trained personnel moving to other sectors since their salaries are not paid. Political appointments to county commissionership positions contribute to the turnover in county agriculture departments, where commissioners appoint relatives rather than trained available personnel. In addition, mandates of the county and payam agricultural departments remain unclear.

1.6 CONFLICT RESOLUTION MECHANISMS

106 **Control over land and natural resources is a central theme in South's Sudan conflict history.** Sharing oil revenues was an important part of the Comprehensive Peace Agreement signed in 2005 to end the Second Sudanese Civil War. A recent analysis of the United Nations Peace Building Fund traces the roots of the conflict to a history of weak governance and a high degree of centralization, exacerbated by the erosion of customary systems (UN, 2021). Competition over natural resources is at the core of South Sudan's internal conflicts and is closely intertwined with interethnic tensions, in particular as regards access to land and water. Land rights constitute the fundamental base to access all other valuable resources: whether being exploited for agriculture, cattle-herding or subterranean resources such as oil or water, land control and ownership are the key to wealth and power.

107 **Intra- and inter-ethnic fighting is widespread and frequent, particularly among pastoralist groups.** Conflicts among rural communities often arise over access to vital resources such as water points and grazing lands (USAID, 2010). They have historically occurred among pastoralists and between pastoralist groups and farmers and used to be controlled using traditional mechanisms. However, trends of the intensity and frequency of these conflicts since independence continue to be a reason for great concern. Some powerful agropastoral groups also seek to expand land areas at the expense of others. Conflicts are exacerbated by environmental degradation and shrinking grazing land due to flooding, increasing tensions around cattle keeping. Livestock is also an important means of compensation for the loss of lives and animals as part of local peace agreements (UN, 2021).

108 **Encouraging milestones for peace have been achieved in 2018 and 2020.** The 2018 Revitalized Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS) and the establishment of the Republic of South Sudan's Revitalized Transitional Government of National Unity on 22 February 2020 are promising steps for sustainable peace and development in the country. The ceasefire opens space for peacebuilding initiatives (UN, 2021); furthermore, the parties of the R-ARCSS made progress on the formation of the transitional government. Nevertheless, the country still struggles with the sensitive power

balance issues between national and subnational government structures and faces challenges to address accountability for serious violence and crime, in particular related to sexual and gender-based violence.

109 **The security context remains volatile with an overall increase in incidents.** While violence substantially decreased across the country following the peace agreement, intercommunal conflict has surged since March 2020 and the R-ARCSS does not address it. On 26 January 2021, the Jieng Council of Elders expressed concern about the escalating community violence, the collapse of the economy and the lack of progress in the implementation of the revitalized agreement. This was demonstrated by escalating violence between civilians and the Sudan's People Liberation Army In- Opposition forces in part of the Maban County and Upper Nile State, forcing thousands of residents from their homes and leaving them in dire need of food and shelter. Increased pressure on livelihoods, food prices and competition for local administration positions adds to existing fissures. Central Equatoria remains the key hotspot for conflict-related sexual violence (UN Security Council, 2021). Jonglei and Yei have witnessed armed conflicts no longer controlled by political power holders, which could seriously threaten the fragile transition the R-ARCSS has preluded (UN, 2021).

110 **Enforcing justice is key to avoiding outbreaks of violence over scarce resources.** UNMISS supports the national South Sudan's Security Sector Reform (SSR) in accordance with R-ARCSS provisions (UNSCR, 2021; UNMISS, 2020b); in order to avoid perpetuated violence, conflict resolution mechanisms have to address ongoing and past grievances. It also supports legal reform through setting rules for jurisdictions and reviewing criminal laws, and furthermore strengthens accountability with formal justice actors targeting hot spots through mobile courts. Their interventions reconcile formal and traditional justice systems but the crucial question of jurisdiction over more serious crimes requires clarification. Moreover, communication needs to be facilitated between national and subnational justice actors. Authorities have not yet been able to address the underlying causes of local conflicts and the police service lacks the human and financial resources to protect civilians. Disarmament operations showed mixed results and imply the risk of contention between soldiers and armed civilians (USAID, 2010). Formal systems to address cattle raiding are not functioning, which leaves the role to the chiefs. However, multiple committees can clash and are not always recognized by all groups involved in the arbitration. An effective system requires reconciliation of the role of national laws, local governors and traditional leaders.

111 **Given traditional leaders' important role in customary ways to address conflicts, they can advise courts on local customs and locally suitable compensation.** Compensation may be preferred to punishment to strengthen social ties and avoid triggering new tensions. Where courts judgements fail to take into account local customs, there is a risk of exacerbating rather than mitigating conflict. Community-based and inter-community negotiated peace agreements such as in Wao and Northern Bahr El Ghazal constitute valuable instruments for addressing conflict and mitigating risks but implementation needs to be supported and monitored. While many community systems enjoy social legitimacy to mediate conflicts, genuine representation of the community requires attention to prevent hand-picking by more influential actors. Not all customs respect the principles of equality and social justice, which is why the judgement of formal judicial actors remains crucial.

1.7 LAND TENURE

112 **Land rights are a critical bottleneck for South Sudan's stability and agricultural transition.** In 2014, an estimated 80–90 percent of civil cases in the formal system constituted land disputes, including allegations of land grabbing by security sector personnel, competing claims over ownership, double allotment of plots to individuals during the formalization process, land acquisitions for the purposes of urban expansion, and various disputes involving groups of IDPs and returnees (Deng, 2014). There is a pressing need for stronger mechanisms to resolve disputes over resources before they turn violent considering the frequency of conflicts over natural resources, and in particular land rights (UNEP and Ministry of Environment Republic of South Sudan, 2018). The massive population movements of refugees and IDPs, worsened in the aftermath of the 2020 floods (UN, 2021), and the beginning of the resettlement from the protection of civilians/ IDPs sites, will put considerable stress on community land rights and existing legal frameworks. The re-emergence of tribal politics also strongly influences perceptions of land ownership and contributes to conflict (UN, 2021).

113 **The major task for addressing South Sudan's land tenure challenges will be to resume the measures requested by the R-ARCSS, in particular related to land conflicts.** The R-ARCSS provides for concrete measures to address land reform gaps within determined timeframes. It envisions a national debate to review the Land Act (2009), the 2013 national draft land policy, and the establishment of an independent registry of land at all levels of government for issuance of: (i) titles, to empower land commissions at different levels of government to interpret tenure legislation and reflect customary systems; and (ii) assistance to the mediation of conflicts arising from land. Given the social and political instability, the draft land policy is pending approval by the legislature.

114 **The historical tension between attempts by the central government to reform land tenure and customary rule remains today a key challenge.** Customary systems have governed land access in South Sudan over centuries, and each ethnic group has developed different rules on how to manage land (Bior *et al.*, 2006). Despite the attempts by governments in Khartoum to reform legal frameworks throughout the colonial and post-colonial periods, customary land tenure systems largely determine land access and rights in South Sudan (NRC quoted by USAID, 2010). Land was considered critical for the attainment of lasting peace in South Sudan and included in the Comprehensive Peace Agreement. It prompted the establishment of the National Land Commission, charged *inter alia* with land conflict arbitration, and coordination of land policies for South Sudan. At the time, parties agreed to progressively incorporate customary laws and practices, local heritage and international practices into relevant laws through amendments.

115 **The South Sudan Land Commission (SSLC) can play an important role in moving forward land policies if legal questions and institutional leadership are clarified.** The Land Act and the Local Government Act of 2009 sought to make important legislative reforms but have remained largely unimplemented. The Land Act recognizes customary tenure rights that enjoy equal legal force and legal effect in law with freehold or leasehold rights. The South Sudan Land Act of 2009 defines land use and management and sets principles for legal rights to land. Furthermore, it classifies land into public, community, and private, providing rights to use land for livelihood, farming, or cattle rearing (World Bank Group, 2019).

The crucial question is the allocation of tenure rights and responsibilities communities have *vis-à-vis* the state and how customary land rights can be formally recognized in practice. It is not clear where the limits of community, public and private lands lie and communities perceive ownership over virtually all parts of the country (Deng, 2014). The 2013 draft land policy could be a key instrument to improving land tenure systems to facilitate the transition displacement to long-term peace and development. It aims among others at strengthening women's land tenure rights and precludes legal reforms. The policy also recommends greater statutory protection for land held under customary tenure through a Community Land Act.

116 **Without secure access to land and land tenure regulations it will be difficult for South Sudan to exploit its significant natural resources potential** (UN, 2021). Less than 10 percent of rural communal land is documented and in most parts of the country it is informally administered by traditional institutions (World Bank Group, 2019). Although some old records on tenure rights exist in urban areas, the majority of South Sudanese do not have any written proof of the right to own, use or occupy the land. People are thus vulnerable to eviction, especially where customary systems are eroded or contested due to conflict. In particular IDPs, returnees and women suffer from the lack of recognition and protection of tenure rights which limits their economic opportunities. There are serious impediments for women to access land through either formal or informal systems, although in some urban areas they have been able to obtain registered plots. Despite a sharp rise in demand for land in urban areas since independence, registration processes remain limited. Land administration systems are overwhelmed with overlapping claims resulting from the war, and lack of updated transparent procedures and information management systems to deal with them.

117 **Promoting private investments requires a conducive policy and legal framework environment and better mechanisms to negotiate with the local population.** In theory, this would involve the transitional constitution and the land protect community interests in land investments. In practice, the mechanisms for securing public benefits are not consistently applied, and the non-performance of investment obligations is a common problem (Deng, 2014). An additional risk citizens face is expropriation for public and private investments without compensation, affecting tens of thousands of people through a radical demolition process in 2009. The impact has not been monitored. In South Sudan's volatile context, investments in agriculture require careful assessment of land tenure and of the possible impact of land changes on the conflict situation (Deng, 2014).

118 **While the land act provides for the development of a land registry, priority needs to be given to address injustice and protect vulnerable rights in the interim.** The land act stipulates the establishment of land offices within the government; at the state level and in offices at each level of land administration. The land registry can also be devolved to the local government levels such as the county (USAID, 2010). Building capacity of land tenure administration institutions who would be capable of preparing and implementing land tenure registration processes and manage land information systems requires significant financial and human resources. First, priority must be given to addressing historical and ongoing injustices. Communities in urban areas hosting a high number of returnees and IDPs lack guidance and support on the eligibility and types of rights that can be allocated.

Another obstacle to protecting tenure rights of the most vulnerable is the lack of enforcement capacities. Security forces are weak compared to military actors, who are sometimes involved in forcefully claiming land, which can escalate into violence. Some experience, such as in Jonglei, shows that a combination of disarmament efforts and facilitated mediation can reduce violent conflicts and help to develop lasting tenure arrangements among pastoralist communities (USAID, 2010).

1.8 DEVELOPMENT AID COORDINATION

119 **Humanitarian interventions constitute the bulk of aid flows in South Sudan, in line with the massive needs of the country.** Related to its size, South Sudan is a major recipient of bilateral and multilateral aid (USD 1679 million in 2019). The United States of America is the largest donor in the country (USD 622 million in 2018–2019), followed by the United Kingdom of Great Britain and Northern Ireland (USD 234 million), Germany (USD 140 million) and UNICEF (USD 108 million). About 55 percent of all official development aid disbursed in 2019 was humanitarian aid, which serves immediate critical, lifesaving needs. Annex 5 lists and maps some past and ongoing agricultural interventions in South Sudan.

120 **Since 2016, much effort has been made to improve the coordination mechanisms within international aid in South Sudan.** There are numerous platforms for joint analysis that function on a regular basis. The Agriculture and Livelihood Donor Working Group co-chaired by the European Union and the Japan International Cooperation Agency (JICA) is the main forum for coordination between resilience and humanitarian sectors engaging in strategic orientations for the sector. Updated mapping of interventions provides a platform for information sharing and possible areas of collaboration. At the same time, coordination between emergency, food security and rural development programmes has improved through the Joint Humanitarian-Development Framework (JHDF). This IPC process helps meet the humanitarian and development cooperation needs with the suitable formal coordination arrangements. The Agricultural and Food Security Information System (AFIS) project funded by the European Union developed the capacity to connect and work on networks. Its partnership arrangement includes national institutions, local administrations, local civil society, coordination with IPC technical working group, Food Security and Livelihoods (FSL) clusters, IGAD and co-funding arrangements with WFP and UNICEF, setting a positive example for future interventions. Joint data collection and analysis initiatives, such as joint market assessments or the Food Security and Nutrition Monitoring System (FSNMS) that puts together food security and livelihoods, nutrition, and water, sanitation, and hygiene (WASH) indicators provide decision-makers and responders with good quality impact and needs analysis, and help them prioritize response.

121 **The Partnership for Recovery and Resilience (PfRR) further enabled effective coordination.** It started in 2018 as a pilot exercise including 25 organizations (United Nations, NGOs, donors), USAID being the lead agency. It aims at bridging humanitarian and development efforts to meet basic needs and promote coping strategies while improving coordination, partnerships, strategic integration and learning in selected geographic areas. Since 2019, these objectives were translated into community- driven planning in a multisectoral approach for the delivery of health and education services, and supporting economic activities, social cohesiveness and peacebuilding. Four pilots are currently under implementation in Yambio (Lead Agency UNDP/EU), Wau (FAO/USAID), Torit

(UNICEF/GIZ) and Weil (WFP) that have yielded positive results in asset-building, access to credit facilities, and absorption capacities. The bottom-up approach used by PfRR allows for a certain degree of alignment across levels of governance at state, county, payam/district, boma/community levels. However, due to the lack of capacity of states and counties, connections with the federal administration are weak and most of the work is carried out with traditional leaders at payam and boma levels. Among the key lessons drawn from the PfRR pilots, USAID (2019) notes that communities either compete or cooperate with the same assets depending on conditions. Land, livestock and forests create higher levels of conflict, while markets and agricultural developments produce higher levels of cooperation. Conflict occurs more between communities. Also, for traditional institutions to participate fully in the PfRR, they need transport, communications and administrative capacity. In addition, their relationship with local governments needs to be mutually reinforcing: these institutions cannot be ignored, or sidelined, even as civil society organizations emerge to complement their roles.

122 **Despite all of these initiatives, there is a missing player: the Government of South Sudan.** While all of these coordination mechanisms take place, there is a greater need to align activities with the federal level to avoid duplications and improve the efficiency of resource use. Federal plans (e.g. the New Deal Compact and South Sudan Development Plan) or sector plans (e.g. CAMP) are documents where development aid alignment has not materialized. However, there is a need for the government to take a stronger leadership role. The 2016 evaluation synthesis of South Sudan programming produced for the Norway Agency for Development Cooperation stated that in general:

> ...development partners underestimated the state-building challenge in South Sudan, and overestimated the capacity of the government to take on responsibility for service delivery. This resulted in over-ambitious and unsustainable programs (CMI, 2016).

As state-building and capacity building failed in South Sudan, innovative approaches were called for (Larsen *et al.,* 2013) to build state capability "beyond importing best practices solutions while feigning client ownership." A key lesson from the UNDP Comprehensive Peace Agreement-era programmes is that donors should accept and manage a high degree of political risks in the country. State-building should come first, and all programme components should contribute to the process of building credible, functioning and accountable government structures. Research from the Conflict Research Programme (CRP) of the London School of Economics (McCrone and Bridge Network, 2021) on "local dimensions of conflict and governance" suggests that fostering future stability will require concerted efforts to improve the government's capacity for public service provision. Another lesson is the necessity to clarify the roles, responsibilities and expectations, which requires an investment in time and resources for building relationships, common ground and mutual understanding between the government and the key donors/partners (Cochrane, 2020). Yet donors are divided over their approach to working with the government. Some cannot currently work directly with it due to documented human rights abuses; others focus on the local level to avoid working with central government, while a third group is fully engaged in supporting it, for instance when planning their priority investments.

123

Government leadership is needed to coordinate and balance the donor support between agriculture development interventions and humanitarian aid. Roughly, about USD 1 is spent on agriculture development in South Sudan for USD 14 spent on humanitarian aid (calculated from OECD–DAC aid statistics). Yet each USD 1 invested in resilience interventions and early response to shocks yields nearly USD 3 in reduced humanitarian spending and avoided asset losses (USAID, 2020). An interesting example of articulation of humanitarian aid and development aid can be found in the USAID 2020–2024 strategic framework. To reach its objective of "meeting basic needs of communities in crisis, while decreasing aid dependence," USAID intends to focus on households and communities and meet their basic humanitarian needs while boosting their resilience, strengthening bonds within and between communities, and empowering them with project development decisions (USAID, 2020). Further details are found in section 2.2. An increasing ecosystem of projects targeting agricultural livelihoods development already exists in the country and can be built upon for further development (see Annex 5). Although evaluations on their effectiveness are scarce, they have already provided lessons on how to improve future ones (see section 2.1).

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Chapter 2
Fostering transformation of agrifood systems in fragile and conflict-affected environments

124 This chapter draws lessons from relevant past and ongoing development interventions, which have aimed to support the development of agriculture-based livelihoods and community development in South Sudan and other relevant FCV situations globally. Our analysis consists of a literature review of international and national investment and development programmes from countries which have experienced long-lasting post-conflict/fragile situations. The literature review was further complemented by targeted interviews with key informants, mainly those already working in South Sudan to identify key lessons from past agricultural and rural development support programmes in South Sudan. The aim was to identify the key success factors that would have a fighting chance to contribute to: (i) the design of the credible agricultural investment strategies; (ii) to incentivize more local economic and social development activities and associated policy; and (iii) institutional and governance conditions, given the prevailing fragile and conflict situations in the country. Our review focused on the five intervention approaches considered to be the most relevant to the context in South Sudan (see list below). Our analysis is further illustrated with case studies that provide further nuances of the various development approaches analysed in this chapter.

2.1 KEY LESSONS FROM INTERNATIONAL DEVELOPMENT EXPERIENCES

125 **The development programmes in the FCV situations to be conflict-sensitive is highly desirable,** to make sure that investments and actions in violence-affected or fragile zones avoid exacerbating conflict dynamics (do no harm principle). In the case of agriculture, land rights issues were identified as a key driver of conflict (IFAD, 2015), as well as control over resources such as food, water, seeds and fertilizer (World Bank, 2021b). The experiences of IFAD (2015), the UK All Party Parliamentary Group for Sudan and South Sudan (2015)[3] and the European Union Rural Development Programme[4] in South Sudan (2019) suggest strongly focusing attention on fragility by performing a more in-depth analysis of context, problems and risks throughout the programme design. For instance, the review of the

3 The Register of All-Party Parliamentary Groups was created in 2015 to "influence the UK government's policy and practice by promoting the cause of peace, human rights, justice and development for all the people of Sudan and South Sudan across the political spectrum in Westminster and Whitehall."

4 Including the ZEAT BEAD and SORUDEV.

European Union programming highlights that insufficient attention has been paid to address insecurity and conflict resolution as key factors for food security. FAO also concludes that conflict, food security and resilience analysis should be systematically used not just at the design stage of programmes, but throughout the implementation of activities on the ground (FAO, 2021).

126 **The development projects in the FCV situations could benefit from being tailored to the local situation using the context analysis.** Lessons learned show that the economic, political, social and cultural context and their implications would need to be thoroughly understood and factored into the programme design. Cochrane stresses the importance of recognizing the complexity of working in South Sudan and investing time and resources into a better understanding of the cultural, political and economic factors that influence development outcomes (Cochrane, 2020). In addition, it is recommended that the analysis of food systems in FCV situations go beyond a narrow focus on agricultural production to include broader development challenges, such as building social capital and state legitimacy, livelihoods and jobs creation (World Bank Group, 2021d). Another important point is that interventions in FCV situations should neither be too ambitious nor too complex. For instance, IFAD noted that ambitious objectives and complex project design were the major causes of project underperformance in FCV countries (IFAD, 2015). This is partly due to weak policy frameworks and an insufficient institutional capacity for service delivery within government and the private sector, insecurity risk management, and poor project management capacities.

127 **Successful development activities have focused on building resilience against crisis and embedding built-in flexibility.** To achieve long-term strategic goals, planning should ideally integrate the key drivers of fragility, while implementation would remain flexible to cope with risks: the goal is to manage them rather than avoid them. The provision of funds through simple and faster mechanisms is desirable to facilitate the allocation of contingency budgets to respond to shocks (Schreiber and Loudon 2020; Neaverson *et al.,* 2019a, 2019b). This implies that donors and implementation partners are advised to explicitly plan for unexpected changes (Neaverson *et al.,* 2019a; USAID, 2012; Cochrane, 2020). For instance, Cochrane proposes including "crisis modifiers" within project implementation plans to ensure that further approvals are not required when rapid shifts take place (Cochrane, 2020). When donors have separate lines of funding for emergency and development activities, they may use the "resilience" framework to enable programmatic flexibility across both funding mechanisms (Cochrane, 2020; FAO, 2016a; Morrison-Métois, 2017; UNOCHA, 2015). Finally, lessons also show that exits should be planned as carefully as entry (Schreiber and Loudon, 2020).

128 **The projects in FCV situations should ideally pursue both peace and development objectives.** Four sets of strategic actions could be deployed to strengthen the agrifood sector development initiatives in the FCV situations:

i. strengthening governance and institution capacity;
ii. preventing and responding to food crises;
iii. developing the private sector through agribusiness development, inclusive jobs, and rural livelihoods; and
iv. reducing conflict risk, economic shocks, and environmental fragility through resilient and sustainable resource management (World Bank Group, 2021d).

These strategic areas contribute to building the humanitarian-development-peace (HDP) nexus advocated by FAO (2021a) and OECD, which can be interpreted as prioritizing prevention, mediation and peacebuilding, investing in development whenever possible, while ensuring that immediate humanitarian needs continue be met (OECD, 2019). Improving coordination and flexibility between humanitarian and development aid requires building specific capacities, more flexible funding and the ability to engage differently in the different parts of the country (CMI, 2016).

129 **Address gender inclusion explicitly in the context analysis and project design** (FAO, 2021a). Relatively few programmes in FCV situations have an explicit focus on women and peacebuilding. The available evidence from the implementation where these aspects have been addressed points to the benefits both in terms of protection as well as of the empowerment of women. Women could be included in participatory processes and put at the centre of programming, not just as victims of violence, but as active actors and contributors to sustaining peace at all levels.

130 **Some activities and investment strategies are better tailored for FCV areas.** IFC explains that both local and international firms use common strategies to develop activities in the FCV situations, (IFC, 2019) which include: avoiding geographic areas with active conflict; strengthening ties with local communities to build trust; operating flexibly in order to be prepared for sudden shocks; hiring security; and following safe business practices (e.g. operating in daylight, using secure enclaves). Foreign firms also use key staff with experience and an understanding of fragile settings, and hire local staff as quickly as possible to provide access to local intelligence that can help mitigate security risks. When the infrastructure permits, digital technologies might minimize the need for travel, especially mobile phone-based applications. In person or electronically, forums can be developed for farmers to share coping strategies and knowledge. Furthermore, some activities are inherently less risky than others and can thus focus on the violence-affected areas. For instance, in Nigeria and Mali, smallholders identified kitchen gardens, backyard farms, small ruminant production and fishing that proved to be less risky enterprises because they were more self-reliant (less input and services needed) and had low enough margins so as not to attract marauding rebel groups (Kimenyi *et al.,* 2014).

131 **Stable partnerships and partners are needed for adaptive programming.** A key lesson from field experiences is the need to identify and invest in durable partnerships and partners, based on trust and a joint commitment to the long-term outcomes, and informed risk-sharing. This requires promotion of local ownership in an inclusive manner, the identification of the political causes of vulnerability and making the coordination simpler and more effective (Schreiber and Loudon, 2020). Association and coordination of development partners with a range of expertise are important. Involving state and non-state actors, formal and informal institutions can help adapt programme implementation to local conditions. However, partnerships are most effective when led by governments (World Bank Group, 2021d).

132 **Government ownership is critical for success.** The World Bank (2021d) emphasizes the need to support government-driven common purpose programmes when they exist. Where governments are not able to own the agenda, it is important to balance interventions between government and

oppositional territories, while relying on partnerships with the United Nations and NGOs. In many settings it might be necessary to acknowledge and address political challenges, while recognizing the important role of diplomacy (Schreiber and Loudon, 2020). To foster local ownership, the design of interventions should be conducted in consultation with local actors and partners and underpinned by a collaboratively generated theory of change and identification of shared objectives (FAO, 2021a). Another lesson from the literature is the importance of clarifying the roles, responsibilities and expectations, which requires investing time and resources to build relationships, a common ground and mutual understanding between the government and the key donors/partners (Cochrane, 2020). In a report for the Norway Agency for Development Cooperation, the Chr. Michelsen Institute (CMI) argues that bypassing the government will have negative consequences (CMI, 2016).

133 **Institution and government capacity building are of critical importance, especially in South Sudan.** The generally weak policy and institutional frameworks and government capacity are often the major causes of low performance of projects in FCV situations (IFAD, 2015). In the specific case of South Sudan, the review of the European Union programming highlights the need to enhance local capacities so that they can appropriate the infrastructure and services developed by external projects and programmes. It is not enough to build rural roads, develop community-based infrastructure and extension services, or encourage young entrepreneurs if the national and local institutions cannot take over after external programmes are completed. Local institutions should be engaged in the development projects from the starting point. The long-term objective of activities could include the building of capacity and processes for transitioning resources and responsibilities to local actors, to ensure the work extends beyond funding cycles and is not threatened by shifts in official development assistance priorities (Andrey, 2011; Bennett *et al.,* 2010; LWF, 2016; Johnson *et al.,* 2013; Barnes et al. 2015; UNDP, 2013). In many instances this will involve building the capacity of government personnel.

134 **Community ownership also deeply matters for successful development outcomes.** Regional approaches are key to realizing HDP nexus approaches (FAO, 2021a). The UNDP experiences with governance programmes show the necessity to involve traditional authorities because of their historical legitimacy. Indeed, the traditional authorities and indigenous cultural systems provide the only constant structures of governance throughout the history of South Sudan. The importance of working with chiefs and incorporating them in local governance responsibility would foster the creation of a common identity to units of diverse ethnic groups. By working with traditional authorities, one maintains comfortable and legitimate structures that have the capability to rally the population towards peace and development (Neaverson *et al.,* 2019b). Therefore, they could be supported through ongoing capacity-building and adequate dissemination of the new laws.

135 **Finally, sufficient resources would need to be allocated for data creation and monitoring and evaluation (M&E).** Several studies (FAO, 2016a; Idris, 2017; Cochrane, 2020) raise the existing difficulties of assessing donor programmes in South Sudan because very few evaluations define the impacts and outcomes. The conflict when combined with limited technical capacity and infrastructure, may have prevented the collection of rigorous data. In addition, many programmes were emergency/humanitarian oriented, which are less demanding in terms of impact assessment than development programmes. As a result of insufficient information, many projects struggled to

demonstrate their relevance (Bennett *et al.,* 2010; CMI, 2016; Cochrane, 2020). For instance, FAO monitoring and evaluation data collection is more process-oriented than impact-oriented. Thus, it is difficult to measure outcomes and impact indicators related to seed distribution, animal health interventions and farmer field schools (FFS) (FAO, 2016a). A key lesson regarding access to information is the need to invest in data collection and research to ensure that activities are appropriately designed and implemented (USAID, 2016a; Cochrane, 2020).

2.2 FOSTERING COMMUNITY RESILIENCE AND COMMUNITY-DRIVEN DEVELOPMENT

136 Investing in social and human capital through community-based approaches has been successful in some fragile situations. This section takes stock of two types of approaches: the "caisses de résilience" and CDD.

2.2a The "caisses de résilience" approach

137 **FAO has taken stock of community mobilization and structuring interventions during the past ten years in fragile and conflict affected French-speaking countries in sub-Saharan Africa** in the Democratic Republic of the Congo, Central African Republic, Mali, Côte d'Ivoire, and Burundi through a series of evaluation reports.[5] One of the critical lessons learned from the past projects is that combining social, technical and financial aspects of community development, called the "caisses de résilience" approach, has demonstrated good potential for strengthening resilience and the livelihoods of populations made vulnerable by recurrent conflicts (see Case study 1):

i. **The social dimension, through Dimitra Clubs,**[6] covers in particular population empowerment, community mobilization, conflict resolution and gender equality. Dimitra Clubs are sometimes called listening clubs and consist of groups of women, men and young people - mixed or not - who decide to organize themselves to work together to bring about changes in their communities. They are particularly suitable in fragile and/or conflictual contexts. These groups meet regularly to discuss the challenges they face in their daily lives, make decisions and take action to resolve their problems. Support to Dimitra Clubs can contribute to building stability, social cohesion and trust that are a prerequisite for any other development actions. In addition, this type of intervention is conducive to the emergence of actions in favour of community nutritional awareness and improving eating habits. For instance, community- based nutrition promoted by the Democratic Republic of the Congo has proven its effectiveness by systematically integrating nutrition into the various key sectors of health, agriculture, education, hygiene, environment (République Démocratique du Congo, 2016).

5 See also FAO and UNICEF. 2017. *Femmes et hommes, progressons ensemble. Initiativ pour lutter contre les violences liées au genre en RDC.* Rapport terminal. OSRO DRC/402/CEF. This report evaluates a joint project financed in the Democratic Republic of the Congo from 2013 to 2017 by the European Union to reduce gender violence; Akilimali (2014) evaluates the project « Clubs d'écoute, lutte contre la pauvreté, genre et sécurité alimentaire » in the Democratic Republic of the Congo; IFAD (2014) evaluates the project « Clubs d'écoute, lutte contre la pauvreté, sécurité alimentaire et genre» co-financed with FAO; and FAO and GEF (n.d.) evaluate FSS and Dimitra Clubs.

6 See also FAO. 2022b. Dimitra Clubs: Community Engagement for Empowerment [online]. Rome. www.fao.org/dimitra/dimitra-clubs/en/

ii. **The technical dimension is related to nutrition sensitive agricultural activities** through the development of the FFS. [7] FFS is a participatory approach based on people-centred learning in which the participants identify and analyse their technical problems, exchange knowledge and experience and practise field exercises using direct observation. The field is the space where local knowledge and outside scientific insights are tested, validated and integrated, in the context of local ecosystem and socioeconomic settings. In the Democratic Republic of the Congo, support to FFS largely focused on nutrition-sensitive agriculture, given the severe nutritional deficiencies, and on food production including the development of vegetable gardens, promoting sustainable access to organic fortified seeds, and the structuring of producer organizations (POs).

iii. **The Village Savings and Loan Associations (AVEC in French - VSLA in English) have been relatively successful in achieving a financial dimension,** through approaches combining technical support and capacity building to micro-enterprises or farmer groups with access to financial resources, and the development activities that add value and increase nutritional content of agricultural products.

138 **The "caisses de resilience" approach has proven to be effective in fragile and violence-affected situations that are relevant to South Sudan.** For the last ten years, this approach has been spreading in South Sudan neighbouring countries such as the Central African Republic and the Democratic Republic of the Congo where about ten projects have been supporting the "caisses de résilience" with the assistance of FAO, WFP, UNICEF, the European Union, Germany, Canada and the Global Environment Facility (GEF). In particular, their Dimitra Clubs parts contribute to increasing resilience and reducing tensions through enhancing social cohesion, empowering women and strengthening community mechanisms for collective resolution of conflicts. A representative example is the European Union funded "initiative to fight against gender-based violence in the Democratic Republic of the Congo – Women and Men, let us progress together" (USD 5.4 million, 2014–2017). Its final report notes the various achievements in terms of women empowerment, e.g. the more active participation of women and youth in the management of their communities, such as active female leadership in 60 percent of targeted producer organizations at the end of the project. The management of household resources became collegial (i.e. by both men and women) in 92 percent of households as a result of interventions. School attendance by girls increased from 39 percent to 80 percent and 70 percent of trained women in small businesses made a living out of their new enterprises at project completion. The report also suggests that this aspect of human capital allowed the project to achieve its more productive targets in the agriculture sector through the FFS. This complementarity has been confirmed through a multicountry stocktaking exercise by FAO and GEF highlighting the win-win aspects of combining the Dimitra Clubs and FFS (FAO and GEF, n.d.).

7 See also FAO. 2022c. Global Farmer Field School Platform. [online] Rome. www.fao.org/farmer-field-schools/overview/en/

Case Study 1

How the "caisses de résilience" approach improved farmers' vulnerability to climate change in Burkina Faso and Mali

FAO analysed in 2020 the impact of the "caisses de résilience" to strengthen the resilience of rural livelihoods in the face of climatic hazards. The evaluated project took place from 2016 to 2019 both in Burkina Faso and Mali and was financed by Belgium (USD 4.4 million).

On the technical side, farmers and agropastoral households were trained on agrosylvo-pastoral practices resilient to climate change through FFS/ Agropastoral Field Schools (APFS). A second evaluation specifically focused on these practices in Burkina Faso. FFS/APFS proved successful: they contributed to the sustainable management of 20 433 ha of land, built the capacities of 29 200 beneficiaries to cope with climate change and made significant progress towards institutionalizing the climate change adaptation approach. Furthermore, both in Mali and Burkina Faso the adoption of the promoted practices increased agricultural and animal productivity as well as the producers' income.

In addition, the establishment of VSLAs enabled several households to access credit to finance income-generating activities. The VSLA solidarity fund, community activities (cash for work) and collective action by Dimitra Clubs helped to strengthen the social cohesion of the group. Dimitra clubs in particular have fostered inclusive dialogue (including women and youth) within communities and mobilization of these around local problems.

The evaluations showed that women empowerment suffered from insufficient analyses of gender and sociocultural sensitivities by the project. A complementary way to improve the approach would also be to link the "caisses de résilience" to the development of agricultural value chains by bringing together producers, processors, marketers, food service companies, retailers, shippers, researchers and suppliers on the same project. Finally, a literacy component could also be integrated.

Sources: FAO. 2020. *Évaluation finale du projet Réduire la vulnérabilité des moyens d'existence agricoles à travers l'approche "Caisses de résilience" au Sahel.* Série évaluation de projet, September 2020. Rome. www.fao.org/3/cb0851fr/CB0851FR.pdf; FAO. 2021b. Integrating climate resilience into agricultural and pastoral production for food security in vulnerable rural areas through thefarmers field school approach. FAO and the GEF Partnering for Sustainable Agricultural and Environment. Retrieved April 2021. www.fao.org/gef/projects/detail/en/c/1056966/.

139 **However, such approaches should adopt a longer-term perspective to sustain capacity building efforts and pursue longer-term developmental objectives.** In the context of upscaling the efforts in the eastern part of the Democratic Republic of the Congo, FAO has formulated a number of recommendations including: (i) enhance the coherence between the three types of interventions (social, technical and financial) through harmonized and concerted support at community level; and (ii) prolong the support beyond 1–2 years, which is the usual duration of such interventions in the context of short term/resilience projects, at the end of which these institutions are still very fragile. A medium to long-term approach (at least three agricultural cycles) would enable these community mechanisms to become mature enough to self-sustain and possibly integrate into networks of larger-scale associations. Of equal importance is a longer-term perspective that would create more favourable conditions for farm and community investments through stronger technical knowledge (FFS), more stable social cohesion (Dimitra Clubs) and access to loans with a longer maturity (through the VSLA).

140 **The experience with FFS in South Sudan has been promising although there have been concerns about its longer-term sustainability.** They were introduced under the Sudan Productive Capacity Recovery Programme (SPCRP, FAO/EU/GIZ, August 2007–December 2012) as an alternative and participatory extension mechanism in view of the extremely limited government capacities. However, the final evaluation of the SPCRP notes that only 258 of the 378 FFS (68 percent) developed were still active at completion (FAO, 2013). Furthermore, the FFS have faced some challenges, including:

i. lack of literacy and numeracy of farmers (daily observations must be written down by farmers);
ii. difficulties with gathering and sharing experiences in areas affected by conflicts, which is part of the core FFS learning process;
iii. promotion of short-term mechanisms under emergency programmes while farmers would need longer term assistance (at least 2–3 seasons) to become sustainable; and
iv. insufficient technical support and methodological backstopping at the expense of their quality.

141 **The experience with PFS appears more positive.** They have served as a foundation for peacebuilding activities among agropastoralists, with several projects integrating peacebuilding and dispute resolution into the curriculum, such as "Enhanced Knowledge and Education for Resilient Pastoral Livelihoods in South Sudan". The project for "improving livelihoods, social peace and stability in the Abyei Area" has involved local authorities and partners to coordinate cattle movements while providing a variety of livelihoods support, with the aim of building trust and cooperation between communities. The PFS approach was targeted at improving resilience to disasters through community- based risk management plans that improved planning and action among agropastoralists. Support to literacy and numeracy skills (European Union-funded PLEP) as well as pastoralist livelihood and education field schools are also entry points to develop behavioural changes in values, norms, gender, and market economy.

142 **The development of Community Animal Health Workers (CAHWs) is also considered to be a positive experience in South Sudan.** The provision of community-based animal health services is highly relevant to improving food security and livelihoods in South Sudan as an effective way to provide basic services in the absence of formal veterinary systems; livestock disease is

generally ranked as the main constraint to livestock production (Aklilu *et al.,* 2016). In order to promote animal health in the pastoral communities, FAO and partners have trained over 2000 CAHWs. The CAHWs, members of the pastoral communities, are provided with basic training on animal health, coaching, vaccines and drugs. They were found to be very effective in reducing the morbidity and mortality of livestock and also for disease surveillance. Moreover, they play a crucial role in the eradication, prevention, and control of livestock diseases, which in turn has a positive effect on food security. A key lesson from this support is the need to develop sustainable state-level capacities. Indeed, much of the support in terms of training, food security data collection, and provision of equipment, vaccines and medicines to CAHWs has been provided through external partners. Another lesson relates to the consistency and coherence of programming between emergency and development interventions to address the contradiction between the free distribution of inputs and services from seeds to livestock vaccines and drugs in more stable states. For instance, development projects such as the ZEAT-BEAD project advocate providing support to private drug supply mechanisms and CAHWs in Bahr el Ghazal (FAO, 2016a). Although there is no recent count of the number of trained CAHWs in operation, they represent an important asset for the future provision of animal health services.

2.2b Community-driven development (CDD) approaches

143 **Community-driven development is a well-established development approach in FCV situations that emphasizes community control over planning decisions and investment resources.** It has the twofold objective to deliver community-level infrastructure and services, and to give a voice to the villagers who can decide on the use of public funds to improve their lives. They are particularly useful in the case where government institutions are facing a legacy of weak capacity and legitimacy, public services are absent or fail to function, or decentralization is nascent or in situations of post- conflict reconstruction. As such, they can be appropriate approaches in FCV situations, as confirmed by a 2016 review of the World Bank's Independent Evaluation Group (Wong and Guggenheim, 2018). Indeed, these programmes have been shown to effectively reach remote or insecure areas, quickly deliver community infrastructure (e.g. drinking water) and services (e.g. education, health) in an inclusive manner. As inclusivity is particularly key to prevent conflict, the ability of the CDD process to generate social acceptance is a strength in FCV situations. In addition, it has proven successful at increasing women's direct participation in community decision-making forums. The CDD approaches have been particularly successful in building community social capital and trust. On the down side, community infrastructure projects funded through the CDD projects have often suffered from poor maintenance of the productive assets, or issues have arisen with longer-term sustainability of supported economic activities.

144 **From a planning perspective, the CDD approaches can be scaled up relatively easily** and have a modular and flexible design allowing for regional variation. Regarding governments, partnering with communities and NGOs to deliver services and public goods to targeted communities in a transparent way could present the opportunity to gain legitimacy (United Nations-World Bank Group, 2018).

145 **Over the past two decades, CDD has become a key operational approach for many national governments and international aid agencies in FCVs.** For instance, in Afghanistan, 25 percent of the government's budget from the Afghanistan Reconstruction Trust Fund targets the National Solidarity Project, which reaches more than 35 000 villages. Newly formed countries such as Timor-Leste and countries undergoing dramatic political transformations, such as Myanmar, increasingly mobilize them. The approach is also being implemented in South Sudan (see Case study 2). Most CDD projects target infrastructure or social objectives such as schools and literacy. The World Bank recently launched CDD projects in the agriculture sector in Yemen (Smallholder Agricultural Production Restoration and Enhancement Project, 2018), Sudan (Sustainable Livelihoods for Displaced and Vulnerable Communities in Eastern Sudan, 2017) or Timor-Leste (Sustainable Agriculture Productivity Improvement Project, 2017).

The CDD approaches are not homogeneous and can take many forms. The more successful examples put the community demand in the front and centre of the programme design. An adequate level of investment will also be needed over multiple years. Programmes that made use of poverty maps and the latest national statistical data were the most effective at geographical targeting. Design and execution are important for project effectiveness. CDD cannot be the sole approach: they achieve the greatest results when they are part of a broader development strategy that includes conflict reduction, reforms to governance, investments in productivity and livelihoods enhancement, and public service delivery. Furthermore, CDD approaches are more useful on the demand side than on the supply side, in other words, they can help build schools, but do not provide fully trained teachers. Also, there has been little discussion or documentation about how decisions are made in practice at the community and local government levels. There is diverse evidence about the impact on social cohesion and governance beyond the project, and in a similar way about impacts on the empowerment of women. In fact, higher participation in the project's activities often led to higher social capital, voice, and decision-making for women in the community, but this has not always been the case.

2.3 SUPPORTING THE DEVELOPMENT OF FARMERS' ORGANIZATIONS AND COOPERATIVES

146 **FOs can play a critical role in FCVs but supporting them requires long-term funding commitment.** FOs increase the bargaining power of their members, human capital, access to business services and inputs, and are more attractive to other economic actors in the value chains as they can offer larger quantities and reduce transaction costs. For instance, the IFAD-financed Agricultural Rehabilitation Programme in Orientale Province in the Democratic Republic of the Congo (PRAPO project, 2008–2013) encouraged farmers and fishers to set up first-tier organizations and second-tier unions, and build their capacity (management, developing community development plans and business plans for micro-projects). According to the project evaluation, these interventions developed the spirit of solidarity and assistance among the population (IFAD, 2016). The aim was to enable them to manage an improved seed multiplication system, farming and fishing equipment and input supply, and product commercialization. However, an important lesson learned was that the intensity and duration of the support required to enable the POs and their unions to become true actors of local development, as well as the establishment of more permanent organizational structures, was insufficient. Furthermore, the long-term impact was hampered by the capacities of the producer unions that were expected to take over upon project completion.

Case Study 2
The BRACE I project in South Sudan, a CDD disrupted by conflict

The BRACE programme financed by UKAID (USD 21.3 million, 2012-2015) targeted improved food security as part of a transition strategy from food aid to food assistance and was implemented by the WFP, 12 local NGOs and six community-based organizations in Northern Bar el Ghazal, Western Bar el Ghazal and Warrap in South Sudan. Communities prioritized and worked together to enhance agricultural production and market access through for instance: feeder roads; flood protection dykes; expansion of land for crop cultivation; tree planting; vegetable gardening and multipurpose ponds. In return they received food or cash for assets.

The programme delivered benefits to 68 300 households, exceeding its target of 50 000. A wide range of activities has been achieved: over 23 000 ha were planted with sorghum (70 percent), ground nuts (20 percent), sesame and cassava (10 percent); over 7500 ha were protected by flood protection dykes. Overall, communities welcomed the opportunity to engage and gained valuable skills and experience that helped diversify livelihoods.

However, the 2013 civil war seriously disrupted the programme, as a result, WFP shifted its focus to its core lifesaving humanitarian mandate and food aid was prioritized. The very difficult operating environment led to food pipeline breaks in the BRACE programme during 2014. Inflation was dramatic and the availability and affordability of food worsened the already precarious food security situation. Some communities completed work and did not receive food or cash in return, leading to high levels of frustration.

The project evaluation concluded that outputs moderately did not meet expectations. It stated that the "ambition may have been too high regarding sustainability of food security increases, given the current conflict and worsening food security trends" and that a longer timeframe for the programme would have been more realistic for achieving an impact. Collective work was found to increase social solidarity and cohesion and attention to seasonality and pipeline planning were critical. Regarding food security, food for assets improved the food security of people more than other actions, but the ultrapoor were less likely to participate and families hosting IDPs were more food insecure. Regarding assets, they should be complementary to each other and concentrated for higher impact. Demand was high for increased capacity building and value chain development (ox-ploughs production, repair and maintenance).

Building on this knowledge, BRACE II was launched in 2015 and extended in 2018 (after an evaluation) until 2023 in the three original states of intervention plus Lakes and Eastern Equatoria. It aims to address both immediate food insecurity and basic needs (with cash and food assistance) and improve longer-term food security (production), with an emphasis on capacity building to cope with climate change and improve social cohesion.

Sources: UK FCDO. 2016a. *South Sudan food security and livelihoods*. Project completion review 202522. February, 2016. https://devtracker.fcdo.gov.uk/projects/GB-1-202522/documents; UK FCDO. 2016b. Building resilience through asset creation and enhancement II. South Sudan (ICF Programme) Business Case and Summary 204888. October, 2018. In: *Development Tracker*. https://devtracker.fcdo.gov.uk/projects/GB-1-204888/documents.

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147 **The (re)emerging cooperative movement in South Sudan has good potential.** The country has a considerable history of cooperatives, which slowly started to re-emerge postwar. In Yambio, a few cooperatives (and other forms of FOs) have been established with the aim of delivering economic benefits and services to their members. They assist farmers in various ways such as access to finance, opening markets, assistance in negotiating prices and skills improvement. An example of such a cooperative, among others, is the Nagbogbo Cooperative Society, which deals in maize value addition and markets it both locally within Yambio and to neighbouring states such as Bahr el Ghazal and Lake State. This initiative is supporting the local community in the process of value addition and is gradually substituting the predominant importation of maize flour from Uganda.

148 **For this potential to materialize, FOs and cooperatives in South Sudan need to address several challenges, in addition to security.** Case study 3 shows how the development of South Sudanese coffee cooperatives in the Yei area had to be abandoned by donors because of the conflict, despite good agronomic potential. Beyond the security issue, the main bottlenecks for the South Sudanese are: (i) limited organizational and technical management skills; (ii) insufficient participation of the majority of farmers in the organizations; (iii) distrust between communities; (iv) poor coordination mechanisms among members; (v) limited leadership and management skills; (vi) weak business skills and business acumen; (vii) lack of government extension services; and (viii) poor access to financial services, markets and market information.

149 **Producer cooperatives and associations are as strong as their organizational and financial management,** especially when they play a role of input/output marketing. Upgrading their skill and knowledge levels through practical and participatory training is the first step in enhancing production and productivity. The Food Security and Agricultural Development (FSAD) programme implemented by GIZ is one practical example of how the participatory and on-farm training is shaping the communities in Magwi County of Eastern Equatoria State. Organizing field visits to Uganda is another good practice of that project, which has yielded positive results in terms of management, technological transfer and value addition improvement.

150 **In turn, FOs and cooperatives need to be genuine and farmer centric.** "Project-led" cooperatives or farmers' groups usually collapse after the end of the project. For cooperatives or FOs to be successful, the initiative must come from the farmers themselves. If they are not familiar with these structures, awareness campaigns can trigger interest and provide farmers with the necessary knowledge to launch their own initiatives with an initial capital investment from the members themselves. The few examples of self-created cooperatives in South Sudan provide evidence of their success at facilitating market and credit accesses, reducing transaction costs through economies of scale, fostering peer learning and increasing negotiating power.

Case Study 3
The disrupted kick-off of the South Sudanese coffee cooperatives

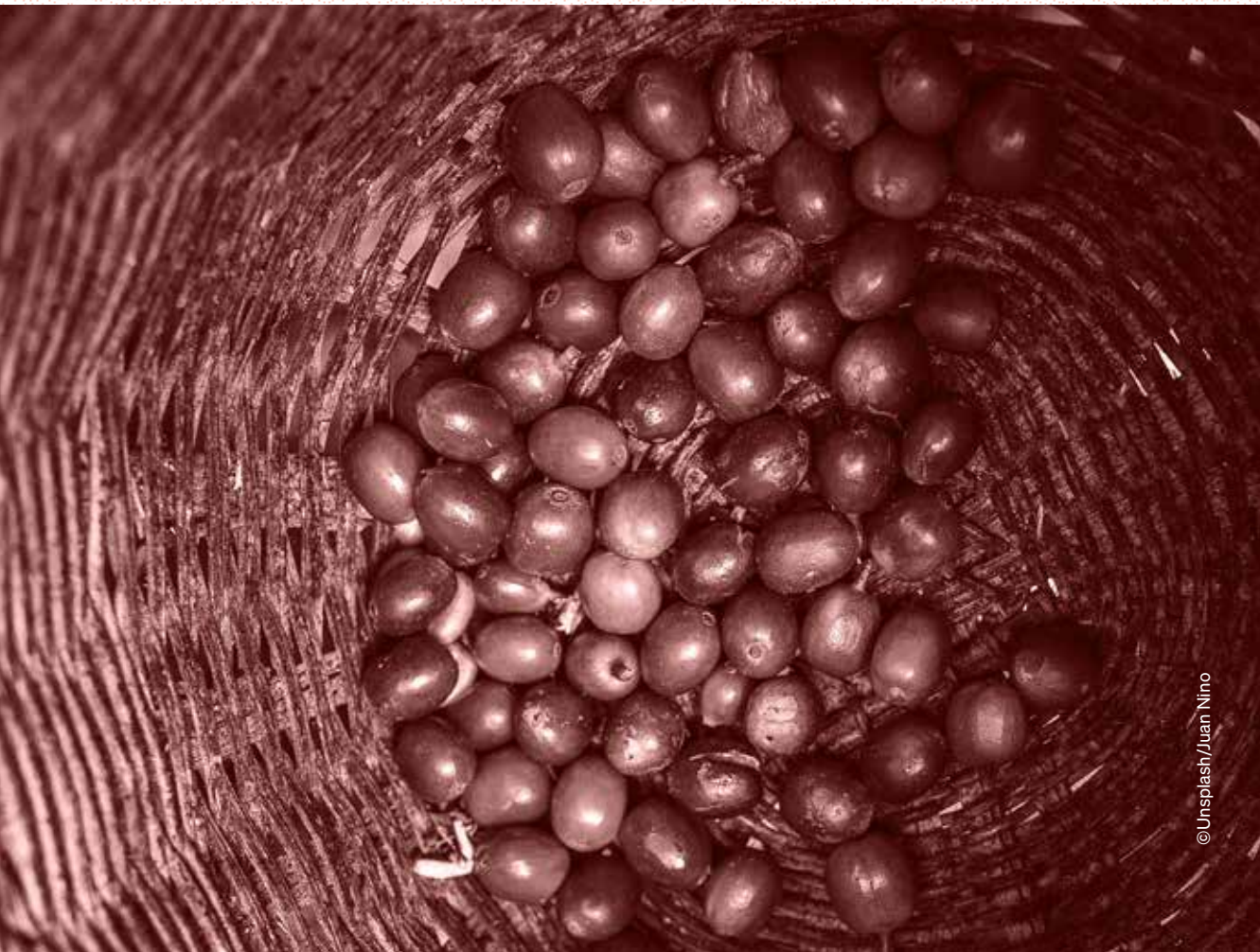
TechnoServe, Nespresso and farmers' groups launched a pilot programme in 2011 to revive high quality Robusta coffee production in the Yei area of South Sudan. The public-private partnership aimed at helping coffee producers to achieve better quality and improved incomes through transparent trading conditions, premium prices and technical assistance. The bottom-up approach allowed FOs to own their coffee wet mills with a business plan that enabled them to repay cap-ex loans and sustain pro table operations without subsidies. Cooperatives, owned and run entirely by farmers (several hundred small-scale farmers), processed their members' coffee to a high standard, then sold it to be hulled and screened to meet Nespresso quality requirements before export to Europe. Each cooperative elected an oversight committee to ensure transparent governance, and received training on proper financial and operational management. Technoserve and Nespresso supported coffee quality and quantity improvement through better agronomic practices, learned through hands-on training sessions delivered by trainers recruited within the farming communities.

By the end of 2014, South Sudan's first coffee cooperatives and wet mills had been established and 300 farmers produced and exported high quality, washed Robusta coffee to Europe for the first time, earning 40 percent higher income relative to the local market alternative. In October 2015, the resulting Nespresso's Suluja specialty coffee hit the market in France with great commercial success, as it did in the United States of America, United Kingdom, the Netherlands, Germany and Switzerland in 2016.

In March 2016, USAID joined the partnership (USD 3.18 million) to scale up the programme. TechnoServe's projections indicated that the coffee sector in South Sudan could benefit up to 50 000 farming families. The project included training of 1500 smallholder farmers (at least 25 percent women); coffee productivity improvement; quality and sustainability; financial literacy; establishment of nine cooperative-owned wet mill businesses; capacity building of 90 cooperative leaders and wet mill staff; establishment of coffee nurseries; support of business relationships between farmers, wet mill cooperatives and exporters. However, tensions rapidly increased between government soldiers and opposition forces, leading by 2017 to high levels of insecurity, farmer displacements and local markets closures. In May 2017, USAID officially terminated the agreement and redirected resources to humanitarian assistance programmes implemented by UN agencies.

Investment in the South Sudanese coffee industry was relaunched in 2020 through the "Excelling in Excelsa" programme of FAO South Sudan, Hummingbird Action for Peace and Development, ICCO Cooperation and Equatoria Teak Company (ETC) funded by the Netherlands Enterprise Agency. The project is this time located in the Nzara and Yambio counties and focuses on Excelsa, a rare specialty coffee. It aims by 2023 to provide 1000 contract farmers with training, extension services and access to quality inputs, and creating new jobs targeted at women and youth. Farming will be based on an agroforestry intercropping scheme with groundnuts/beans, bananas, coffee, and teak to achieve results in the short term (food security through food crops), medium term (income from coffee) and long term (investment/savings from teak). This is also a climate smart farming technique. A key player of this public-private partnership is ETC, Africa's second largest teak grower with 2000 ha of planted teak, currently the only private sector taxpayer of the state already providing about 900 jobs.

Sources: USAID, Technoserve and Nespresso. 2017. *South Sudan coffee initiative.* Final Report AID-668-A-16-00002. https://pdf.usaid.gov/pdf_docs/PA00MZ5X.pdf; Maris. 2020. Netherlands enterprise agency (RVO) selects coffee project at Equatoria Teak Company, South Sudan. Press Release 10 September 2020 [online]. www.marisafrica.com/post/netherlands-enterprise-agency-rvo-selects-coffee-project-at-equatoria-teak-companysouth-sudan.



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2.4 TERRITORIAL DEVELOPMENT AND CONFLICT NEGOTIATION APPROACHES

151 **Territorial approaches offer the possibility to consolidate social, natural resources and environmental dimensions into development support.** Given the high food insecurity in South Sudan and the sustained risk of instability and violence, investments seeking to facilitate a transition towards longer-term development outcomes require integrated, multisectoral approaches to be successful. Territorial approaches facilitate dialogues at the community level to build trust between conflicting parties, enhance peacebuilding, and pave the way for more stable arrangements of natural resources management. While they crucially support local communities through a bottom-up approach, they address horizontal and vertical power asymmetries and engage with traditional authorities and government actors at all levels.

152 **Applying a territorial approach at local level in South Sudan has resulted in a breakthrough in the Abyei Administrative Area,** a contested zone located on the central border between South Sudan and Sudan. The status of Abeyi has remained unresolved since South Sudan seceded from Sudan in 2011, and the governments failed to agree on the border division. A peacekeeping mission, the United Nations Interim Security Force for Abyei (UNISFA), has since monitored the situation. The Improving Livelihoods, Social Peace and Stability project, funded by the European Union's Instrument contributing to Stability and Peace, has successfully facilitated the negotiation of the Dinka Ngok/Misseryia peace agreement signed in March 2016. The agreement comprises peaceful co- existence, accountability and justice, the facilitation of the movement of the nomads to water points and grazing lands, and establishment of committees to manage the market and to identify locations. The project aimed at reducing the risk of natural resource-based conflict and enhancing community resilience. It was implemented by FAO from 2015 to 2017 and focused on three core areas of intervention: natural resource management assessment, peacebuilding, and animal health services. The project facilitated Missiriya pastoralists crossing the buffer zone, which allowed them to access grazing areas in the southern Abyei Administrative Area controlled by the Dinka Ngok community. Free movement of people was possible again and the enhanced grazing opportunities benefitted animal health and productivity. In addition, South Sudanese citizens were granted entrance to the northern side of the Abyei. Lastly, traveDl was made possible towards Khartoum, enabling South Sudanese citizens to join relatives or access medical treatment.

153 **The experience in Abyei can be replicated in other areas in South Sudan,** but attention should be given to the following conditions:

i. continuous field presence at local level to support the implementation process, with service delivery that should be prepositioned for immediate delivery;
ii. communities must be willing to consider engaging in dialogue and negotiation processes; and
iii. the main implementing partner must be recognized as a key mediating actor based on its delivery of technical services.

Guidelines were developed to help implement the approach in other contexts and scales (FAO 2017b), and can be complemented by other methodologies such as the Green Negotiated Territorial Development (GreeNTD) (FAO, 2016b).[8]

8 The five-phase GreeNTD process seeks to facilitate interaction between differen stakeholders involved in land disputes, in order to find solutions to problems of competition for access to land and limited natural resources. It also aims to promote a better understanding of the relationship between humans and nature, and can be adapted to different scales of intervention (FAO, 2016).

The FAO project Strengthening the Livelihoods Resilience of Pastoral and Agro-Pastoral Communities in South Sudan cross-border areas with Sudan, Ethiopia, Kenya and Uganda seeks to address the roots of resource-based conflicts by developing pasture and water resources, as well as setting up community-based platforms to resolve disputes when they arise. Supported by UNDP and conducted in partnership with IOM and UNMISS, the project "Mitigating cattle-related violence in the Tri- State Border Areas of Tonj, Gogrial, and Wau" works to reduce the conflictive potential of cattle raiding through support to dispute resolution mechanisms that promote reconciliation and social cohesion.

2.5 DEVELOPING AGRIBUSINESS AND AGRICULTURAL VALUE CHAINS

154 **A fifth development pathway relevant in South Sudan for the transformation of its food systems is to enable the development of a viable private sector.** Beyond formal firms, in South Sudan this private sector most importantly encompasses individuals, household enterprises, cooperatives and informal businesses that currently have the largest potential for job creation. This section summarizes the lessons and experiences from the activities that aim to support the development of micro and small businesses and agrifood value chains in FCV affected countries, and to improve the related enabling environment.

2.5a Fostering agribusiness in fragility, conflict and violence countries

155 **The World Bank's guidelines to foster agribusiness development in FCV countries provide rich lessons** (World Bank Group, 2021d). It provides useful guidance on how to address group inequality through inclusive business models for marginalized populations and lagging regions by encouraging private firms to employ people from disadvantaged identity groups or to source products from these groups. Contract farming and public support can help build the capacity of smallholders to engage in these commercial value chains. First, IFC highlights the need for private investments in conflict- affected areas to be conflict sensitive every step of the way, by using a "fragility lens" and analysing conflict dynamics (IFC, 2019). Second, it proposes the use of agrispatial solutions (such as special economic zones or industrial parks) to reduce security costs in conflict situations, optimize infrastructure provision, while at the same time enhance coordination and agglomeration effects to reduce logistics and transaction costs. Third, it calls for restoring, building, and protecting productive capital stock in the food system (e.g. irrigation canals, roads, and bridges) often destroyed by conflict to help regain lost production and raise productivity.

156 **Improving the stability of policies and government's capacity building is critical.** The World Economic Forum Global Agenda Council on Fragility, Violence and Conflict (2016) collected experiences from international companies in twelve fragile and conflict-affected settings, and drew the conclusion that coherent interventions should invest in initiatives that build the capacity of local institutions and regional economic communities. Two distinctions are worth mentioning: understanding the potential winners and the losers from change matters, as some benefit from the status quo (World Bank, 2021d). In addition, multinational firms that support building government capacity might find themselves beyond their legitimate role and result in complex conflicts of interest (IFC, 2019).

157 **Action prioritization should create demonstration effects with projects that have a high likelihood of success.** Such a need for demonstration effects has been put forward by the World Bank (2021d) and the World Economic Forum (2016); a positive business case is essential and should yield both financial returns for the companies and benefits to the local communities and governments.

158 **Training and skills development, including for youth, women, and ex-combatants, should be in line with the labour market needs** (World Bank Group, 2021d). Advisory services to enterprises can help them develop and can be fostered by governments. Increasing access to finance for private actors in food systems is another key challenge in fragile countries that can be overcome by a wide array of actors, from formal institutions to development partners. Political risk insurance for financial institutions and private investors can all help to increase private sector investments in agricultural value chains (e.g. MIGA has provided risk insurance guarantees to facilitate international investment in the Kabul Dairy Processing Plant, in coffee processing and export in Burundi, and in tropical fruit production, harvesting and processing in Sierra Leone). Finally, in areas with high forced displacement, specific attention should be paid to refugees (e.g. South Sudanese in Northern Uganda) to identify economic opportunities and needed skills development, thus ensuring that refugees have the right to work, Furthermore, supporting businesses that hire them can help foster economic and social inclusion.

159 **There is also a need to pay attention to the environmental and social risk management** as higher standards could help reduce project risks in the medium term, minimize social harm, and help lower the risk of future instability (IFC, 2019). Based on case studies in 12 fragile countries, the World Economic Forum (2016) also stresses that companies must abide by existing international and domestic laws and practices if they are to have a lasting positive impact, or at least not to become a source of fragility. Adopting good environmental and social standards in fragile countries is likely to require additional resources than are needed in other settings (IFC, 2019).

2.5b Market and value chains development – lessons from past experiences

160 **The value chain approach enables developing coherent packages to foster agribusinesses and their ecosystem.** Most agricultural value chains existed previously to the conflicts and therefore did not need to be created from the ground up (Hiller *et al.,* 2014); this is particularly the case in South Sudan (see section 1.1). According to IFC, creating markets needs extensive involvement and strong mobilization of finance and advisory services (IFC, 2019): staff presence on the ground; capable intermediary organizations; regulations development; government and private sector capacity building; addressing complex environmental and social issues and identification and recruitment of strong sponsors. Successful examples can nonetheless be found, such as the development of the Kivu coffee value chains in the Democratic Republic of the Congo (see Case study 4).

Case Study 4
The success story of the Kivu coffee value chain in the Democratic Republic of Congo

A heritage from colonial plantations, the Democratic Republic of the Congo coffee exports, largely produced on the shore of Lake Kivu, averaged 120 000 MT/year at their 1980s peak. Yet after two decades of conflict and instability, disinvestments and abandoned production plummeted exports to barely a tenth in the 1990s and 2000s.

A network of public and private actors, donors and NGOs started investing to renew the industry in the 2010s. In 2012, the government launched a 2011—2015 programme for the recovery of the coffee sector with a USD 100 million budgetary provision. In 2013, for the first time since the Congolese wars, two cooperatives in the Kivu region, including the Kivu Cooperative of Coffee Traders and Planters (CPNCK) established in 2011, started to export coffee to international buyers. Twin Trading, a UK-based social enterprise, facilitated the first relationships between Kivu farmers and commercial buyers. In parallel, in 2011, a partnership was created between the NGO Eastern Congo Initiative, the Howard G. Buffet Foundation, the United States Agency for International Development, Democratic Republic of the Congo (USAID/DRC) and World Coffee Research (WCR) to revitalize the coffee sector, soon joined by Starbucks and Falcon Coffees. The resulting public-private partnership called Kawaha Bora Ya Kivu boosted production, stimulated international interest in Kivu coffee and reached over 5000 farmers.

After a value chain assessment undertaken in 2015, USAID launched a follow-up programme “Feed the Future –Strengthening Value Chains” (2017—2022, USD 23 million) which supports beans, soybean and specialty coffee value chain development. It combines agronomy, technical assistance, capacity building (at the farm, cooperative and state levels), farmers’ associations establishment, credit facilitation, market linkages, public-private partnership development, small infrastructure, social behaviour change communication and marketing. Cross- sectional activities target gender and youth inclusion and conflict prevention and mitigation. By June 2020, the project had 45 291 direct beneficiaries. Over the same period (2013—2020), UKAID also launched the programme ELAN (USD 60M) to develop value chains, including coffee.

In 2016, Starbucks was selling in 1700 outlets in the United States of America and online the Kivu specialty coffee. In 2017, several of the world's leading buyers of specialty coffee considered the Democratic Republic of the Congo as the "final frontier for specialty coffee". In 2020, Nespresso launched the first organic coffee of the range under its Reviving Origins programme, run with TechnoServe, USAID and coffee trader Virunga Coffee/Olam International.

Industry-wide efforts support this transition. Cooperatives (CPNCK, SOPACDI, MUUNGANO etc.) play a key role in agronomy advice, input supply, processing, contracting with international buyers and transporting. Provincial committees evolved into formal associations representing coffee exporters, processors, dry mill operators, transport and logistics companies and others at the provincial, national and international levels (e.g. Comité Professionnel Café & Cacao, Initiative des Femmes Congolaises dans le Café et Cacao). A reform eased exports taxes in 2015. Coordinated investments in local capacities, agronomic extension services, value- added infrastructure (e.g. washing stations), centralized warehouses led to improved coffee quality. In addition, certification schemes are being developed (Organic, UTZ, Fair for Life, Fairtrade) and major traders invested into traceability and internal control. Marketing has been scaled up to increase demand via international and national exhibits and cupping competitions (e.g. Saveur du Kivu).

Obstacles remain to span for this success story to fully materialize. Farmers' limited access to credit hampers the commercial production increase while basic services (e.g. sanitation) are still lacking. Concerns are being voiced about the fair share of the industry profits, with growers' income remaining insufficient to raise them out of poverty. Consequently, over half of the Kivu coffee production is estimated to be smuggled to Rwanda, where higher prices are paid. Finally, although taxes for Congolese coffee exports are officially 0.25 percent, the Association of Coffee and Exporters of Cocoa and Coffee estimates them at 11 percent (compared with less than 2 percent in Uganda and Rwanda) due to bribes.

Sources: USAID. 2021. *Mid-term performance evaluation of the strengthening value chains (SVC) activity in the Democratic Republic of the Congo.* Feed the future: The US Government's Global Hunger & Food Security Initiative. Program Evaluation for Effectiveness and Learning (PEEL) for USAID/DRC. https://banyanglobal.com/wp-content/uploads/2021/02/Mid-Term-Performance-Evaluation-of-the-Strengthening-Value-Chains-SVCActivity-in-the-Democratic-Republic-of-the-Congo.pdf; Downie, R. 2018. *Assessing the growth potential of Eastern Congo's coffee and cocoa sectors.* Center for Strategic and International Studies. Report of the CSIS Africa Program and the CSIS Global Food Security Project. https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/180307_Downie_CongoCoffeeCocoa_Web.pdf; Global Press Journal. 2018. Their Coffee is World-Class, but DRC Farmers say Growing It Doesn't Pay. *Global Press Journal.* Published online 27 May 2018. Retrieved March 2021. https:/globalpressjournal.com/africa/democratic-republic-of-congo/coffee-world-class-drc-farmers-saygrowing-doesnt-pay/; Nespresso. 2020. Nespresso invests in the Democratic Republic of Congo's coffee revival to bring back to life one of the world's most exclusive and finest coffees and improve thousands of lives in Kivu. Press release, 19 August 2020. www.prnewswire.com/ae/news-releases/nespresso-invests-in-the-democratic-republic-of-congo-s-coffee-revival-to-bringback-to-life-one-of-the-world-s-most-exclusive-and-finest-coffeesand-improve-thousands-of-lives-in-kivu-815509968.html; O'Donnell, M., Cook, A. and Magistro, J. 2015. *Assessment of the DRC's agricultural market systems. Value chains in the North & South Kivu and Katanga Provinces.* USAID/LEO Report # 16. www.marketlinks.org/resources/assessment-drcs-agricultural-market-systems; Wilkins K. 2019. The cocoa and coffee opportunity in the Democratic Republic of the Congo. *A guide to the Congolese cocoa and coffee market for businesses, buyers and investors.* ELAN RDC, UKAID Report. https://static1.squarespace.com/static/5bc4882465019f632b2f8653/t/5cac8321c830257a69abdcbc/1554809652524/Cocoa+and+Coffee+Opportunity+in+DRC.pdf.

161 **In conflict-affected areas, market development should focus whenever possible on internal and regional markets and benefits to communities.** A strategy for stimulating internal demand could be to provide beneficiaries with the resources (cash or vouchers) to purchase the inputs and services they require, in the hope that they will become customers of emerging service providers (Hiller *et al.,* 2014). However, case studies show that voucher systems managed by NGOs did not transform into market demand (Longlet *et al.,* 2007). The impact evaluation of the P4P project led by Oxfam in the Democratic Republic of the Congo (2012–2014, Oxfam/FAO/WFP/CRAFOD/Equateur province Department of Agriculture) highlights another lesson (Anguko, 2018): when developing a value chain, attention should be paid to its benefits for communities, as incomes vary across value chains. In the P4P project, the production of groundnuts showed a considerable positive difference in income compared to other crops in this region. In addition, quality matters sometimes as much as the type of production in value chains. The Kivu coffee case study highlights that to access the international specialty coffee market, specialized investments had to be made to meet the proper quality standards. Supporting full value chains, rather than specific portions, is a way to ensure that products meet their markets. A last strategy to stimulate demand is to support aggregators (von der Goltz *et al.*, 2020).

162 **Another important driver of market development is related to the impact of development aid on markets.** A lesson learned from the 2013 crisis in South Sudan is that markets continued to function in many parts of the country, and the feasibility of comprehensive and innovative market-based interventions should have been assessed instead of flooding and disrupting markets with food assistance, especially with sorghum. Buchanan-Smith and Longley report that these disruptions still occurred over 2017–2019 and reiterate that existing alternatives should be pursued (Buchanan-Smith and Longley, 2020). In addition, with the market integration being disrupted, imports of basic foodstuffs compete with local products in the market (see Case study 5).

163 **Promising experiences of local value chain development exist in South Sudan,** as discussed in section 1.1. Several NGOs are experimenting with integrated projects to support farmers' increased production and productivity, access to markets and finance and capacity building on cropping calendars, technical production as well as farm budget and management (interview with GIZ). The NGO consortium (Agriterra/Spark/Cordaid) works with existing groups (traditional) and local enterprises to enhance their activities and identify small value chains: moringa trees, honey production, eggs, and maize. They mention successful interventions through providing support to small-scale subsistence farmers to increase their production, as well as linking them to the small to medium scale processors.

2.5c Business enabling environment – lessons from past experiences

164 **Access to inputs, markets, infrastructure and finance are prerequisites for successful agribusinesses.** Nonetheless, developing business enabling environment triggers specific challenges in the FCV settings.

165 **Inputs and seed procurements are sometimes complex to foster in FCV countries.** In fragile states, inputs availability is low due to the disruption of trading networks and normal supply and demand signals. In Mali and Nigeria for instance, in conflict regions, crop farmers reduced the application of inputs due to their increased cost and scarcity, while animal herders were unable to obtain veterinary products and faced the spread of animal diseases (Kimenyi *et al.,* 2014). The evaluation of the World Bank project ***Emergency Food Crisis Response and Agriculture Re-Launch Project*** (World Bank Group, 2018) in the Central African Republic provides critical insights on seed interventions. It shows that procuring the correct seeds for specific geographic locations and their associated soil and agroclimatic conditions is technically demanding and time consuming. It also requires deep local and regional knowledge of supply and demand. Upstream diagnostic work on effective seed procurement (quality and realistic timeframe for procurement), including the availability and quality of technical support, is needed. As far back as 2007, evidence was provided that seed programmes were mostly unsuccessful based on case studies in Afghanistan, Sierra Leone and Southern Sudan (Longlet *et al.,* 2007). The 2020 evaluation of the USAID SAFER programme in South Sudan reached similar conclusions (Case study 5).

166 **Rebuilding storage and processing infrastructure provides safety nets for farmers and reduces post-harvest food losses.** Better-processed products are also more easily transported, which is relevant in fragile areas with poor physical infrastructure (Cordaid, 2015). However, the conflict fragility of the FCV countries would require anticipation of security related disruptions. In Mali for instance, storages remained particularly vulnerable to attack and were repeatedly destroyed, which could have been avoided by relocating storage to safer areas (Kimenyi *et al.,* 2014). Seed storage was also a major failure of the "Purchase for Progress" project led by Oxfam in the Democratic Republic of the Congo (Anguko, 2018): only 12 of the 75 planned warehouses were completed. The oversight of contractual arrangements with NGOs and the inability of communities to hold them accountable were key determinants of the failure. An interesting example of innovative storage facility is the Wakati supported by Cordaid in Uganda, Haïti and Afghanistan. The Wakati is a system that stores products in a sterilized microclimate and uses a solar power system for its operation. Vegetables and fruits that normally have a shelf-life of one or two days in a hot climate can hence be kept fresh for up to ten days (Cordaid, 2015).

167 **Unsafe road conditions and lack of electricity decrease the quality of goods and increase their costs.** There is need for agricultural projects to be combined with related infrastructure development. In the Democratic Republic of the Congo for instance, the evaluation of the P4P project (Anguko, 2018) advised further development to be conducted in partnership with the ministry in charge of roads to enable access to the project area for transportation of agricultural goods. Access to energy allows for cold and other improved storage systems and helps to reduce food lost in the post-harvest value chain (GLOPAN). Electricity is also needed for all digital transformations. However, such key infrastructure undertaking requires huge capital outlay, which short-term projects cannot accomplish.

Case Study 5
Lessons from the Sustainable Agriculture for Economic Resiliency (SAFER) project in South Sudan

The Sustainable Agriculture for Economic Resiliency (SAFER) programme was implemented by STO, facilitated by FAO and funded by USAID between 2017 and 2020 to improve the resilience of households, communities and agriculture systems in food insecure regions of South Sudan (Lakes, Jonglei, Western Equatoria and Northern Bahr El-Ghazal). Its aim was to fill the nexus between humanitarian and development programming by: (i) restoring and diversifying livelihood (with a focus on women and youth); (ii) restoring and strengthening agriculture production practices (provision of quality agricultural inputs, with technical support and trainings); and (iii) strengthening community and intercommunal natural resource sharing and management practices (peacebuilding platforms and common activities).

After two years, its mid-term evaluation concluded that SAFER was successfully implemented despite an extremely difficult operating environment with conflict and insecurity. Through increased production and productivity some groups have achieved substantial increases in income. Women have represented over half of project participants. Activities such as vegetable groups were particularly successful at empowering women, raising income (hence covering school fees for children) and improving nutrition. Collaboration with other agencies enabled to achieve wider impact, in particular through PfRR. Some of the infrastructure quickly encouraged positive changes in practice and even policy, with an interesting case study of slaughter slabs in Jonglei. Shocks, whether natural disasters or conflict, were factored into project design and implementation. By partnering with national NGOs, SAFER strengthened the institutional context for development. Its design proved relevant to building the resilience of rural populations, from livelihood diversification to promoting sustainable natural resource management.

However, several caveats are highlighted by the evaluation which draws insightful lessons on which to base further resilient agricultural projects in the country. Among those, SAFER appeared "overly ambitious in terms of what could be sustainably achieved in a three-year project," particularly on natural resource management and diversifying livelihoods. Second, it adopted a "one-system fits all" approach to implementation across very different geographical areas and livelihood systems, limiting its efficiency. Consequently, livestock and fishery livelihoods systems were an under-tapped potential for food security in some areas. In addition, the project tended to target one commodity

per enterprise group, limiting their resilience. Another core lesson is that SAFER, based on a model of predominantly technical solutions, became highly dependent on the provision of externally sourced inputs and training in improved agricultural practices. The systematic delayed delivery of inputs has seriously compromised the project's effectiveness, where inputs arrive too late for the agricultural season (especially seed), and many months after training (ex. post-harvest handling and storage). The evaluators emphasize the necessity to rely on locally produced seeds. On a different topic, greater use of VSLAs could have contributed to upscaling the building of social capital. Finally, the evaluation highlights the challenge of implementation through development modalities alongside "free" humanitarian assistance, which has been highly problematic for SAFER frontline field staff. The PfRR would be an ideal platform to address such a collective issue.

Sources: Buchanan-Smith, M. & Longley, K. 2020. SAFER Project: mid-term evaluation. https://pdf.usaid.gov/pdf_docs/PA00×9RZ.pdf; FAO and USAID. 2017. Sustainable Agriculture for Economic Resiliency (SAFER) Project in South Sudan. www.fao.org/fileadmin/user_upload/emergencies/docs/SAFER_Project%202pager%20final.pdf; USAID South Sudan. 2018. *Sustainable agriculture for economic resilience (SAFER) project in South Sudan.* Quarterly Report (Q3: April - June 2018). https://pdf.usaid.gov/pdf_docs/PA00×9NK.pdf.

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168 **Information is key for successful agribusiness development efforts.** In FCV situations, selling agricultural produce is often done through incidental transactions on spot markets, with producers being highly dependent on intermediaries (Hiller *et al.,* 2014). Smallholders' knowledge of markets can be improved by up-to-date and accurate information on prices of produce and location of markets (Cordaid, 2015), for instance through rural radios and mobile phones. For example, the Roshan in Afghanistan, the largest telecommunications provider in the country (about 60 percent of the population have a mobile phone) launched in 2011 Malomat m-agriculture information service (CISCO, 2012). It provides access to agricultural commodity pricing, and supply and demand information via SMS and interactive voice response to local farmers, suppliers, traders, and wholesalers. Growers and traders can post and exchange alerts about supply, crop yields, price changes, or availability. The information is provided in the two official national languages (Dari and Pashto) as well as English, and both in written and oral formats to circumvent illiteracy. Roshan's partners include international aid organizations and international fund administrators such as DAI, USAID, and MercyCorps.

169 **In FCV situations, formal financial institutions are either lacking or not fully equipped to help smallholders** to increase their produce, quality, and access and position in markets, as observed in Mali and Nigeria (Kimenyi *et al.,* 2014). However, they are often circumvented by informal arrangements, building on kinship, social networks, social institutions and others. Sociocultural institutions form part of the business environment and determine entry and scope of participation in the value chains. Case studies underline the need to analyse value chains by considering the role of all types of actors regardless of their status in relation to the state, the banking system or the registered private sector (Hiller *et al.,* 2014). Aid agencies can thus play a key role in facilitating financial services, credit, savings as well as legal support.

170 **Innovative tools are also developed in the finance industry to offer lower risk credit to farmers.** For example, funding platforms can combine risk capital through a mixed equity-debt facility with a revenue sharing instrument, which can attract social impact investors. Such "blended finance" is known as a technical assistance facility tied to investment funding. Another innovative way to address smallholders' need for better financing is the warehouse receipt system. Without storage facilities, farmers have to sell their produce right after harvest, when market prices are low. In the warehouse receipt system, farmers receive credit on the basis of the produce they store as a deposit. They have access to both credit and reliable storage facilities, enabling them to conserve more product at better quality and to sell when the price is best. Cordaid implemented this warehouse receipt system with female rice producers in the Democratic Republic of the Congo and in Burundi, and considers that the collective action required for building the storage facilities also helped to restore mutual trust and build social cohesion within communities (Cordaid, 2015). Innovative mechanisms can also be developed for underwriting risks (guarantees/blending) to be made available by multilateral development banks to investors seeking to invest responsibly in these countries. Risk-pooling mechanisms are yet another strategy. Two instruments in particular have proven to have good potential: social bonds and social impact bonds for fragile and conflict settings. These would require adaptation for specific purposes, building on the experience of existing social and green bonds and of social impact and development impact bonds.

171 **Finally, digital developments also offer new avenues for innovation in finance, even in fragile settings.** In Iraq for instance, according to the United Nations agriculture agency, vulnerable rural families safely receive income thanks to a newly adopted mobile money transfer technology that is part of a cash for work programme to rehabilitate farming infrastructure (UN News, 2017). This programme, funded by the Belgian Government, targets 12 000 conflict-affected people in 30 villages. FAO has partnered with Zain, a mobile and data services operator with a commercial footprint in eight Middle Eastern and African countries. Participant names and identity numbers are pre-registered with the company, and they receive a free SIM card. Once each person completes a certain number of days of work, they receive a text message containing a personalized security code. They can then collect their wages from any certified money mobile transfer agent by providing their code and identity numbers. Somalia is another FCV country where mobile money has become a success story (Altai Consulting, 2019). Despite its fragility and underdeveloped financial institutions, Somalia has one of the most active mobile money markets in the world, outpacing most other countries in Africa and superseding the use of cash. In 2019, over 75 percent of adult Somalis regularly used mobile money services.

2.6 STRENGTHENING HUMAN CAPITAL, INCLUSIVITY AND INNOVATION

2.6a Human capital

172 **Development of human capital is an essential building block of sustainable development in fragile contexts.** The fact that 46 percent of its people is under 15 years of age with the highest proportion of out-of-school children in the world is a core issue in South Sudan. However, South Sudan's youth want to farm, as shown by the recent surveys in six market towns (von der Goltz *et al.,* 2020); the youth consider farming to be a good livelihood and are interested in deepening their knowledge. In agriculture, three in five youth would like to improve their activity rather than switch to a new job or resume their education - a higher percentage than found among those in any other types of activity. About half of the responders view agriculture as a good job compared to others. Some activities linked to agriculture are also viewed the most positively, such as transporting crops or processing.

173 **The lack of human capital and the need for local capacity building stand out as critical bottlenecks for food security in FCV situations.** For instance, the success of the Kivu coffee value chain (see Case study 4) depended on the ability to build the core technical and cross-cutting capacities of activity-supported cooperatives and other organizations. The use of financial services also required additional training and capacity building for entrepreneurs and cooperatives, including technical and financial literacy training (USAID, 2021).

174 **Building effective advisory services could make a significant contribution to human capital in rural settings.** Government institutions in fragile settings are often ill-equipped to provide agricultural extension services (Hiller *et al.,* 2014) and by the evaluation of the IFAD's PRAPO project in the Democratic Republic of the Congo (IFAD, 2016). The existing capacities should nonetheless be incorporated into development projects, as pointed out by the Independent Evaluation Group of the World Bank (World Bank Group, 2018). In Nigeria, researchers were able to maintain linkages to serviced communities despite the

Boko Haram conflict via traditional leaders. Indeed, well respected local village chiefs were able to afford protection from insurgents as they were not viewed as targets, unlike state structures and institutions (Kimenyi *et al.,* 2014).

175 **There are several successful examples of projects contributing to local human capital in FCVs.** For example, GLOPAN (2020) describes a capacity-building package that was implemented in the Borana pastoral system in Ethiopia in 2000 to diversify the livelihoods of pastoral women, improve living standards, and enhance livestock marketing. Interventions targeted numeracy and the promotion of a "saving culture" to encourage the adoption of banking and wealth management practices. Collective action groups were also established to create social safety nets and consolidate community leadership. Participants who underwent capacity building adapted their livelihood strategies to include more small business activity and diversification. During that project, the area suffered a major drought, but the pastoralists involved were better able to manage the associated risks.

2.6b Innovation

176 **Innovation capacity is closely interconnected with human capital and infrastructure.** Most successful agricultural projects in FCV areas include a mix of institutional and technical innovations. An example is provided by a Cordaid case study in Sierra Leone, which supported 35 local farmer cooperatives to switch from traditional low yield rice to vegetables using agronomic training and marketing innovations (Cordaid, 2015). The introduction of vegetable farming helped to revitalize food security and offered alternatives to diamond mining. Because the cultivation of vegetable crops is less labour- and capital-intensive, more women and youth were able to participate in the agricultural sector. Information communication technologies (ICT) solutions such as price information and online product advertising and branding were also used to help the farmers to reach local supermarkets, mining companies and other customers.

177 **Among innovations useful for the development of agricultural value chains, ICTs require a specific focus.** They are developing at a rapid pace and can broaden the access to information even in the most remote rural areas. They can trigger change in all types of information systems, from market access to extension services.

178 **Digital technologies also have the potential to scale up capacity building in fragile settings.** In Afghanistan for instance, the NGO Digital Green (with USAID support) adapted an approach already successfully implemented in India and Ethiopia to develop and disseminate locally produced videos on improved agronomic practices (USAID, 2016b). The project, which augmented existing extension services, was designed to increase the participants' knowledge of relevant value chains and their adoption of improved agronomic practices. Some 200 individuals working in Afghanistan's public- private extension system were trained as video producers, video disseminators, video editors, or data entry operators. Another 158 extension agents and lead farmers were trained as video disseminators who then facilitated 1588 screenings of 26 locally produced videos using battery-operated mobile projectors, reaching 5073 farmers (44.5 percent women) across 354 farmer groups in 269 villages.

179 **The Agritech programme vision of the global mobile phone association (GSMA) is another opportunity** to develop more equitable and sustainable food chains that empower farmers and strengthen local economies through the use of mobile technologies.[9] The programme "Mobile for Development" has three areas of focus: (i) digitization of last mile/procurement; (ii) climate resilience through models using mobile data; and (iii) financial inclusion. The programme currently covers seven countries that received innovation funds for that purpose. The relevance to South Sudan is high, although the programme is constrained by low mobile network coverage (18 percent of the country).

180 **One of the disruptive digital technologies that could become a game changer for agrifood value chains in fragile settings is blockchain** (Owuor and Almanza, 2019). This distributed ledger technology records transactions in multiple places at the same time and thus provides highly secure data. Several examples already exist: in Zambia, Anheuser-Busch InBev launched in 2015 a brand of beer that uses locally produced cassava instead of barley. However, this project was hampered by a lack of record-keeping and access to banking among the farmers. As they nonetheless had broad access to the internet through mobile phones, the brewing company partnered in 2018 with BanQu, a Minneapolis-based blockchain platform. Its technology enables tracing the cassava throughout its supply chain, identifying which farm the crop originated from. Some 2000 farmers now receive payments digitally almost immediately upon crop delivery and can monitor sales of their barley, sorghum and cassava (Lopes, 2019). In Uganda, Carico Café Connoisseur started using blockchain in 2019 to certify shipments of coffee produced by two cooperatives to meet a growing demand from consumers for more information about where products have come from (Biryabarema, 2019).

2.6c Inclusiveness and gender

181 **A challenge to develop the food sector is to facilitate inclusive economies through less exclusive sociocultural institutions** (Hiller *et al.,* 2014). The World Economic Forum (2016) advises to actively include local businesses and communities in any solution that aims at developing food value chains. The knowledge of local actors and operating conditions can for instance provide essential last- mile services and, more importantly, opportunities for youth, women and excluded communities through vocational and other training.

182 **In FCV contexts, putting local people and actors at the centre is essential: it means inclusiveness, participatory approaches and gender equity.** This is one of the most important conclusions of the evaluation of FAO's contribution to the HDP nexus (2014–2020). The evaluation considers seeking inclusiveness in conflict situations to be essential and an opportunity (for FAO in this case) to re-evaluate and promote its participatory approach as well as for transformational work on gender equity. Inclusiveness is at the core of the "do no harm" principle and the evaluation notes with satisfaction that the majority of FAO projects make an effort not to exacerbate conflict drivers, by putting into place inclusive targeting, encompassing both the more vulnerable displaced households as well as host communities. Another example provided by the evaluation relates to natural resource management as one driver of conflicts (in Sahel) and

9 Also see: GSMA Agritech Programme - Mobile for Development [online]. https://www.gsma.com/mobilefordevelopment/agritech/

recommends strengthening governance structures to manage access to natural resources through a more inclusive approach. It also highlighted the importance of understanding local power dynamics.

183 **A critical need relates to gender equity and women's empowerment.** As described in the introductory section, women have been paying a high price during the conflict, including through sexual exploitation, gender-based violence, widowhood (one-third of the households are single- headed households) on top of the more traditional cultural barriers against women. The dramatic scale of gender-based violence is also attributed to the erosion of both the foregone power of traditional chiefs and the deterioration of the rule of law. In turn, some estimates underline the fact that women are responsible for around 80 percent of the entire agricultural production in today's South Sudan. This calls for looking into various interventions such as the formation of women's centres (especially for widows, returnees and other vulnerable women), literacy and skills training, income generating activities when appropriate feasibility studies are done, awareness raising and training in peacebuilding, or reconciliation and life skills (especially among youngsters).

184 **Finally, there are successful examples of improving gender equality and women's empowerment.** In the USAID/DRC project that launched the Kivu coffee value chain (see Case study 4), the evaluators consider that despite the prevalence of sexual violence, gender roles have evolved significantly in South Kivu, with women taking on a much greater role in production and marketing related to all three targeted value chains. One of the actions undertaken to achieve this goal was to engage couples in attending trainings, which significantly fostered women's access to productive resources. In the same region, an interesting initiative in this regard was the development of the "café- femme" value chain by ÉLAN project financed by UKAID (Jordan, 2017). In 2014, ÉLAN RDC formed partnerships with Muungano, a coffee cooperative based near to Minova in South Kivu, and TWIN, an NGO focused on strengthening producer organizations and helping them to foster long-term trading relationships. They piloted an innovative and inclusive business model, in which coffee produced by women is quality-controlled, exported, marketed and sold to western markets, where increasingly aware consumers are willing to pay a premium for produce with a clear social impact. This price premium, in turn, is passed onto the female producers, who in more conventional business models are often not recognized - or financially rewarded - as genuine farmers, despite their primary role in coffee production in the eastern region of the Democratic Republic of the Congo.

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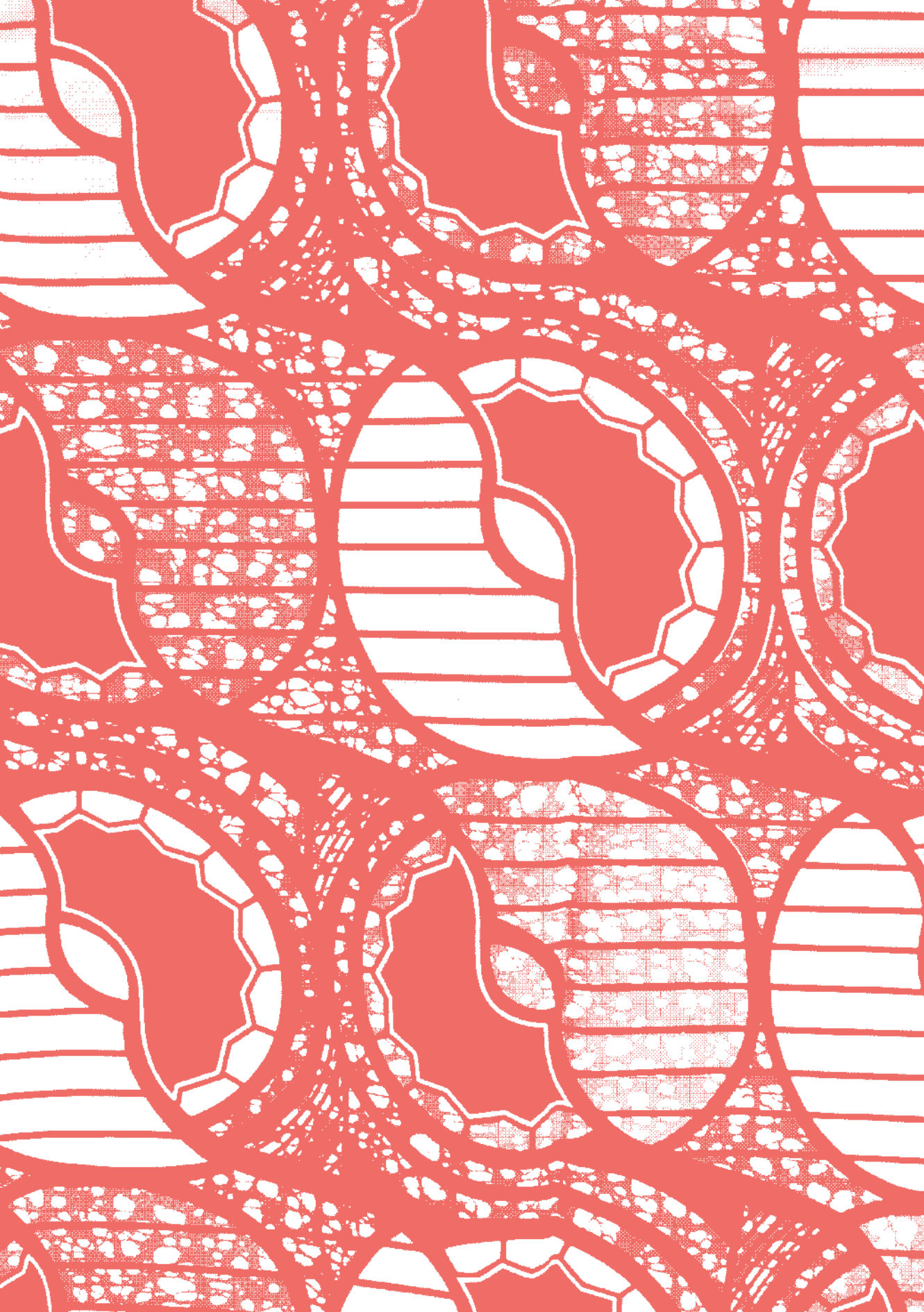

Chapter 3
Investments strategies for South Sudan's agricultural transition

185 **Investment strategies for transformation of agrifood systems in South Sudan need to address the complexity of the challenges facing the country.** The multiple consequences of decades of conflict would require longer-term multisectoral investment strategies, which go beyond the narrow and immediate focus of the humanitarian aid. These investments should be anchored, to the extent feasible, in the existing policy and governance framework, while taking into account the institutional and human capital weaknesses of the country. Of equal importance, in order to maximize their chances of success they need to build on the past lessons and experiences from similar FCV situations, as well as on the effective ongoing initiatives that have been generating good results in South Sudan and would have potential for scaling up. These investment strategies have been structured around four interrelated themes, described in below, which could be blended across the temporal and spatial dimensions depending on the evolution of the security situation on the ground.

3.1 BUILDING INVESTMENT STRATEGIES FOR SOUTH SUDAN

186 **A long-term development path of agrifood systems in South Sudan would be combined around the following four investment strategies: agriculture productivity, community resilience and social capital, value chain and jobs, and peace consolidation.** The key features of these four strategies are summarized in Table 2. The short- and medium-term development outlook in FCV situations is often subject to considerable uncertainties due to a lack of resistance for building mechanisms. As can be observed from recent experiences, the food security and nutrition situation in South Sudan has sharply deteriorated during the past few years as a result of localized conflicts combined with the COVID-19 pandemic and heavy floods in 2019 and 2020, despite massive food assistance. While the country is expected to continue to experience localized conflicts and a fragile security situation, the consensus seems to indicate that long term the country should see an improvement in the security situation as the peacebuilding process gradually takes hold. This would lead to opportunities to build a more stable economic and social systems, with improved governance and institutional arrangements being central to the structural transformation process. The lessons learned from similar FCV situations show that structural transformation needs to go beyond investing in agricultural growth for national food security. The complexity and fragility of the situation in South Sudan calls for a more comprehensive approach that would encompass investments in appropriate technical and managerial knowledge and institutional enhancements,

development of human and social capital, community and infrastructure development, peace consolidation, and natural resource management - all which would have to go beyond narrow domain of agricultural productivity.

Table 2
Summary of the four investment strategies developed

Investment strategy	Main Objectives	Set of investments
1. Agricultural production	◆ Food security and nutrition. ◆ Agricultural growth and diversification.	◆ Productivity enhancement. ◆ Extension services. ◆ Animal health. ◆ Farmers' organizations. ◆ Seed sub-sector.
2. Community resilience and social capital	◆ Resilience to conflicts and other shocks. ◆ Poverty reduction. ◆ Social cohesion. ◆ Human capital.	◆ Community-driven development (CDD). ◆ "Caisses de résilience." ◆ Women empowerment.
3. Value chain development and jobs	◆ Economic wealth. ◆ Income. ◆ Jobs, youth employment.	◆ Private sector development. ◆ Agribusiness. ◆ Cooperative movement. ◆ Value addition in agriculture. ◆ Enhance access to finance and markets.
4. Peace consolidation	◆ Peace consolidation. ◆ Conflict resolution.	◆ Territorial development. ◆ Natural resource management. ◆ Enhance land tenure security. ◆ Peace negotiation process.

Source: Authors' own elaboration.

187 The four investment strategies described in the following sections were developed based on:

i. a review of the CAMP proposed investment projects, their justification, key features and their prioritization at the time of formulation. The proposed strategies are anchored in the CAMP as detailed in Annex 3 and refer to its specific themes and projects. These consist of short- (1–2 years), medium- (3–5 years) and longer-term investments (5–7 years) that reflect the expected development pathways, based on the assumption that South Sudan will continue to progressively move out from the long-lasting conflict towards peace, thus enabling the transformation of the agriculture sector;

ii. the short-term volatility in localized security situations is expected to persist under the longer-term peace consolidation process as some areas can experience renewed conflict, which will require consistent peacebuilding and resilience interventions, while others remain or become more stable, enabling implementation of longer-term development interventions. This calls for some adjustments of the priority CAMP investments formulated before 2015, in order to broaden the scope of interventions to reflect the evolving realities and needs on the ground;
iii. the good practice investment strategies which are embedded in four strategies draw on the review of recent experiences in South Sudan and other FCV countries on which to build the inclusive agrifood systems' transition;
iv. a series of consultations with a diverse range of stakeholders based in South Sudan, who shared their experiences, lessons learned, ideas and recommendations (see Annex 1);
v. an analysis of spatially disaggregated data, which provided further insights for the development of geographically targeted investment strategies for each strategy (see Annex 4 for the data used).

3.2 INVESTMENT STRATEGY 1 – FOOD SECURITY AND NUTRITION

Rationale

188 **There is a need to significantly increase the production and productivity of agriculture in South Sudan in order for the country to close its food sufficiency gap.** While saving lives, massive food assistance in the past decade has not been sufficient to improve food security, which has been worsening along with acute malnutrition. For South Sudan to move away from the current humanitarian crisis and dependence on food aid, its own agriculture production needs to be scaled up to ensure both food availability and basic livelihoods to the millions of households who rely almost exclusively on the agrifood sector. Climate change adaptation must be factored into interventions to ensure the resilience of the production with a mid- to long-term perspective.

189 **A potential for substantial productivity increases and agricultural diversification in the country exists:** (i) crop yields are about half of those in the neighbouring countries; (ii) cropped areas can be substantially increased beyond the current 4 percent of agricultural land without significant environmental pressures; and (iii) the diversity of agroclimatic conditions allows for a wide range of crop and livestock production systems. In addition, in some areas there is a scope to expand livestock production without causing land degradation and fish-based protein production can make a significant contribution towards improved nutrition.

190 **For this potential to be seized, Strategy 1 aims to address low labour and land productivity** of the current farming systems and the lack of productivity enhancing investments in public research, extension and animal health systems. This strategy will also aim to vitalize private supply of quality farm inputs and equipment.

Priority investments

191 **Strategy 1 agricultural productivity and food security encompasses two pillars of complementary investment strategies,** which build on existing experiences that could be adapted, improved and scaled up.

192 **The first pillar of Strategy 1 is the development of innovative community-based agricultural extension and animal health services.** A formal government extension or veterinary services are not functional in South Sudan and will not become so any time in the near future. There is thus a need to develop alternative forms of service delivery mechanisms that bring farmers necessary information, skills, crop and animal health control activities.

193 **Institutional innovations in agricultural capacity-building services encompass a range of community-owned mechanisms including the FFS, PFS and CAHWs.** In the absence of public extension and support services, these community-based mechanisms are aimed to empower community members accessing knowledge, technical skills and information relevant to their specific farming conditions on technical, farm management, animal health and marketing aspects. This area of investment builds on the extensive experience of developing various approaches and mechanisms in South Sudan. Participatory dialogues would allow for the identification of technical solutions adapted to local conditions and that foster climate change resilience (e.g. good agricultural practices, climate smart agriculture, conservation agriculture, agroecology).

194 **In the short and medium term, the core focus of this pillar is on capacity development to progressively build community-based extension systems.** Support programmes could enable the community groups to learn new technologies from demonstration fields, encourage adaption of new technologies and perform routine public services such as veterinary disease control. The development of knowledge transfer curriculums and more permanent institutional arrangements that extend beyond the one cropping season cycle is required to ensure a sustainable growth pathway. This pillar could also include enhancing farm budget and management as a business and enabling CAHWs to become less dependent on external projects through better cost recovery.

195 **Technical innovations in agricultural and animal health capacity-building include the use of ICTs** such as rural radio, videos and of mobile phones when this is possible. They need to account for the fact that the grid-based electricity is only accessible to a minority of the population and that the mobile network is largely available in urban centres. Under such conditions, the development of rural/community radios appears as the most suitable in the medium term. These combine many advantages: (i) they do not need electricity or mobile coverage; (ii) they facilitate reaching the most remote areas; (iii) they can be participatory, thus involving all community members (ethnic groups, women, youth, etc.); and (iv) they are relatively low cost as they do not require heavy infrastructure or equipment, and can therefore be scaled up quickly if successful. Medium-term investment strategies could also cover the building of capacity of a network of technical professionals (e.g. agriculture specialists and people trained with rural radios, video equipment and information technology) and of communities to develop the content of the radio and video programme. This stream of investment could build on the ongoing work by an FAO-sponsored radio show called *Ziraa Tanna* ("Our Farm") that provides weather information and timely advice on: farming; livestock keeping and fishing activities showcasing success stories from

the farmers; livestock keepers and fisherfolk themselves, providing the listeners with inspiring stories from people who sound like them. The use of videos to capture farmers' experiences and good agriculture practices, for example, based on the experience of Digital Green, could be developed as a means of peer-to-peer learning.

196 **A longer-term investment strategy would progressively organize and federate producer groups to ensure some form of cost recovery system** to deliver extension services to communities. When mobile networks are more widely available and a more conducive policy framework and economic stability secured, other technical innovations related to e-services could be piloted.

197 **The second pillar of Strategy 1 is to vitalize a private supply of quality farm inputs and equipment.** The intensification and diversification of agriculture requires better access to quality inputs and equipment as a means to enhance productivity and resilience of family farms that remain largely manual. Two areas of investment priorities have been identified: seeds and production means.

198 **The development of a quality private seed sub-sector would need the following interventions:**

i. develop the capacity of the nascent seed trade association to provide technical, managerial and business support to its members (private seed companies), support the further creation of seed companies and ensure the local production of quality seeds;
ii. expand on the recent efforts to support community seed production by supporting dedicated FFS, organizing seed producer groups for seed multiplication and organizing seed fairs;
iii. distribute seeds for humanitarian purposes only when necessary (in case of emergency) and procure from local seed producers and companies as much as possible;
iv. provide technical assistance to the diversification of seeds in terms of varieties, species and adaptation to climate change;
v. develop a semi-formal quality declared seed system supported by the profession and by technical agencies in the absence of a formal seed certification system.

199 **Intensification and diversification also require access to other production means,** which would increase labour productivity and address labour shortages, such as the use of small farm equipment and mechanization. Farming systems could be made more productive with hand cultivators - a no-energy, manually-operated tool and animal traction that are more ergonomic and efficient than hand hoes. This would require a combination of interventions including:

i. the identification of most relevant inputs, equipment and productive assets which can be adapted to local conditions;
ii. supporting the development of private agents such as agrodealers, supply and repair of farm equipment through both capacity development and business support;
iii. developing community mechanisms to access productive assets such as machinery rings, fishers' associations;
iv. increasing financial access to these production means through the provision of matching grants.

Table 3
Sequence of investments for Strategy 1

	Pillar 1 – Innovative community-based agricultural extension and animal health services delivery mechanisms	Pillar 2 – Private supply of quality farm inputs and equipment
Immediate (1–2 years)	◆ Assessment of community capacity needs. ◆ Participatory dialogues to identify technical solutions adapted to local conditions and that foster climate change adaptation. ◆ Adaption of community radios.	◆ Development of the capacity of the seed trade association. ◆ Support local seed companies and community seed production. ◆ Local procurement of seed for humanitarian distribution in case of emergency.
Medium term (3–5 years)	◆ Community-based extension services programme (FFS, PFS, BFS, CAHWs). ◆ Support for demonstration fields and for technology adoption. ◆ Radio-based knowledge programmes.	◆ Development of semi-formal quality seed systems. ◆ Support and train private agents to supply and repair farm equipment. ◆ Increase financial access to production means (matching grants). ◆ Technical assistance for seed diversification.
Longer term (over 5 years)	◆ Training in farm business survey (FBS). ◆ Ensure mechanisms for sustainable service delivery to communities. ◆ ICT based technological innovations for agriculture.	◆ Support organization and structuring of private sector (professional organizations).

Source: Authors' elaboration.

200 **Table 3 summarizes the sequence of the investment packages** encompassed in Strategy 1.

201 **The key emphasis of investment Strategy 1 is capacity development on community-based agricultural extension mechanisms and institutions.** Extension services also need to support the federation at a higher level as a means to ensure their longer-term sustainability. In addition to public sector institutions, there is a need to strengthen capacities of local private organizations and local authorities (e.g. at payam and county levels) to progressively engage and eventually contribute to some of the listed activities at the community level. At the central level, capacity development efforts should build on the current efforts by JICA to develop planning and budgeting mechanisms and systems as a means to realize some of the most important CAMP programmes.

202 **The investment Strategy 1 can best reach its objectives in areas with high agricultural, livestock of fishery potential (depending on the livelihood zone) and in areas with a high population density** or that are well connected to towns/settlements. Relative peace and security are the basic conditions for this scenario to succeed. The spatial analysis overlays the level of cereal yields by county, the road network and the density of settlements. Figure 15 suggests that the highest potential to carry out this investment strategy is found in the states of Western Equatoria, Central Equatoria and Eastern Equatoria. Western Bahr el Ghazal also has good potential both for livestock and crops, but would require significant infrastructure investments to be better connected to major markets such as Wau.

Interventions targeting both livestock and crops could be developed in the Upper Nile to build on the existing network of mechanized farms, but significant investments in rural roads and water management would be needed.

203 **The investment needs for rural roads calls for deeper analysis as this is a major bottleneck** in several strategies. Box 1 proposes a preliminary analysis of road networks required to unlock the agricultural potential of South Sudan by focusing on trade integration between domestic surplus and deficit areas. Further analysis of rural transport systems is needed to provide a more detailed assessment on prioritization of investments in rural roads for food production, including identifying the roads which are actually blocked due to conflict and flood damages. In addition, smaller investments in local rural roads should also be included in the interventions to allow farmers to bring their produce to the closest market.

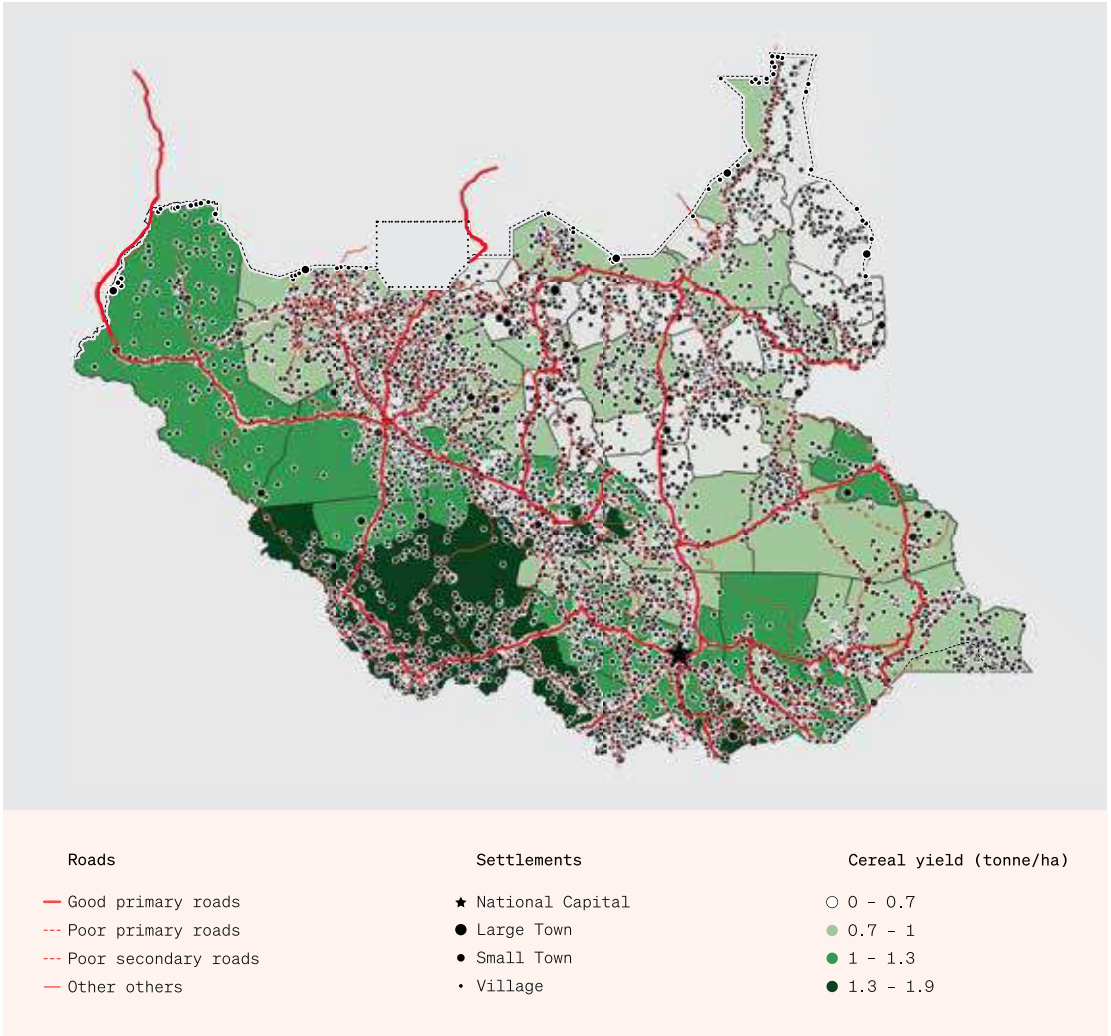

Figure 15
Maps of enabling environment for crop development in South Sudan

Source: Authors based on data from Open Street Map, 2020; UNOCHA. 2017. *Annual Report*; and FAO and WFP. 2020. *Special Report – 2019 Crop and Food Security Assessment Mission (CFSAM) to South Sudan.*
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

Box 1

A preliminary analysis of roads needed to unlock the agricultural potential of South Sudan

The current road network of South Sudan is in a very poor state due to decades of conflict, underinvestment and natural disasters. In addition, floods interrupt most routes over half of the country during the wet season. Transformation of agrifood systems in South Sudan would require better road connections from the most productive areas (Figure 16, map top left) to the main demand areas (Figure 16, map bottom left).

A preliminary freight demand model was developed for South Sudan's agricultural sector. Annex 6 presents additional information on the methodology used. The map on the right (Figure 16) displays the analysis of the roads needed most to unlock South Sudan's agricultural potential: e.g. roads needed to connect the estimated existing supply and demand of agricultural main commodities. This work could be developed further under the forthcoming World Bank rural roads analytical work using the data on actual freight loads. This is not yet inclusive of closed roads either due to conflict or floods (see Figure 14 section 1.2d).

Source: Authors' own elaboration.

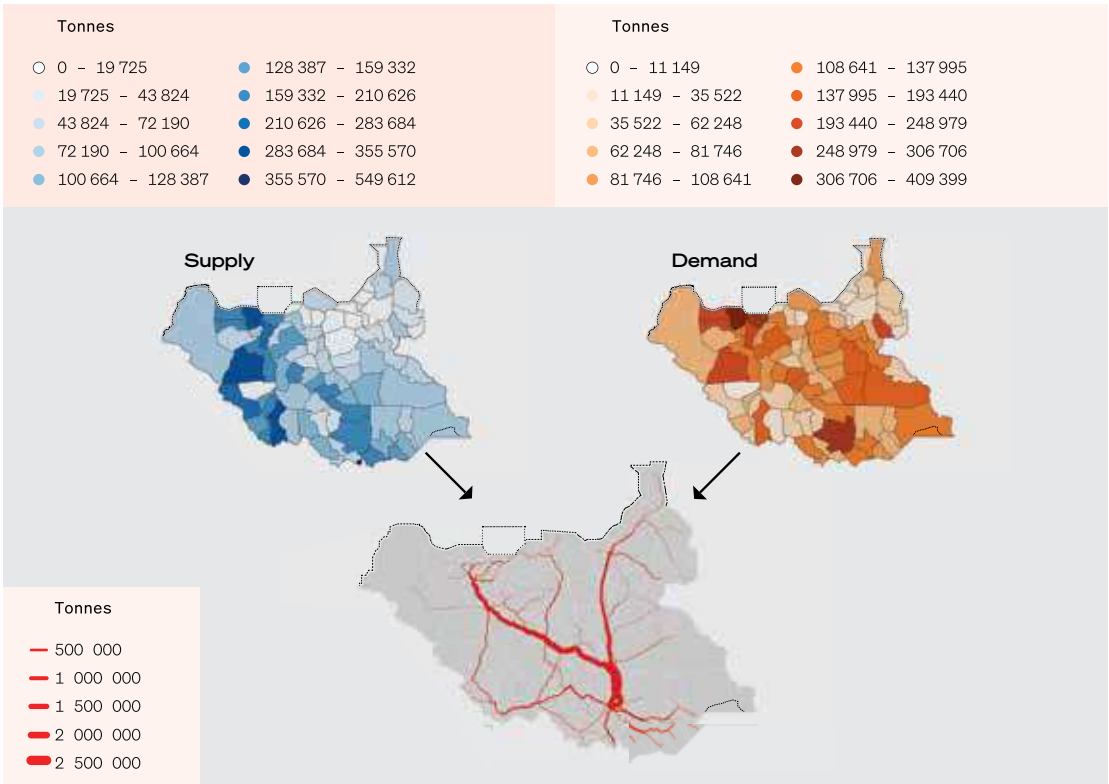

Figure 16

Priority roads to unlock agricultural potential: freight demand model between the supply and demand areas of main agricultural commodities

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

Roles of stakeholders

204 **The consultations have shown that a number of bilateral donors** (USAID, UKAID, JICA, the Netherlands, GIZ, the European Union) engaged in agriculture are willing to support investments that contribute to a longer-term development of agriculture productivity, and share the vision of this piece of work. The investments provide support for projects that can form a basis for further investment such as the European Union-funded Food Security through Agribusiness project or the GIZ-funded Food Security and Agricultural Development project.

205 **Multilateral development institutions and United Nations agencies** involved in agriculture also have their roles to play, such as providing technical assistance, methodological support (e.g. for FFS, CAHWs) and capacity development of public and private institutions, financing family farm investment and poverty reduction programmes, institutional procurement of food products from local farmers destined for food assistance, and in nutrition programmes.

206 **NGOs such as AGRA and the consortium associating Agriterra, Cordaid and SPARK or other NGOs** working beyond humanitarian assistance in agriculture also play a critical role. They have forged a solid experience in assisting the development of community services, cooperatives and other farmer organizations and groups. They should be mobilized in support of community-based services or the development of private initiatives such as seed companies, and agrodealers.

207 In order to avoid **undermining the development of private seed companies and agrodealers, humanitarian** aid providers should agree on limiting the free distribution of seeds, other inputs and tools to what is strictly required for emergency purposes when no alternative is available. Procurement should be done locally as much as possible.

208 **The South Sudan Agricultural Producer's Union (SSAPU)** has an important role to play as facilitator of the provision of agriculture extension to its members, as a promoter of good agriculture practices, as well as a supporter of the development of the cooperative movement.

209 While their capacities are currently very limited, **the local governments** (such as the country agriculture department) could progressively be associated with the aim to coordinate and lead the efforts of various partners (NGOs, development partners). If and when the function of payam extension officers is re-established, they should also take over some of the services previously discussed, such as support to community-based extension services.

210 The Government of South Sudan should also provide an enabling environment so that farm investment is more accessible for farmers including through the elimination of informal taxes, duties and red tape. Seed development would require the government to develop and approve the system of quality assurance, to develop basic seed testing capacities, facilitate the business development of local private seed producers and progressively undertake simple variety trials.

Relevant policy gaps and opportunities

211 **Most agriculture policies in South Sudan are still in draft form** and need to be passed for implementation. Major needs under Strategy 1 relate to the National Agriculture and Livestock Extension Policy (NALEP), drafted in 2011, which if updated could provide a sound incentive framework. It promotes pluralistic and participatory extension services, including private extension, is consistent with the CAMP and other policies, and advocates for research priorities and extension messages to be driven by farmer needs. The MAFS has also drafted a seed policy in 2012 and a seed bill in 2013. If passed, they would establish a regulatory basis for: (i) a seed council to guide and supervise policymaking; (ii) a seed testing and certification agency to control quality; and (iii) a directorate of plant protection to carry out the necessary inspections. In the current absence of a seed certification system, an intermediary system ensuring the quality of seeds where the government and universities would guarantee some level of quality could be set up to address shortages.

212 **The transport and marketing of food products** from surplus areas to consumption centres is constrained by a poor rural road infrastructure network and excessive check points, which should be removed to enable local producers to take advantage of domestic demand where it exists.

213 **The import of small farm machinery** to enhance productivity should be facilitated including the removal of any import duties and other taxes to enable easier adoption at farm and community levels. Electrification of rural areas and the further coverage of the mobile network is a precondition to the more widespread development of mobile-based technologies.

3.3 INVESTMENT STRATEGY 2 - COMMUNITY RESILIENCE AND SOCIAL CAPITAL RATIONALE

214 **Investment Strategy 2 is based on the assumption that a transition from humanitarian aid to agricultural growth in South Sudan starts with empowering its people** to produce food and rebuild at the community level social capital destroyed by years of violence and governance failures. It also suggests that due to the exposure to conflicts and natural disasters, strengthening community resilience to enable sustainable agricultural development would be required.

215 **The rationale behind this strategy is to enhance interactions and trust within communities and between communities and local governments** that have eroded through years of conflict, beyond investments and knowledge to improve agricultural productivity growth in conflict - and disaster - affected areas. The strategy aims to make communities more resilient (to conflict, external shocks and climate change) to reduce poverty and improve social capital. It proposes doing this by: (i) improving access to community and productive agricultural infrastructure through financing priority needs; (ii) enhancing capacity in participatory planning processes; and (iii) establishing or strengthening responsive and accountable local institutions that can manage social tensions that arise over access to resources and local decision-making on development priorities (Table 4). This investment strategy is genuinely cross-sectoral as it relates to agricultural productivity growth production, resilience, jobs and conflict mitigation agendas. Finally, Strategy 2 emphasizes local service delivery as a key entry point for rebuilding people's mutual trust and faith in the government.

Priority investments

216 **Strategy 2 interventions are appropriate for financing priority community infrastructure** to support crop, livestock and fishery production. Past CDD experiences in South Sudan (PROPEL South Sudan, 2018) have shown that small-scale infrastructure projects implemented through cash for work mechanisms are in high demand, both as a source of productive infrastructure and jobs. The first pillar of Strategy 2 consists of supporting investments in community- or common farm-level infrastructure and services in selected areas through a participatory planning process. Depending on the needs of the communities and the geographical targeting, they can target productive infrastructure assets (e.g. irrigation, water storage, community roads, drinking water supply systems), processing (e.g. mills, ice-machines), storage, livestock water catchment and watering area projects, fishing and small-scale aquaculture projects, as well as other shared infrastructure. In selecting projects, specific attention can be paid to alleviating conflict between communities over natural resources sharing, building climate change resilience and fostering inclusiveness. Based on the "caisses de résilience" experiences, VSLAs or Village Economy Market Saving Associations (VEMSA) can also be developed to support and advise microenterprises on how to access financial resources, thus enabling economic activities that add value to rural economic activities. Although VSLA and VEMSA are largely based on local savings, they could also eventually benefit from individual or collective matching grants to inject financial resources into the local economy. At the same time, they could aim to contribute to a snowball effect through revolving parts of the funds from these grants.

217 **Strategy 2 also encompasses investments in human capital development through capacity building in participatory planning processes.** Training in participatory planning processes includes identification of projects to be financed, monitoring of the construction and participatory risk mapping/analysis. These interventions can be combined with knowledge building on agricultural production in Strategy 1.

218 **Social capital and resilience are strengthened by developing discussion platforms at the community level and enhancing local institutions.** Dimitra Clubs for instance (in a "caisses de résilience" approach) gather women, men and young people who decide to organize themselves to work together to bring about changes in their communities. Beyond technical agricultural issues, these forums contribute to building stability, social cohesion and trust, which are a prerequisite for the other development actions. They are also a strong lever for fostering the empowerment of women. In addition, information conveyed through these forums can target nutritional awareness and hygiene, which can yield substantial health gains in South Sudan considering the very high prevalence of waterborne diseases. Enhancing discussion platforms with Strategy 2 can facilitate community mobilization and conflict resolution. PFS for instance have served as a foundation for peacebuilding activities, dispute resolution and community-based disaster risk management plans. In CDD approaches, investment planning processes include participatory risk mapping and mitigation.

219 **Strategy 2 places a particular emphasis on inclusiveness.** Boma development committees and payam development committees are inclusive bodies that allow marginalized groups such as women, youth, IDPs, returnees, and the poor to voice their needs. They are established in almost 70 percent of the country and have already been leveraged in previous CDD projects. Women empowerment

can be further mainstreamed across all the sets of investments of Strategy 2. Based on the Ongoing Participatory Engagement and Learning (PROPEL) experience, women's active participation and employment opportunities could begin with programme recruitment and staffing and can be imbedded in a core minimum package of activities. The programmes would need to ensure appropriate representation of women as well as their inclusion in the CDD decision-making bodies.

Table 4
Sequence of investments for Strategy 2

	Pillar 1 – Community and agricultural infrastructure	Pillar 2 – Capacity building	Pillar 3 – Establishing or strengthening local institutions
Immediate (1–2 years)	◆ Quick wins/visible community infrastructure. ◆ VSLA establishments.	◆ Training in participatory planning processes.	◆ Developing discussion platforms at the community level (e.g. Dimitra Clubs).
Medium term (3–5 years)	◆ Small-scale infrastructure projects implemented through cash for work.	◆ Training in infrastructure maintenance.	◆ Enhancing local institutions (boma and payam development committees).
Longer term (over 5 years)		◆ Government capacity building to implement CDD.	

Source: Authors' elaboration.

220 **Capacity development would be needed at the community level and at the county government level.** However, the Enhancing Community Resilience and Local Governance Project (ECRP) has shown that the functionality of the county government varies across regions. There is thus a need to build functionality assessments into implementation plans to tailor capacity-building activities. Strategy 2 could build on activities where they exist and reproduce them in counties where ECRP is not implemented.

221 **The selection of geographical areas where Strategy 2 can be most impactful could be guided by the following criteria** (Figure 17): (i) high poverty incidence and number of poor; (ii) high food insecurity; (iii) presence of IDPs; and (iv) limited access to basic services. The strategy would benefit geographical areas with high vulnerability and needs, but where there is sufficient security to operate. It could target both the conflict-affected and relatively more stable counties. Support from the county governments would be desirable. Figure 17 shows settlements and displaced people as well as an index which aims to combine poverty levels, food insecurity, access to basic services and population density. This index gives a sense of areas that combine the most food insecure, poor and low-endowed communities (dark blue), such as: Northern Bar el Ghazal (North, Est, West), Warrap, Jonglei, Eastern Equatoria (Kapoeta North), Lakes, Central Equatoria (South). Unity could also be targeted should the conflicts subside.

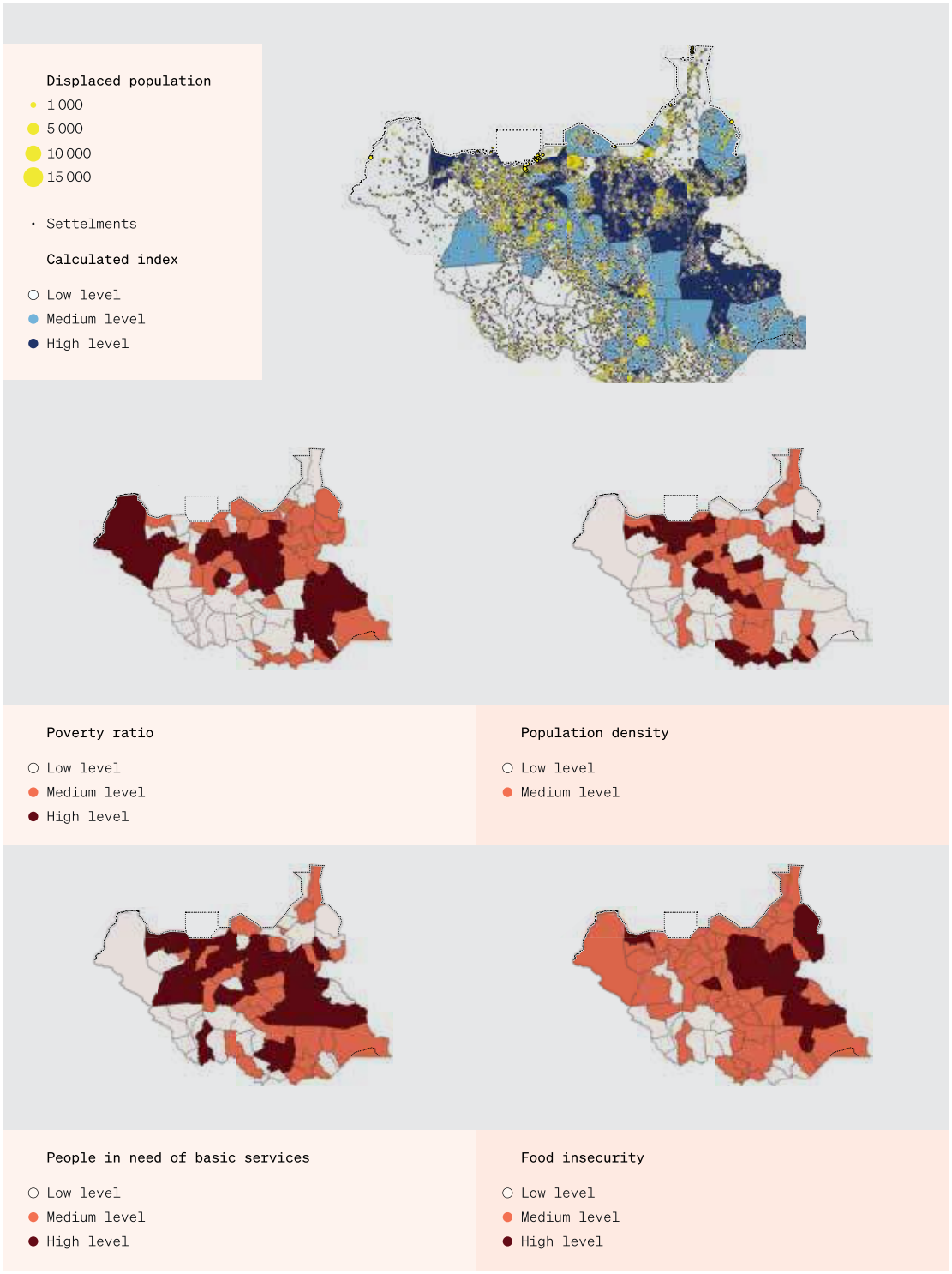

Figure 17
Map of highest needs for Strategy 2

Source: Authors, based on data from GFDRR / World Bank Group knowledge note on Disasters, conflicts and displacement intersectional risks in South Sudan (2020), UNOCHA 2018 data and FEWSNET 2021 data on Integrated Food Security Phase Classification (IPC).
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

222 **Quick wins would be easier to achieve in counties where past community-based projects have been implemented** (PROPEL, ECRP) or are launched (South Sudan Livelihoods Resilience Project (SSLRP) (see Annex 5); Aweil (Northern Bahr el Ghazal), Wau (Western Bahr el Ghazal), Tambura, Nzara, Yambio (Western Equatoria), Magwi, Torit (Eastern Equatoria), KajoKejo, Terekeka (Central equatorial), Bar South, Bor (Jonglei), as well most counties in Lakes and Warrap states.

223 **Strategy 2 can build on the experiences of the past and on-going investment activities in South Sudan.** For example, the World Bank funded the Provision of Essential Health Services project that fosters health service delivery and strengthens coordination at the central and state levels. The South Sudan Safety Net Project (SSNP) provides temporary income opportunities to selected poor and vulnerable households and improved delivery mechanisms. The ECRP uses CDD approaches to improve access to basic infrastructure and strengthen community institutions in selected counties. IFAD also launched in 2020 the SSLRP that empowers communities to participate in decision-making processes that will recover agriculture livelihoods, build household resilience and promote stability. Most of these projects use well established community mobilization principles, methodologies, and technical guidelines, prioritize the participation of women and utilize boma and payam development committees. By utilizing the same community institutions, Strategy 2 avoids creating similar parallel structures. Moreover, synergies with community-prioritized infrastructure and cash for work activities are possible.

224 **Strategy 2 can also build on the experience of other participatory initiatives.** The Rural Governance in South Sudan programme of GIZ (2020–2022) gathered knowledge on public financial management, participatory development planning, accountability, and women's empowerment to county governments. The USAID/PROPEL programme used CDD approaches to foster social cohesion and resilience in targeted communities in Jonglei, Lakes State, and Eastern and Central Equatoria states (PROPEL, 2015–2018).

Roles of stakeholders

225 **Strategy 2 requires bottom-up approaches.** The government's role can vary depending on its capacity. At a minimum, collaboration will be needed for the geographical targeting and implementation arrangements and some oversight support. At the state level, Strategy 2 would not need to create any coordination body but consultations could be carried out with governors and state ministries of the local government as needed. To ensure the government's ownership, its relevant counterparts at the county, state, and national levels could be invited to join the community planning workshops and regular supervision missions. Finally, county governments could play an important role as the liaison between communities and development.

226 **Citizen engagement is core in Strategy 2.** Under CDD approaches, communities directly participate in their project design, project prioritization and selection and conflict analysis. The PfRR is an important platform whose knowledge could help anchor Strategy 2 in the existing network of interventions to improve its efficiency and relevance. Food production, poverty reduction and community

resilience are mostly needed in the most fragile and conflict-affected areas. The conflict risk requires implementing partners who can operate continuously despite the security situation. Technical expertise in community development, conflict mitigation, and local service delivery and agricultural production would also be needed. If the government is not in a position to implement investment activities under Strategy 2, partners with strong fiduciary management skills and monitoring capacity would be required. For instance, the ECRP project opted for implementation through UN agencies, as they have shown their ability to access both government-held and opposition-held areas and can operate in volatile situations.

Policy gaps and opportunities

227 **Strategy 2 can materialize in the current state of the policy environment,** provided that the security situation remains reasonably stable. However, a number of policies and bills drafted in the early 2010s, which have yet to be passed would increase their leverage such as the rural finance policy and the community development policy.

3.4 INVESTMENT STRATEGY 3 – VALUE CHAIN DEVELOPMENT AND JOB CREATION RATIONALE

228 **Investment Strategy 3 is built on the assumption that the transformation of agrifood systems in South Sudan can rely on the recovery of local agricultural and food markets,** producing surpluses, adding basic value to their products, and gaining employment in downstream segments of value chains. It also considers that exposure to conflicts and macroeconomic instability requires securing and supporting small (household) business activities as well as the emerging small to medium-sized (SME) agribusiness enterprises.

229 **The rationale for this strategy is that agricultural growth in conflict- and disaster-affected areas requires investments and knowledge to improve the food systems, especially mechanisms to support the growth of existing and newly created agribusinesses** that play a key function in the agricultural markets. The strategy aims to contribute towards sustained household income growth and (youth) employment, economic wealth as well as food security, nutrition and climate change resilience. Support to farmers, processors, and aggregators may be a good way to help the poor improve their job outcomes. More specifically, Strategy 3 aims to support the creation of a conducive policy environment that reduces entrepreneurial risks by enhancing and facilitating market opportunities, while helping businesses sustain themselves and grow. Priority investments will focus on: (i) supporting the capacity and institutional structures of POs and SME networks and facilitating connection between supply and demand; (ii) providing better access to finance and market information; and (iii) financing productive infrastructure in particular rural roads and renewable energy (Table 5).

230 **The investment Strategy 3 priority interventions will be flexible and highly conflict-sensitive** with a strong focus on stakeholders' participation along the selected value chains. Inclusiveness will be pursued especially for IDPs, youth and women.

Priority investments

231 **Agribusiness, value addition and job creation in agriculture will be the target of the first pillar of Strategy 3.** Investments will be anchored into social, technical, public and private investments, capacity development and partnerships. In the immediate future it may be more viable to foster a recovery of household productive activities, and to focus on primary processing businesses once there is a critical mass of activities to ensure sustained raw material supply. While some improvements in security and production occur, off-farm investments will be geared towards small jobs recovery and creation related to post harvest activities from aggregation, to processing and food markets. Support to the emergence of local small to medium-scale processors and private sector initiative will be based on the specificities and needs of each value chain with a priority given to linking farmers to them locally.

232 **The main focus will be on (re) building strong POs and small business activity networks.** Before the conflict, POs in South Sudan operated in many areas of the country. Some have remained in operation through the conflict, while others could be reconstituted with external support. The priority will be to develop the existing FOs to avoid creating new structures. Strengthening of local traders networks and aggregators will increase market integration, especially flows between deficit production areas and surplus production areas. However, in the context of South Sudan the gradual strategy of incremental steps with progressive investments is suggested as some major infrastructure investments such as roads, power and storage facilities require time and security on the ground. In the short term, the priority will be the development of the producers'/entrepreneurs' technical and business skills and knowledge. Particular focus would be given to vertical integration facilitating linkages between smallholder farmers and market opportunities building productive partnerships between POs and agribusinesses (i.e. contract farming, productive alliances).

233 **Market-linked activities will also be promoted to support agricultural production recovery** providing farmers an opportunity to sell any surpluses, as well as an incentive to expand and diversify their production. They can also provide jobs for other off-farm activites such as transport especially enterprises that increase farmers' access to market (e.g. simple animals for transport, three-wheeler vehicles) and services such as storage facilities, agroprocessing units, solar mills, energy services. The off-farm job creation agenda will focus mostly where there are sufficient productive activities especially in Juba, Renk and other towns of the country. The investment will prioritize fostering the existing value chains instead of creating new ones, with a special attention to those who are most environmentally sustainable and resilient to climate change.

234 **The second pillar of Strategy 3 will focus on the access to finance supporting innovative ways of financing POs, small business activities and development of market information systems.** A variety of solutions is needed depending on the group targeted and the local context. In the short- term, livelihood grants can create opportunities for households to launch small-scale activities. Matching grants may be required to incentivize other actors along the value chain to invest in their economic activities and kick-start local economic development, considering the limited supply of commercial finance in the country. Matching grants can, for instance, re-engage aggregators and allow farmers and processors

to gradually increase output and diversity. It also supports the financing of small to medium agroprocessing equipment. Some positive examples already exist in South Sudan with the FYI or the consortium of NGOs Spark/Agriterra/Cordaid funded by the Netherlands Development Organizations (SNV). However, matching grants are a one-off contribution and as such are not a sustainable solution for enterprise financing. They should be designed to complement and support the expansion of sustainable rural finance services as much as possible. To this end, proper targeting is important in a matching grant programme where the grant conditions including matching requirements need adjustments, depending on the target beneficiaries and investment. For example, the matching requirement can gradually be increased for the working capital needs of farmers to ensure graduation after several crop cycles. Grants for SMEs may justify a higher matching requirement especially if they have financial resources and options to borrow. Pre- and post- investment technical assistance may also be critical for grantees to ensure the effective use of grant resources. Depending on the availability, a matching grant programme can facilitate linkages with financial institutions and mechanisms such as VSLAs, MFIs, and other lending institutions. Strengthening the rural financial system through support to the existing finance institutions (e.g. MFIs FSSL, RUFI) is clearly the preferable solution especially in the long run.

235 **Based on an analysis of the agriculture finance market, additional interventions can be considered.** For example, mobile money services can be promoted for secure transactions and payments. Strategy 3 could also support the creation of a credit line for MFIs and other lending institutions such as the Cooperative Bank of South Sudan for on-lending when limited liquidity is a binding constraint. Technical assistance for lenders will help upgrade their risk management skills and develop financial products by identifying efficient and effective ways of serving the target groups. Among other lenders, the Cooperative Bank of South Sudan may have a potential to finance stronger cooperatives and SMEs in the longer-term horizon, but other lenders may also come into the rural market as the financial market starts developing.

236 **A pilot initiative could be launched to provide market information to farmers, processors and traders by using mobile phones,** building up the existing crop and livestock market information system at national and regional levels (CLiMIS, RATIN). This pilot operation could be tailored to the market information needs of the value chain actors and would start in geographical areas where power and mobile phones have sufficient coverage.

237 **A third pillar should be geared towards investments in rural roads, water management, solar power for production, agroprocessing and marketing.** Poorly maintained roads are a severe constraint for market access and input distribution. The strategy will entail geographically concentrating a set of infrastructures necessary for connecting farmers and aggregators to markets and for the emergence of agribusiness clusters. The experience shows that from the short- to medium- term, farmers and small agribusinesses will respond relatively quickly to localized investments in terms of supply. Focusing investments on localized markets could start generating jobs and enterprises in targeted areas. Strong attention will be given to building the capacities of the different stakeholders who will be responsible for the management of these investments.

238 **Regarding solar energy, several options may be proposed within the scope of this investment package:** using off-grid AC solar panels either through POs or agrodealers that propose services to their members/clients (sales, maintenance) or through the successful "pay as you go" model, where a private company rents a solar home system to consumers to charge phones, lights, and other devices depending on the size of the system. Mobile photovoltaic units could also be promoted in isolated locations where grid electricity is unavailable or when people cannot afford to buy multiple units. The introduction of these technologies should be coupled with investment in training youth for job installation, maintenance and repair of systems.

239 **Capacity development will be required at all levels to achieve the objectives of this investment strategy.** In addition, technical assistance and capacity building support is needed for the government to improve and implement its private sector development strategy, especially drafting and passing the laws and regulations related to the improvement of investment climate and improving the functioning of markets. Policy dialogue will be critical to advancing the discussions around the drafted policies and laws and to speed up their enforcement agenda. Support to the agribusiness platform development should be envisaged as well. At the decentralized level, capacity building at the state and county level is needed for investing in and managing productive rural infrastructure (i.e. rural roads, energy power). The bulk of capacity development interventions will be geared towards producer groups and more formal FOs, and SMEs.

Table 5
Sequence of investments for Strategy 3

	Pillar 1 – Agribusiness and value addition in agriculture	Pillar 2 – Access to finance and market information	Pillar 3 – Investment in rural roads, water management and solar energy
Immediate (1–2 years)	◆ Strengthening POs and agribusinesses. ◆ Identifying potential partnerships.	◆ Establish a system of matching grants for individual and community businesses. ◆ Assessment of rural and agriculture finance market.	◆ Identify rural roads to be improved based on their agricultural/economic potential. ◆ Identify off-grid opportunities. ◆ Identify water management opportunities.
Medium term (3–5 years)	◆ Building business and management skills. ◆ Setting-up agribusiness models linking producers to enterprises/markets (e.g. productive partnerships, etc.).	◆ Promotion of mobile payments and transfers. ◆ Other interventions such as credit lines depending on the binding constraints.	◆ Capacity development for rural roads maintenance and management. ◆ Investment in solar energy options towards POs/value chain actors.
Longer term (over 5 years)	◆ Exploring opportunities for investment in new value chains.	◆ Linking entrepreneurs and POs to Cooperative Bank of South Sudan and other commercial banks and lenders.	◆ Investments in rural roads. ◆ Investments in energy network. ◆ Investments in water management.

Source: Authors' elaboration.

240 **The geographical targeting of investment Strategy 3 could be guided by the following criteria:** (i) agroecological potential; (ii) existing supply situation and capacities in terms of production and aggregation; (iii) existing POs and trader networks, and promising value chains; and (iv) closeness to the major urban markets. It should be promoted in states where some infrastructure is already in place with potential synergies between developing partners, the private sector and decentralized powers. Strategy 3 should also select interstate actions to connect surplus areas to deficit markets where they can compete with imports. It will target markets where interventions will have the most impact, focusing on strategic locations that can have maximum redistributive influence and are accessible from different sides and distance. Figure 18 describes the road network, population density, electricity lines and conflict. Together with the map of the enabling environment for crop development (Figure 15), it indicates the potential geographic areas to be targeted under Strategy 3, such as the counties of Western Equatoria that border the Democratic Republic of the Congo, for vegetable value chains and Northern Bahr el Ghazal for livestock value chains.

241 **Investment Strategy 3 could benefit indirectly from development projects** which create the demand and provide employment opportunities such as the World Bank funded SSNP. There are a number of positive experiences with value chains (VC) and agribusiness development that can be replicated and scaled up such as: contract farming/out grower models in specific value chains (i.e. sunflower with Agroplan Oils, seeds with MASCO/GIZ), and the farming as a business approach (GIZ). The European Union-funded SSADP-II promotes agribusiness development in Yiambio, Maridi, Torit, Bor and Rumbek and should be a good partner when investing in this sector (see Annex 5).

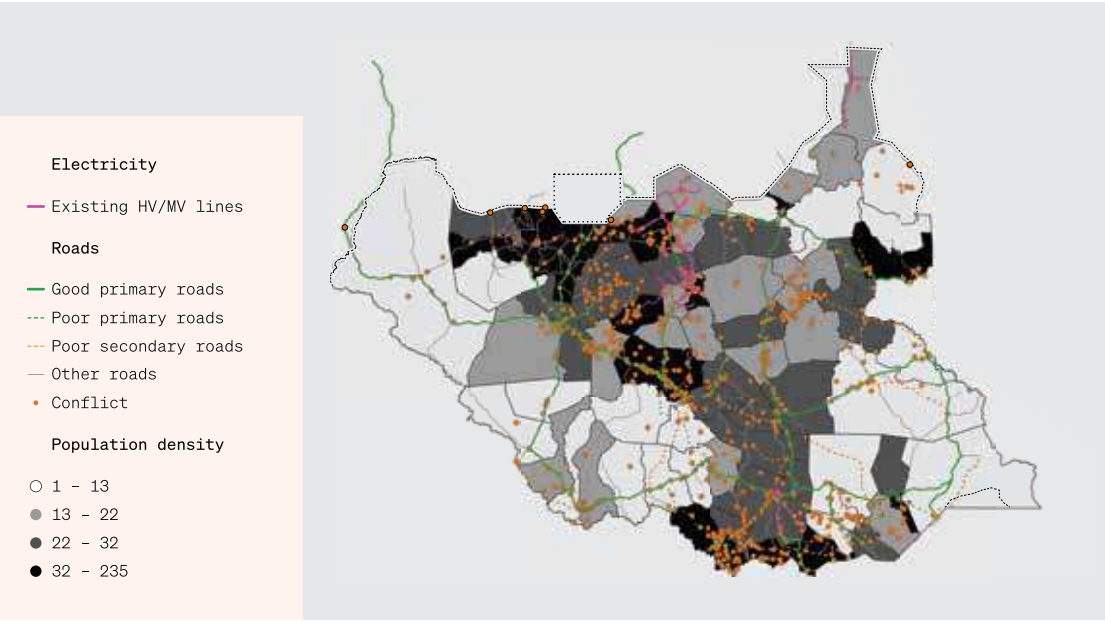

Figure 18
Agribusiness enabling environment

Source: Authors based on World Bank Group. 2021a; OpenStreetMap. 2020; UNOCHA data (2019).
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

Roles of stakeholders

242 **Implementation of investment Strategy 3 requires coordination** between development partners, the Government of South Sudan, NGOs and private sector on the food security/agricultural development agenda through the CAMP and the PfRR. Interventions in the agriculture and food sectors can apply the PfRR targeting protocol and criteria to prioritize agriculture production zones identified in the CAMP to identify the optimal locations for value chain development investments.

243 **The government's role** will be to create an enabling environment for private sector investments, especially regarding peace and macroeconomic stability. The government will also have an important role regarding setting and enforcing transparent rules, regulations and standards. On the governance side it is critical to find a solution for abolishing roadblocks and related rent seeking activities.

244 **The private sector** will be the main driver of Strategy 3 and as such, should be closely involved to ensure its participation in the decision-making processes, including by relying on the South Sudan Business Forum. Collaboration with MFIs will be key to providing access to financial services according to the needs and specificities of private actors (POs, traders, aggregators, processors) and value chains.

245 **Development partners** should be involved to better target investments and to create collaboration and synergies while also avoiding duplication of efforts. The PfRR or the thematic working groups could be used as platforms to better improve coordination and synergies as well as relevance and efficiency of Strategy 3.

246 **The number of NGOs** who are already involved in value chain development and agribusiness are the other important stakeholders who have an important role in the execution of this investment strategy. In South Sudan, international NGOs such as Mercy Corps, Oxfam, Agriterra, Spark, Cordaid are working extensively on these topics with funding from organizations such as Dutch Cooperation, German Cooperation, USAID, the European Union. The development partners, such as FAO and WFP, could also be involved in the aspects related to market information systems development because they are already working on joint data collection and analysis on food security and nutrition and joint market assessments. In addition, local organizations such as RUFI, FSSL should be supported to provide financial mechanisms to the small to medium-size groups along value chains.

Relevant policy gaps and opportunities

247 **Investment Strategy 3 cannot fully materialize in the current policy environment especially for pillars 2 and 3.** Investments under this strategy are highly sensitive to the security situation on the ground. Macroeconomic stability is another critical requirement as it has a direct impact on the SMEs and farmers' groups. In addition, to enable growth in the private sector, the government will have to ensure a conducive regulatory environment and invest in infrastructure development especially roads and electricity networks. Currently, all laws and policies have been drafted, especially in: the South Sudan Private Sector Development Strategy; South Sudan Investment Climate Reform Programme; South Sudan Access to Finance Programme; and South Sudan Enterprise Fund. However, they are not operational due to the absence of an operational framework and the lack of implementation resources.

3.5. INVESTMENT STRATEGY 4 – PEACE CONSOLIDATION AND NATURAL RESOURCES MANAGEMENT RATIONALE

248 **Despite the signing of the 2018 national agreement on conflict resolution, violence remains widespread at the subnational level in South Sudan.** In fact, the subnational level of violence has seen an upsurge since March 2020. The destruction of livelihoods in many communities, militarization of cattle raiding and the political exploitation of ethnic identity continues to threaten peace, exacerbated by the proliferation of arms and the loss of cattle and crops due to natural disasters. To guarantee peace and security as a fundamental condition for longer-term development, South Sudan needs to scale up its investments and capacities for effective state-level and local interventions to address long-standing grievances, ongoing conflict and disputes over land, and natural resources such as grazing land, and achieve sustainable livelihood recovery.

249 **While trends in the frequency and intensity of conflict continue to be a great concern, the ceasefire opens possibilities for peacebuilding initiatives.** Meanwhile, the peace agreement does not address intercommunal conflict and cattle raiding or the involvement of the signatories. Nevertheless, the national ceasefire is still in progress, and following the R-ARCSS agreement in 2018 some positive developments can be fostered. First, political violence has generally decreased across the country following the peace agreement, especially in the Upper Nile and Unity State, Western Bahr el Ghazal and Jonglei. Second, progress has been made in establishing the Republic of South Sudan's Revitalized Transitional Government of National Unity. Third, steps were taken to implement the R-ARCSS, including through the National Land Commission, which is leading the review of the 2013 draft land policy.

250 **Several bottlenecks need to be addressed to support the transition from violence and latent conflict to structural and cultural changes that foster lasting peace, including:**

i. the deterioration of food insecurity and lack of secure tenure rights and effective management of natural resources, including land, water and grazing land as a base for livelihoods and local economies;
ii. the reliance of political leaders on political-military leaders or power brokers to exert influence on communities;
iii. the lack of a shared national identity and a well-educated middle-class;[10]
iv. the lack of effective mechanisms to address grievance, intra and inter-ethnic violence at the local level and to enforce justice, and risks related to the return of refugees and IDPs;
v. increasingly violent cattle raiding, related to the increasing size and density of animal populations, seasonal livestock migration routes, and changing migration patterns as a consequence of floods;
vi. climate change, which will exacerbate tensions over natural resources, in particular water and grazing lands.

251 **Priority investments**

The first pillar under investment Strategy 4 is territorial development and conflict resolution. The territorial approach successfully implemented in the Abyei Administrative Area can be replicated in other areas. Action taken supports the implementation of South Sudan's peace process, through evidence-based programming of investments for peaceful coexistence among communities, equitable access to natural resources, and economic opportunities to alleviate human suffering arising from forced displacement and irregular migration. This area of intervention requires investments in three sub-pillars.

252 **The first intervention is building the mechanisms for peacemaking.** It includes dialogue to analyse and strengthen strategies for the use of land and natural resources for livelihoods, negotiation mechanisms and building trust between conflicting parties and local government through trusted third parties. Conflict and peace committees need to be strengthened and reconciled with traditional dispute resolution mechanisms to foster local justice, restore trust and enable peaceful movement of people and animals. This includes premigration and postmigration conferences to set the rules for peaceful relocation and evaluate the experience following migration. Cross-border communities should be empowered to lead reconciliation and peacebuilding dialogue, and to secure access to natural resources in cross-border areas (including water resources, pastures, introduction of new fodder species in pilot locations). Neutral facilitators and mediators can be trained to lead the dialogue within and between communities and different ethnic groups. South Sudan is also facing the largest refugee crisis in Africa that is affecting mostly women and children. Given the magnitude of the crisis, this pillar under Strategy 4 would need to provide support for technical assistance during preparation of the development of legal and practical guidance on: (i) how to address land conflicts; (ii) how to allocate and protect land tenure rights of returnees including IDPs and refugees; and (iii) compensate for the loss of their rights (see pillar 2 below on increasing land tenure security).

253 **A second intervention consists in deepening the knowledge about the situation by:**

i. a participatory livelihood analysis at community level for a shared understanding of livelihood needs and strategies; and
ii. evaluation of the effectiveness of existing peacebuilding interventions. According to the UN Peacebuilding Fund, mapping and systematization of peacebuilding interventions, including by customary authorities and religious actors, initiated by the South Sudan Reconciliation, Stabilization, and Resilience Trust Fund, can be expanded and institutionalized through the Ministry of Peacebuilding.

254 **A third intervention is about solving the most immediate issues that threaten livelihoods and can thus jeopardize mid- or long-term peacebuilding.** Immediate investments can address the urgent livelihood needs of all groups involved in conflicts or a stalemate of peaceful relationships through animal health services, provision of grazing land, pasture, water points or others. Policy and local institutions should be empowered through early warning information about food

security. Training and capacity development can facilitate improvement of the health and quality of livestock (with harmonized animal health approaches across borders) and crop production. Strengthening services and providing inputs help improve the resilience of pastoralists and agropastoralists (e.g. increasing the productive capacity of seed vendors, provision of agricultural kits). Livelihoods can also be strengthened by promoting livestock trade through cross-border deals and agreements, and supporting market infrastructure in strategic locations.

255 **The second pillar of Strategy 4 is building capacities to increase land tenure security.** This investment pillar aims at supporting the Government of South Sudan to clarify and protect existing land tenure rights in situations of instability and conflict, while building up long-term capacities to secure them. During the next five years, first this strategy proposes to conduct a sound assessment of the land tenure rights situation to use as a base for any agricultural investment. Most activities discussed in the three investment strategies, previously mentioned, are likely to involve access to and the use of land and land-related resources. In line with the United Nations General Principles for Intervention (UN, 2019), strategic planning of agricultural investment should include prior assessment of relevant local land actors, existing land conflicts and disputes, housing, land and property rights, (overlapping) user rights, and customary tenure systems.

256 **A second investment in this pillar would be to implement pilots to clarify, document and protect land tenure rights, pastoral movements and grazing points in preselected areas.** The pilots would first require to clarify and protect the rights of returnees, including IDPs, refugees and other individuals and groups whose land tenure rights were negatively affected or lost in the conflicts. This involves supporting customary, traditional systems to deal with the influx of non-indigenous people in the community. This entails the restitution of land tenure or property rights to the rightful owner, and compensation of individuals or the community for lost land and property, which could be related to appropriation by individuals, private actors or government. This is especially true in the case of migrants and women who are considered as “outsiders” by customary land tenure systems. This will require identifying effective tools to address i) individual and household rights of IDPs and refugees that were lost in the conflict itself; and ii) longer standing historical grievances and injustices which are mainly claims made by groups. An essential base for the use of any tool will be dialogue and negotiation with those managing, using and depending on land. Furthermore, in areas where the return of displaced people risks fuelling violent disputes with the communities involved, immediate investments for peacebuilding and support for livelihood strategies of the returnees and communities (such as suggested under pillar one) can be the starting point for lowering tensions. This also aims at fostering peaceful management of land resources and the gradual transition to formal tenure and registries that mitigate the risks of land disputes over time. Traditional methods can provide an entry point while measures should be put into place to address inequality and injustice embedded in customary systems. Strengthening formal justice systems and access to them at the local level is necessary to protect the disadvantaged/marginalized groups such as women and young people.

257 **Second, the pilots would require addressing land tenure conflicts and injustice.** Rights should not be formally registered in areas where there is conflict or before disputes are arbitrated and resolved. They can however be implemented in less conflict-affected areas to secure legitimate tenure rights.[11] These rights can be registered in land registries, and the existing information in the registries should be verified against *bona fide* landholders on the ground. The location of such pilots should be based on selection criteria that are defined with the government, and field missions that would determine whether the criteria are met. Results of the pilot could inform the prospects for upscaling in other areas (Deng, 2014). While it is challenging to document reliably and protect pastoral rights over time through registries, this strategy recommends mapping their movements, grazing points, and social and economic activities, including changes over time and seasons.[12] These results would help local government and traditional authorities to enforce the respect of tenure rights held by different groups and protect the use of grazing and agricultural areas. Ideally, this activity would be integrated into a larger framework of territorial development presented in pillar 1, so that it contributes to community decision-making on land tenure and natural resources management. Climate change should be factored into the process as in the near future it would modify the availability of water and pastureland resources.

258 **From a long-term perspective throughout and beyond the next ten years, building the capacities of land administration can set the base for establishing a land-related taxation system.** This encompasses investing in:

i. undertaking a comprehensive capacity assessment of land administration, including the roles and responsibilities of and coordination between different government institutions, so as to advise land reform discussions, and open perspectives for long-term improvement of land administration services at all administrative levels; and
ii. strengthening capacities in the public and private sector to allocate, document and manage land rights and land use planning; in particular targeting the Ministry of Lands, Housing and Rural Development, responsible for urban and rural land tenure, land administration offices at the state level and establishing land administration services at local level in proximity to communities.

11 The first principle of the Voluntary Guidelines requires recognizing and protecting legitimate tenure rights regardless whether they are formally recorded or not. See also FAO. 2012. *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security.* www.fao.org/3i2801e/i2801e.pdf

12 CIRAD developed a methodology for this.

Table 6
Sequence of investments for Strategy 4

	Pillar 1 – Territorial development and conflict resolution	Pillar 2 – Building capacities to increase tenure security
Immediate (1–2 years)	◆ Establish early food security warnings. ◆ Provide services and inputs for improved resilience. ◆ Evaluate peacebuilding interventions. ◆ Train neutral mediators. ◆ Support dialogue between conflicting parties and local government through trusted third parties (UN agencies).	◆ Assess the land tenure rights situation before agricultural investments. ◆ Map livestock movements, grazing points, social and economic activities changing over time and seasons. ◆ Develop legal guidance on addressing the rights of IDPs, refugees, women and other vulnerable groups. ◆ Clarify and protect the rights of IDPs, refugees, women and other vulnerable groups.
Medium term (3–5 years)	◆ Support livestock trade and market infrastructure. ◆ Support disadvantaged groups with viable livelihoods. ◆ Reconcile peace committees with traditional dispute resolution mechanisms. ◆ Support pre- and post-migration conferences. ◆ Secure access to natural resources.	◆ Implement pilots to document and protect land tenure rights and herd migrations in selected areas. ◆ Capacity assessment of land administration.
Longer term (over 5 years)	◆ A longer-term strategy of coordinated support for conflict resolution and peacebuilding needs to be developed. It can be informed by the results of immediate and medium-term investments.	◆ Capacity building of administration to document and manage land rights and planning. ◆ Establish land taxation system.

Source: Authors' elaboration.

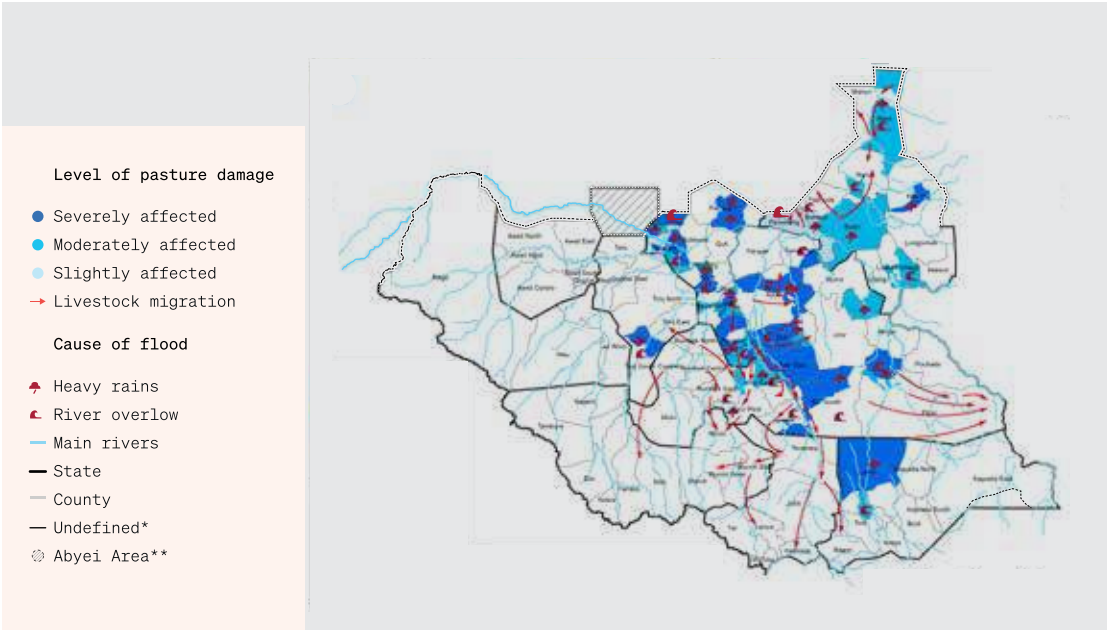

Figure 19
Livestock migrations due to flooding

Source: FAO South Sudan – Natural Resources Management Unit.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

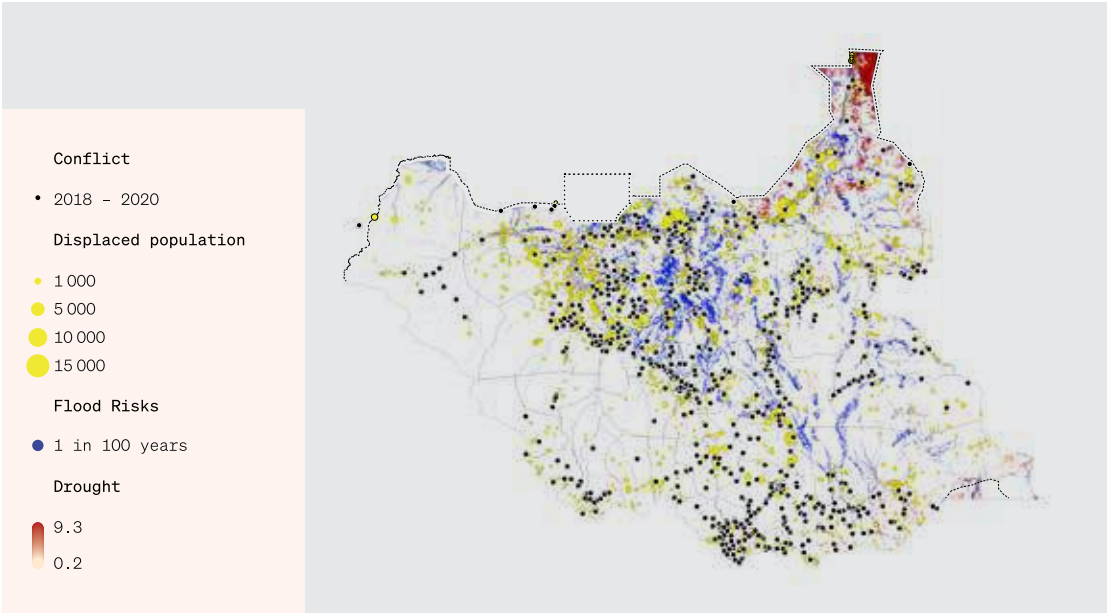

Figure 20
Conflict, IDPS, flood and draughts risks

Source: Authors, data based on ACLED. 2021. CDT spotlight: growing pressure in South Sudan; IOM. 2020. *World Migration Report 2020*. Geneva; GFDRR / World Bank Disasters, risks and displacement Intersectional Risks in South Sudan; FAO/GIEWS. 2018. *Special Alert No. 342: The Sudan, 26 January 2018*. Record prices of food staples in December 2017 endanger food access. Rome.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

Roles of stakeholders

259 **The transitional government** is responsible for accelerating the implementation of the 2018 Revitalized Peace Agreement, constitution-making, transitional justice and economic reform, and more importantly, the unification of different political and conflict forces. Its role in creating the conditions for peacebuilding is critical and time-sensitive given the local tensions, continuing violence and alarming food security.

260 The success of a comprehensive strategy to address cattle related violence will require the **commitment of and collaboration between local and national authorities,** including line ministries, rule of law institutions, state-level ministries, and municipal authorities. The National Land Commission, set up through the 2005 Comprehensive Peace Agreement, is charged *inter alia* with the arbitration of land conflict, formulation of recommendations for land policies and the recognition of customary land rights and law, and assessing appropriate land compensation. This includes the reconciliation of customary laws and practices, local heritage with international practices and relevant national laws through amendments. The national government and institutions, in particular the Ministry of Lands, Housing and Rural Development, responsible for the administration of urban and rural land tenure. The land administration offices at the state level have a major responsibility for the establishment of land registries and supporting local communities to develop land administration services.

261 **Political representatives at state and county levels** enjoy relative legitimacy irrespective of their party affiliation. Local governance can play a considerable role in local conflict management and civilian protection. According to the 2009 Land Act, the County Land Authority is responsible for allocating public land subject to approval by the state ministry and to facilitate the registration and transfer of land. The Payam Land Councils are responsible for the management and administration of land in the different bomas composing the payam.

262 **Customary authorities** play an important role in the attribution of land tenure rights and furthermore, in conflict prevention and management as well as local justice provision; however, this will not be a linear process. As a consequence of civil war and conflict, customary systems have eroded, which can potentially be the cause of a contentious relationship with young people. Furthermore, decisions are not necessarily neutral and fair, in particular regarding women's land rights. Their responsibility will depend on negotiations between state authorities, local government, and community and village stakeholders.

263 **Civil society and NGOs** are major implementing partners in peacebuilding projects. Although there are many of them, they are able to reach communities and have considerable convening power at the local level, in addition to contextual knowledge. That said, national NGOs do not have the leverage to influence government decision-making.

264 **Religious actors** play a critical role in subnational and local peacebuilding across the country. In many regions integrative organizations can serve as a bridge to community lines and avoid exacerbating ethnopolitical divisions. Muslim communities have played a significant role in conflict management and prevention, for example, in the Yei area (UN, 2021).

265 **Neighbouring countries** such as Uganda, Kenya, Ethiopia, and Sudan are currently aligned with shared security interests, also in the context of significant past and potential refugee movements across borders. Sustaining unanimity will be key to reducing the risk of destabilizing interference to serve geopolitical interest.

266 **International actors** support peacemaking and the alleviation of suffering. Development partners can fill strategic investment gaps in order to advance peacebuilding, and support the government to build capacities to sustainably manage land and natural resources, and in the long term move away from institutionalized development aid. The implementation of this strategy could rely on the "One-UN" approach through collaboration between FAO, UNMISS (Civil Affairs Division, Rule of Law Advisory Section, and Human Rights Division), International Organization for Migration (IOM), United Nations Development Programme (UNDP), UNICEF, UNESCO, UN Women, and United Nations Industrial Development Organization (UNIDO).

Relevant policy gaps and opportunities

267 **This strategy would contribute to the following objectives of the United Nations Strategic Response Plan to Mitigate Cattle Raiding-Related Conflict in South Sudan 2019–2025:** (i) promoting peaceful interaction and dialogue between communities; (ii) enhancing equitable access to water and natural resources, notwithstanding ethnic geographies; (iii) enhancing commercial oriented livestock activities and alternative livelihoods. Complementary interventions or links are to be established with the following two other strategic objectives: a) promoting and strengthening rule of law and accountability for cattle raiding-related crimes; and b) supporting the change of harmful and inequitable social and gender norms and behaviours that promote cattle raiding and underpin other forms of violence, including against women and girls.

268 **The R-ARCSS provides concrete measures to address land reform gaps** within determined timeframes and envisions a national debate to review the Land Act (2009) and the national land policy. Following the R-ARCSS, South Sudan is currently undertaking a review of legal and policy frameworks, constituting an opportunity to address gaps and shortcomings. With support from IGAD the government is reviewing the draft land policy, aiming at the completion of the process by August 2021. Finalizing and implementing the policy, especially the proposed Community Land and Land Registration Acts, is critical to addressing the existing policy and implementation gaps related to the transformation of the agricultural sector.

269 **The R-ARCSS also requests the establishment of an independent registry of land** at all levels of government for the issuance of titles to empower land commissions at different levels of government, in order to interpret tenure legislation and reflect customary systems, and assistance to the mediation of conflicts arising from land. This work requires significant resources and long-term investment for building capacities to create and manage registries and deliver land administration services.

270 **FAO is supporting the government in a legal review of land policies and legislation,** based on the Voluntary Guidelines on the Responsible Governance of Tenure (VGGT), of land fisheries and forests in the context of national food security. The results of the assessment can provide recommendations on the content of the land tenure reform process and inform land policy dialogue.

271 **The government of South Sudan may consider enhancing multisectoral and multistakeholder policy dialogue on tenure and natural resources.** Following the recommendations of international best practices specified in the VGGT on land would involve the ministries and government institutions, local government and customary leaders, civil society organizations representatives, the private sector and technical and financial partners. This can also enhance room for exchange between humanitarian, peace and development actors to make sure that laws and policies are adapted to the challenges and practices at local level.

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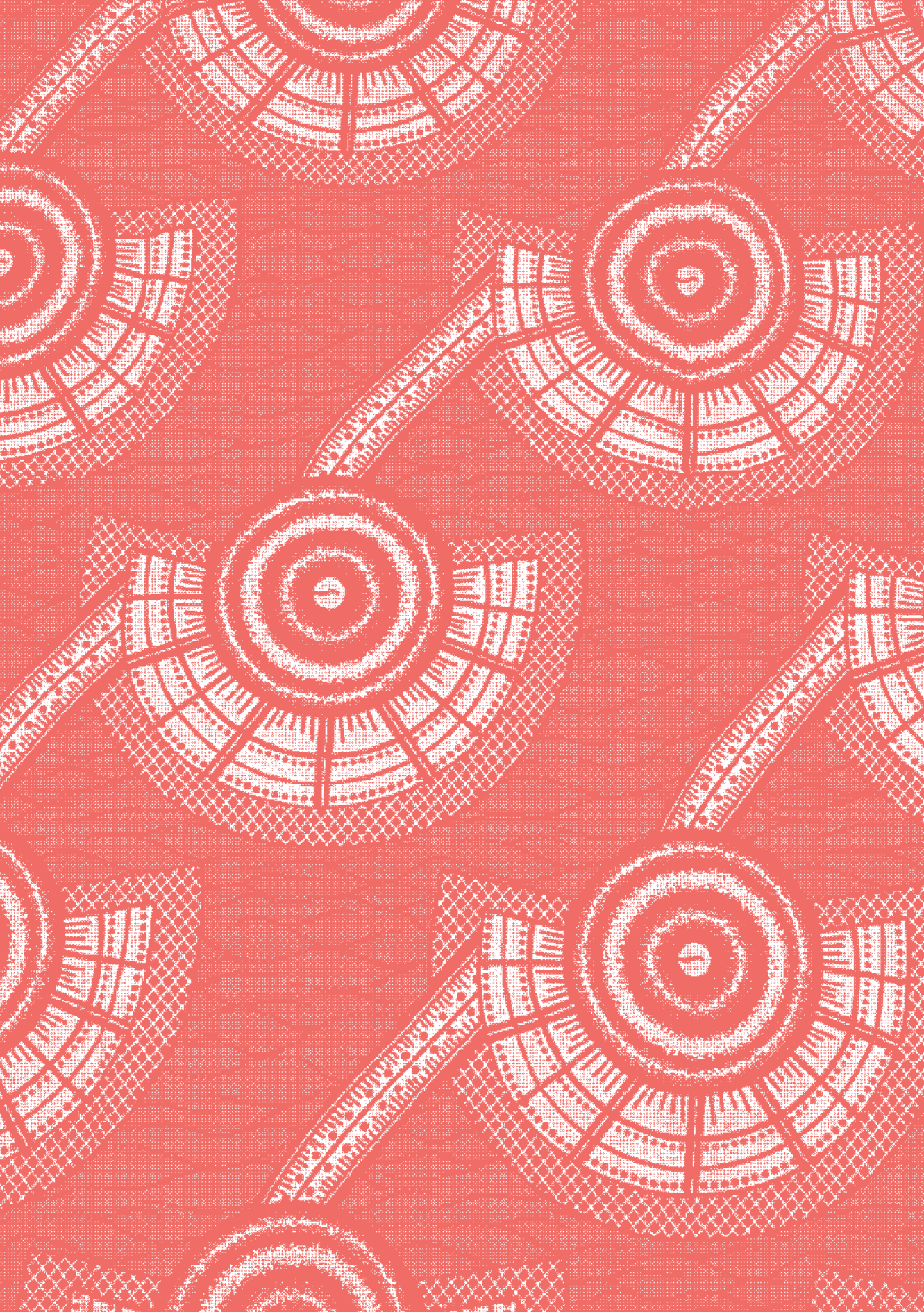

Conclusion: The need for adaptive programming

272 **The study aims to identify future interventions and their geographic focus, which would have a great impact on stimulating and sustaining agricultural growth in the current South Sudanese context.** This context requires the adoption of a range of strategies which could be implemented in various spatial combinations and phases in order to achieve a set of development challenges facing the country. Chapter 3 discussed the following four distinct yet interrelated strategies: (1) agriculture production; (2) community resilience and social capital; (3) value chain and jobs; and (4) peace consolidation. The four strategies do not exclude each other. On the contrary, they are synergistic and are meant to be combined over time and space. In other words, a combination of these strategies and the synergy between them would be blended to take advantage of their complementarity, making them beneficial. Increasing primary production (Strategy 1) would pave the way for the investment needs in value chain development (Strategy 3) when the macroeconomic situation and stability are conducive, and there are sufficient surpluses of locally produced raw materials. At the same time, Strategies 2 and 4 propose two complementary mechanisms to consolidate peace, respectively focused on building human and social capital and on territorial approaches in pockets or regions where conflict persists. Alternatively, in some locations implementing Strategy 4 can be a pre-requisite for applying the other three strategies. International experience shows that CDD interventions largely focused on social capital often led to broadening the scope of interventions, so as to cover more technical requirements (Strategy 1).

273 **However, the context in South Sudan is highly volatile, rapidly changing and unpredictable, which calls for a flexible and adaptive way to combine investments based on these four strategic strategies:** At the time of this analysis, some feared a recurrence of widespread conflict while others were more optimistic and highlighted the progress made by the current peace negotiations and high degree of war fatigue. Lessons from the past decades prove that post-conflict recovery is not a linear process with a partial and localized reversal of improvements. As such, development projects and investment portfolios in South Sudan require the flexibility to adapt to changing local security situations and geographical circumstances. The complexity comes from the fact that the effects of a security situation are the combination of other factors deeply affecting the agricultural and food sector, such as access to natural resources, climate impacts (as seen during 2019 and 2020 floods), the macroeconomic stability, and governance issues. We have identified the seven main key factors and risks that need not be avoided, but managed by adapting the implementation of the strategies.

274 **First, the level of insecurity, violence and instability is the most important factor to take into account,** as it leads to human suffering, starvation, looting of assets (including livestock), restriction of movement of people and agricultural inputs, goods, and increases in the influx of IDPs and refugees, which in itself could become a source of localized conflicts. Other types of conflicts could restrict investments in livestock management (cattle raiding) or longer-term assets for fear of theft, looting or destruction, and prevent the development and growth of agrifood value chains, which would deeply affect development outcomes under Strategies 1 and 3 in particular. In addition, conflict dynamics and continuous life threats destroy collaborative endeavours, generate a culture of mistrust and revenge, and limit access to new resources. Nonetheless, past experiences in South Sudan and comparable FCV countries show that development activities can be successful despite difficult contexts. Despite the violent conflict situations, support to build structural responses to the needs of the people remains all the more crucial.

275 **Contingency planning needs to adapt to the evolution of the security situation over time.** The four investments strategies discussed in Chapter 3 offer an array of responses to be combined with different weights depending on how the situation evolves, as shown in Figure 21. A deterioration of the situation on the ground would require more attention to Strategy 4 (peace consolidation) and Strategy 2 (community resilience and social capital), while a more stable local situation would enable more investments within Strategy 1 (agricultural production) and Strategy 3 (value chains and jobs).

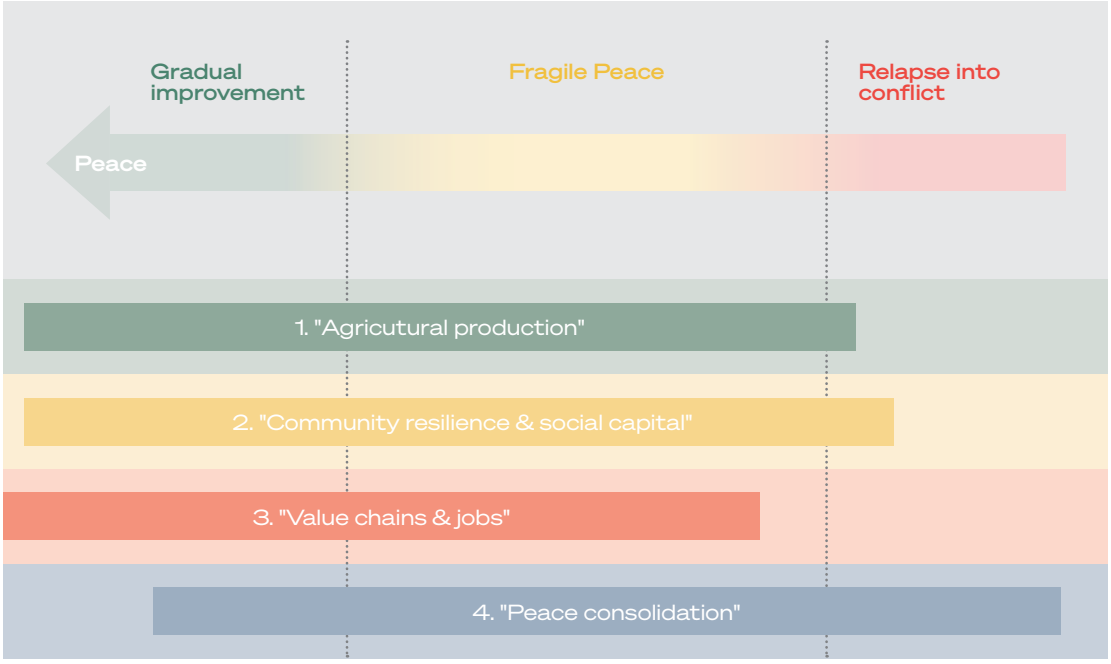

Figure 21
Spread of investment strategies over conflict evolution

Source: Authors' own elaboration.

276 **Assessing the level of improvement or deterioration to adjust investment strategies would require the monitoring of a few key existing indicators.** Useful secondary data have already been collected by UNMISS, international organizations such as IOM, NGOs, the International Crisis Group (ICG) and international projects such as ACLED. Indicators to be monitored could include:

i. the annual change in armed conflicts (from ACLED), which is critical to assessing the geographic evolution of insecurity affecting primary production and movement of agricultural products;
ii. the annual variation in number of IPDs/returnees (IOM), to assess people's perception of insecurity and the need to resettle, both of which are relevant to all of the strategies.

Finally, the nature of these changes in IDP numbers and violent conflicts (e.g. ethnic, natural resources management, access to land, returnees or IDPs against local population) should also be understood so as to adapt the content of the responses through the proposed strategies, in particular 2 and 4.

277 **Geographic considerations are critical in FCV situations such as South Sudan.** Investment Strategy 1 (agricultural production) is probably required in all counties with good agricultural, livestock of fishery potential, provided there is relatively good road accessibility and low-level of conflict and violence. Strategy 2 (community resilience and social capital) would mostly be required in areas with high poverty rates and/or vulnerability to shocks related to human conflicts or natural disasters. Strategy 3 (value chains and jobs) could only develop in relatively stable areas, with good production potential and infrastructure and provided that macroeconomic stability enables sufficient financial viability for private entrepreneurs. Strategy 4 (peace consolidation) will be largely required in areas with conflicts over natural resources, involving cross-border issues or related to frictions between herders and sedentary farmers.

278 **Figure 22 illustrates how the balance created by blending the four proposed strategies could evolve depending on how security and peace improve or deteriorate over time.** These sketches are by no mean maps for planning purposes, nonetheless they are a simplified way to visualize the changing focus of investment strategies to adapt to evolving conditions. The right-hand map shows a security situation that is improving, while the left-hand map shows some deterioration. It is understood that the road to full stability is rough and not linear. Improvement or deterioration of the situation is based on the evolution of armed fighting, killings and the displacement of people. Strategies 1 (green) and 2 (yellow) would be required in large parts of the country and should be balanced based on local needs related to the persistence of conflicts and fragility (requiring more of 2) and stability that enables seizing agricultural potential (more of 1), hence varying tones of green and yellow. Strategies 3 and 4 would be more localized. In the right-hand map, the slowly improving peaceful situation would allow for more of the value chain development interventions in red dots (Strategy 3), which again should be considered as purely indicative. In turn, an aggravated intensity of conflicts would require more of Strategy 4 (blue stars) assuming that some of the interventions foreseen in Strategy 4 would also be required far beyond specific hotspots, to broadly consolidate peace through a conflict-sensitive investment or work on securing land tenure.

Regardless of the evolution of South Sudan's security situation, a conflict-sensitive approach will be essential to carefully plan, design and implement investment strategies. The aim of conflict- sensitivity is to provide the tools that can raise awareness of desired and undesired interactions, and to make conscious choices that positively influence peace. The ultimate goal is to improve the effectiveness of investments and navigate the risks and opportunities associated with their objectives in South Sudan's particularly challenging context. Conflict sensitivity means: i) understanding the context in which investments are operating; ii) understanding the interaction between them and the context; and iii) taking action to avoid negative impacts and maximize the positive impacts on conflict and stability. The objective can range from taking a minimum approach to do no harm to deliberately addressing conflict drivers (CSRF, 2019). Conflict-sensitive engagement in South Sudan can operate at the policy level based on ministerial or central level decisions, through country or sectoral strategies, and at the programme and project level. It is paramount to adopt this approach in the preparation and design stage so as to frame investments, and continue its practice from implementation to evaluation, adaptation and redesign of interventions (CSRF, 2017). In addition, recent research stresses the need to integrate climatic factors into the analysis. Flooding and droughts for example, significantly disrupt livelihood patterns and food security, and can intensify competition with natural resources, sometimes leading to cattle raiding and communal conflict (CSRF, 2021).

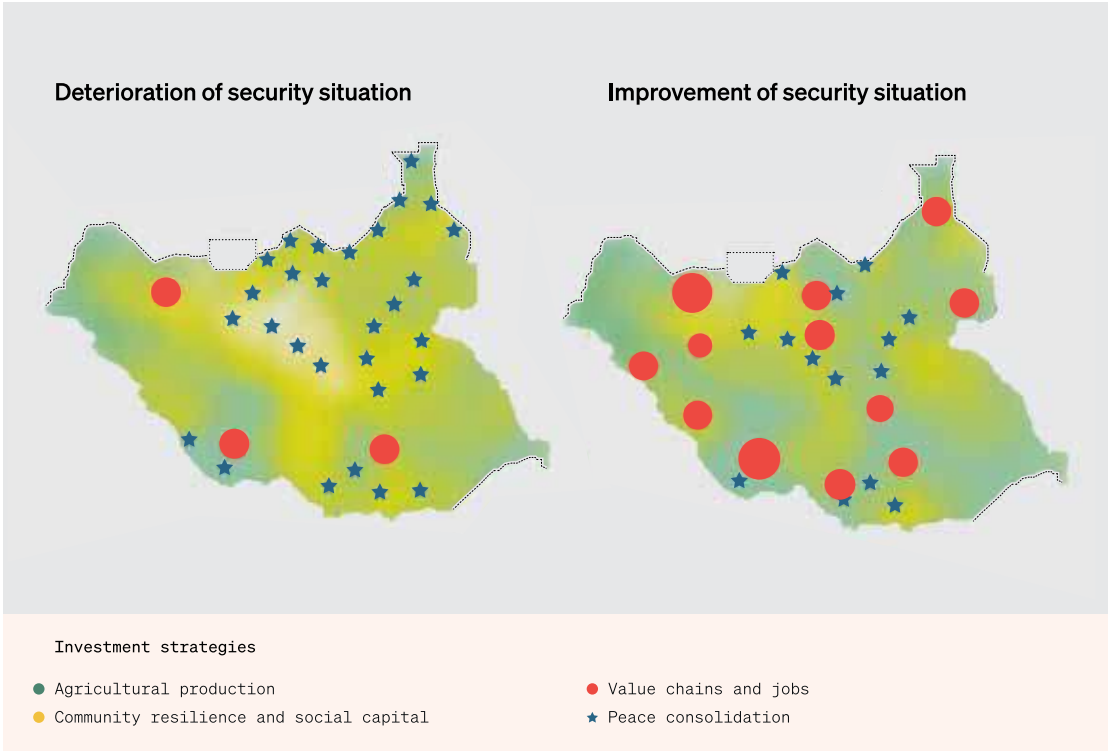

Figure 22
Illustrative spread of investment strategies for agricultural development in South Sudan depending on the security evolution

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

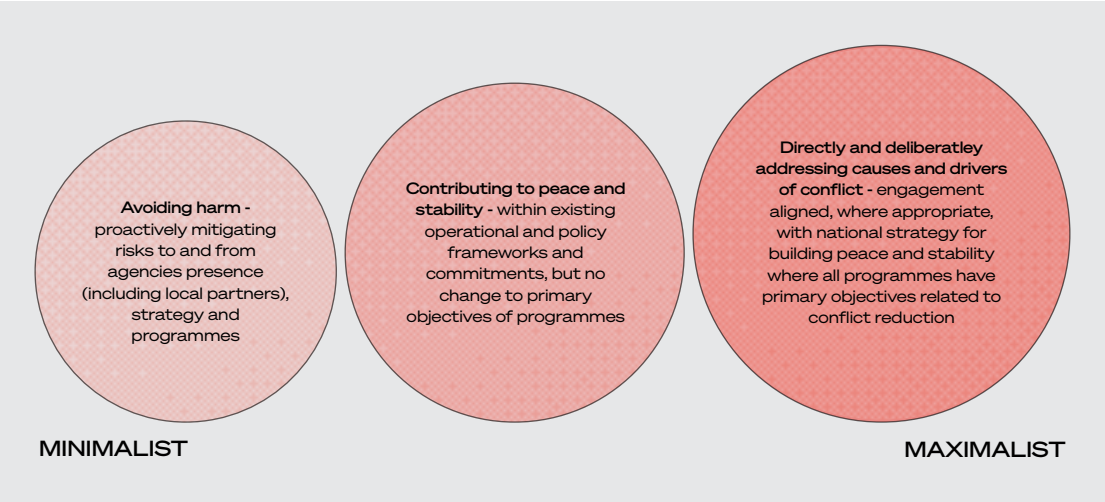

Figure 23
Typology of interventions around peace sustaining activities

Source: FAO. 2021a. *Evaluation of FAO's Contribution to the Humanitarian-Development-Peace Nexus: 2014–2020.* Short version.

279 **In addition to being conflict-sensitive, the proposed strategies could all potentially bring peace dividends.** As recommended by the promoters of the HDP nexus, interventions in FCVs should be conflict-sensitive to avoid harm (its minimum) by contributing to peace and stability or even directly addressing the causes and drivers of conflict (see Figure 23). Community-based approaches as proposed in Strategies 1 and 2 have proven to be one of the most resilient types of intervention in fragile areas and also contribute to peace stabilization and conflict mitigation. There is for instance evidence of contributions to peace by the FFS (Strategy 1) or by the Dimitra Clubs in the Democratic Republic of the Congo through women's empowerment. Bringing them up to scale is one of the purposes of these scenarios. CDD approaches build on existing forms of social capital to address challenges and strengthen leadership to effectively resolve localized conflict. Strategy 4 is specifically designed to address the causes and drivers of open conflicts *vis-à-vis* natural resources management.

280 **Besides conflicts, managing various other risks associated with FCV situations is critical for successful investment outcomes.** Thus, a second risk factor is the lack of progress with governance and policy reforms. The continuing weak rule of law contributes to predatory rent-seeking behaviour and could jeopardize efforts to revitalize local production, the marketing of surpluses and development of the private sector, especially under Strategy 2. The analysis shows that the government should make important decisions to address policy gaps and the most critical governance issues to allow the proposed investments to produce their effects. The progressive realization of the investment strategies will depend on these policy choices, including the update and adoption of most important policies, the regulation of formal and informal taxes on the marketing and movement of agricultural products. Land tenure insecurity is another major governance risk for those investing in agricultural production in the long run (Strategies 1 and 3). This risk is exacerbated by the uncertainties related to the movement of IDPs returning to their original communities or other ones, and the risk of conflicts for those who have remained and used the land. Strategy 4 is designed to manage this risk.

281 **Weak institutions are associated with the risk of elite capture and other political economy distortions, constituting a third risk factor.** This is particularly relevant for strategies aiming to build on the association of people such as Strategy 2 (CDD) and 3 (cooperatives). Past community mapping revealed that in multiple communities, some local leaders had monopolized or diverted resources from NGO activities to benefit themselves or their close network (PROPEL South Sudan, 2018). Corruption in the local government as well as among traditional and military figures is rampant, consequently, local leaders are attempting to divert or control project resources. Mechanisms must be put into place to discourage self-interested stakeholders and ensure open consultations. A key issue is to balance the community participation in CDD activities, ownership and accountability for the distribution of resources to be construed as transparent, open and fair. Good quality facilitation mechanisms that encourage the inclusive process and participation of all would contribute to mitigating the risk of elite capture.

282 **Persistent cultural barriers to women are a fourth risk factor.** Empowering women at both the national and local level is an opportunity to strengthen resilience and improve nutrition. However, cultural barriers to women and youth participation in community decision-making processes could hinder this lever, given the longstanding allocation of roles and responsibilities among men and women, male and female youth. Women could be excluded from information, education and skills training they need in order to participate. Women, especially female youth, sometimes feel that they do not have access to timely and appropriate information. Inclusiveness thus needs to be mainstreamed across all aspects of Strategy 2 programming.

283 **Fifth risk factor: natural disasters, another key element of South Sudan's investment landscape that can disrupt the agricultural sector and food security,** as was experienced during the 2019 and 2020 floods. This report has shown that recent natural disasters not only have immediate consequences (requiring rapid responses) but longer-term ones such as displacement of people and livestock, potentially leading to accrued tensions. Droughts, locust invasions and land degradation add to these risks that will only increase in the face of climate change. The COVID-19 pandemic has also constrained the movement of people and goods, thereby affecting Strategies 1 and 3. Finally, natural disasters might further divert attention and resources away from structural investments to cover immediate needs. For example, the continuation of some short-sighted humanitarian approaches such as the free distribution of inputs could contribute to behaviour support and undermine the development of the private sector. Managing these risks calls for interventions that systematically factor in resilience. The community-based approaches contained in Strategy 1 (agricultural production) and Strategy 2 (community resilience) are specifically designed to enhance the situation in areas the most affected by natural disasters. In addition, the promotion of climate-smart agriculture approaches can help communities adapt to changing climate conditions.

284 **Sixth risk factor: the macroeconomic stability impacts on the viability of all investment strategies,** especially Strategy 1 (agricultural production) and even more so, Strategy 3 (value chains and jobs) that can be particularly affected by exchange rate distortions, hyperinflation, trade policy distortions, and oil revenues that partly determine the level of budget resources available to non-oil sectors.

285 **Seventh risk factor: the low consumer demand resulting from widespread poverty is a significant constraint for supply responses** required for the diversification of agriculture production (Strategy 1) and further processing and value addition to food products (Strategy 3). When feasible, development aid projects should consider temporary guaranteed purchase agreements from aggregators and producer groups, potentially in coordination with cash transfers programmes. Development partners and NGOs can also support local purchases of food aid from surplus areas. All such efforts must carefully screen for any unintentional effects on inflation.

286 **Eighth risk factor: the development of infrastructure and services will condition the potential impact and feasibility of the four investment strategies,** in particular Strategies 1 and 3. Development of the banking sector would benefit those entrepreneurs investing in agribusiness. Furthermore, upscaling would be particularly crucial for Strategy 3 (value chains and jobs), as would electricity access and off-grid solutions to allow for cold storage and processing. Further coverage of an internet connection would support the development and adoption of innovative digital technology solutions relevant to all four strategy scenarios, from ICT-based extension to market information and access and capacity building. The construction or rehabilitation of roads that could unlock the potential of currently remote agricultural areas and allow the transportation of agricultural inputs and goods across the country and beyond is crucial for Strategy 1 (agricultural production) and 3 (value chains and jobs) to reach their objectives.

THE WAY FORWARD

287 **The agricultural transformation pathways in South Sudan must be led by the government through an inclusive and multistakeholder process to ensure a broad country ownership.** Besides the government, other stakeholders include those currently involved in the food and agriculture sectors such as development partners, NGOs, civil society groups and nascent private sector representatives. This process should not only concern the central authorities but also the state (and county) level stakeholders, given the diversity of geographical conditions and the evolving security situation. This would be in line with the decentralization policy of the country to devolve to states and county implementation responsibilities. This discussion should also be aligned with the existing priority setting process (in particular the CAMP) as well as CAADP policy review. This process would lead to a consensus on how to best blend the four proposed investment strategies.

288 **The government also has the critical responsibility to make important policy and governance decisions** that will condition the viability of the proposed investment pathways. These relate to:

i. updating and approving critical policies relevant to agriculture and the food sectors;
ii. preventing undue taxes and levies on the movement and marketing of agricultural products that jeopardize strategies 1 and 3;
iii. increasing its share of budget resources in agriculture (along the CAADP principles) to enhance its capacity to implement critical public functions and encourage development partners to further invest in food and agriculture;
iv. improve macroeconomic stability that is a prerequisite for investing in developing domestic value chains;

v. develop policies to encourage youth employment as a means to develop a vibrant and innovative agrifood sector and divert them from resorting to violence and conflict;
vi. direct non-agricultural public investments such as road infrastructure, electricity and internet connection to best benefit the agrifood sector and rural development in general.

289 **Finally, in such a fragile and unpredictable situation, building partnerships to develop, finance and implement these strategic investment scenarios is critical.** The process could build on the existing humanitarian aid and economic development coordination mechanisms such as the PfRR. There is also an opportunity to benefit from connecting with other initiatives. At the time of the final publication of this report, this had been the case in two instances: the United Nations-led Food System Dialogue and the associated European Union/FAO Food System Assessment and Stakeholder Dialogue that took place in May and July 2021. They largely built their content on this piece of analytical work, which therefore allowed for a much better-informed participation of South Sudan in view of the September 2021 World Food Systems Summit. These processes sought to achieve a broader understanding of the current state of national food systems as well as develop a shared understanding of the priority challenges for their sustainable and inclusive transformation. In addition, this analysis has been an important building block for the successful proposal to the Global Agriculture and Food Security Program (GAFSP) in December 2021, aimed to develop POs in South Sudan.

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Annex 1
Consultations with national stakeholders

	Institution	Meeting date	People attending	Main topics discussed
1	World Bank team	13 November 2020	Paavo Eliste Parmesh Shah Vivek Prasad Yamina Charrou Benoist Veillerette	Scoping of the work Private sector in South Sudan Access to social media Vivek's contributions
2	FAO Resilience and Fisheries teams	30 November 2020	Etienne Juvanon du Vachat Alberto Bigi Abdal Monium Osman Felix Marttin Redeat Demissie	High potential for fisheries sub-sector (resilience, nutrition, market) Partnership for resilience and recovery Global Network against food crisis (FAO, WFP, UNICEF, EU) Literature review (before independence)
3	USAID	16 December 2020	Brian Hilton	Need to support youth Review of potential of various commodities USAID interventions in agriculture
4	The Netherlands	17 December 2020	Michiel Smet Mylinda Justin Lorraine Dixon (FAO)	Markets vs barter Constraints to agribusiness development Taxations on ag products
5	UK Aid DFID	18 December 2020	Hugh King Malcolm Smart	CAMP Constraints to private sector development Lack of digital infrastructure
6	Ministry of Agriculture and Food Security	23 December 2020	George Tadu Laurence ortika Joseph Dr Leju	Briefing by the team on the nature and scheduling of the piece of work CAADP Directorate of planning of the MAFS
7	The European Union (EU)	8 January 2021	Elizabeth Belocchi Manual Ancilotti Tonderayi Makoumire	Need for a long-term approach and to invest in infrastructure European Union programming Need to strengthen national/local capacities for sustainability CAMP and (lack of) policy implementation Need to work at community level WFP aggregation centres
8	SIDA	13 January 2021	Petter Merrick, head of South Sudan office Foda Michael, national Programme Officer Elin Ahlberg Programme Manager	Partnership with FAO Relevance of the concept note Need to invest in long term private sector development
9	WFP	14 January 2021	Hsiao Wei Lee Aleksandra Krajczynska	WFP/FAO Food Security Cluster WFP activities Need to have a continuum between humanitarian and longer-term development; humanitarian assistance is not what creates the problem; instability will remain an important feature in coming years.

(Continued)

	Institution	Meeting date	People attending	Main topics discussed
10	CORDAID	18 January 2021	Enkas Chau Teshale Endalamaw Nigel Ellams	Cordaid activities Small business development Partnership with SSAPU, SPARK, Agriterra Value chain development
11	GIZ	19 January 2021	Susanne Neiro Peter Lomude Emmanuel Jonah Duku	GIZ-financed Food Security and Agriculture development project Private seed sector Farmer Business schools
12	JICA	21 January 2021	Tamiko Hirata, Yoshifumi Yamanaka Wani Tombe Lukak Makoto Yamane	CAMP; discussion on the structure, process of development, JICA support JICA support to capacity development of the ministries and state institutions to implement CAMP
13	IFAD	21 January 2021	Bernadette Mukonyora	IFAD portfolio in support of CDD Cooperative and FO development Government capacity to implement Capacity needs assessment with ILO
14	Seed Trade Association	21 January 2021		Activity and organization of the association Private seed development Issue of free distribution of seeds and of seed quality
15	Agriterra	28 January 2021	Festo Ayiga Amunda Nancy Lumeit Niek Thijssen	Cooperative movement: 32 coops/1209 members so far Work with SSAPU Partnership with Cordaid Work on structural needs is relevant also in conflicts
16	SSAPU2	28 January 2021	Jimmy Kato (CEO) Nelson Kole (Field Manager)	Promotion of GAP and extension Development of cooperatives Policy constraints
17	World Bank Chatam House Webinar	28 January 2021	Luka Kuol Charles Wani Philip Amandi	Future scenarios of South Sudan Importance of non-oil sectors to counter Dutch disease Enormous ag potential of the country that could be food basket Some environmental degradation, deforestation, climate change
18	SPARK	1 February 2021	Pieter De Vries Benjamin Ndikiri	Entirely support move from aid dependency to development of business Support to VSLA/SACOs
19	STO	2 February 2021	Stephen Tangun Joel Binza	Issue of marketing (importing is easier than domestic marketing) Weak capacity of private sector Development of livestock
20	Cooperative Bank of South Sudan	5 February 2021	Elijah Wamalwa (CEO and Managing Director); Andrew Dibira.	Mandate, history and activities of the bank Bank clientele Issue of collateral and ways to address it

(continued)

	Institution	Meeting date	People attending	Main topics discussed
21	MAFS	15 February 2021	Dr Akim Gordon John Pangech	CAMP implementation
22	Youth Foundation Initiative	16 February 2021	Albino Gaw, Managing Director	Private support development Agribusiness and cooperatives – 3-stage level of support Examples of successful coops (vegetables, peanut butter)
23	FAO South Sudan	22 February 2021	Leila Shamsaifar Lorraine Dixon	Conflict mitigation Peace commission Land and water management and conflicts
24	USAID	24 February 2021	Brian Hilton	Follow up meeting to the previous one
25	UNMISS	24 February 2021	James Arguin Nathalie Mazur Christina Serena Rosati	Justice and accountability work Support to justice systems based on local authorities and mobile courts; legal reforms Conflicts over livestock Land tenure, land registration
26	FAO South Sudan	24 February 2021	Alemu Manni Lorraine Dixon	PfRR P4P Issue of marketing
27	FAO South Sudan	2 March 2021	Wilson Makuwaza Leila Shamsaifar Geraud Doueme Djueyep	Livestock sub-sector; animal health; disease surveillance Need for market facilities, cold chain, access to water.
28	FAO	5 March 2021	Marco De Gaetano (FAO Bangladesh, former South Sudan) Leila Shamsaifar	Abyei project Lessons – understand root causes of conflict Territorial approach – methodology Institutional set up
29	Parliamentary Committee on Land	10 March 2021	Muorwel Malangcham, chair Christol Paluku Claudia Shekufendeh Leila Shamsaifar	Draft Land Policy Political problems Roles of international community (UNMISS, FAO) and local communities
30	UKAid	18 March 2021	Jordan Kyongo Various participants in the seminar	Understanding the livestock economy in South Sudan Restitution of findings
31	FAO South Sudan	28 April 2021	Wilson Makuwaza; Nimaya Mogga; Patrick Ochaya	Livestock sub-sector Animal health CAHWs Conflicts over cattle Rural radios

Annex 2
Methodology of macroeconomic benchmark

Benchmarking formulae using median value of FCV countries

The approach used to benchmark South Sudan in the introduction to this report is inspired by the "RISE framework" (Resilient, Inclusive, Sustainable and Efficient), a diagnostic tool developed by the World Bank's Chief Economist for Sustainable Development and his team.[1] Here we benchmark the country against the median value of the peer group rather than the largest value. This allows us to ascertain if South Sudan is performing better than half of the FCV SSA countries (median performing country) and, therefore, identify areas that need significant improvement before an investment can be made. In order to do so, we benchmark South Sudan based on the selected indicators (see list of indicators below). Those indicators are first standardized using two formulas. Indeed, all of the indicators are at the national level, meaning each country has a single value. With some of these indicators, such as percentage of the population using the Internet, larger values indicate better performance. With other indicators, such as percentage of population affected by natural disasters, it is the opposite. For each given indicator, one of the following two formulae is applied to obtain the benchmark score for South Sudan relative to the median value for FCV countries.

The case where a higher value indicates better performance

$$\text{Benchmarking score} = \frac{\text{Country Value - Lowest Value in FCV countries}}{\text{Median Value in FCV countries - Lowest Value in FCV countries}}$$

The case where a lower value indicates better performance

$$\text{Benchmarking score} = \frac{\text{Highest Value in FCV countries - Country Value}}{\text{Median Value in FCV countries - Median Value in FCV countries}}$$

The scores across different indicators can be easily compared. These two formulae are mirror images of each other. In the first case, the formula is the ratio of the country being scored to the peer group's median performer (i.e. the median value), where both the numerator and the denominator have the minimum score in the dataset differenced out. As a result, the scores are normalized at zero, thus ensuring that the worst performer will always receive a score of zero. It also rescales the ratios. The importance of this can be seen with an example, for instance, the share of population using the internet where the worst performer in the world has 1 percent of its population that uses the internet, and the median

13 Balseca E. *et al.*, 2020.

performer has 10 percent of its population using the internet. Without subtracting the minimum score in the dataset from both the numerator and denominator, it means the worst performer will receive a minimum score of 1 percent. However, when subtracting the minimum score, it resets the worst performer to 0, and rescales all other countries so that 1 percent is now the lowest denominator. The second formula accomplishes the same thing, by switching the scale in both the numerator and denominator, so that a score of 0 percent becomes the worst score. A benchmark score above 100 percent means that the country's performance is better than that of the median country in the dataset. Conversely, a score below 100 percent means that the country performs worse than the median country in the dataset.

Benchmarking South Sudan against all the fragile, conflict, and violent countries from SSA

A complementary approach is to benchmark South Sudan's performance against the entire peer group. In order to doing so, countries are first ranked from worst to best in each indicator, with the percentile ranking of the country becoming the country's score in that indicator. An example of this is shown graphically in Figure A1 for South Sudan in each indicator. The longer the bar, the better a country is performing, with the length showing the country's percentile rank against all countries with available data. The indicator scores shed light on where the development challenges lie, in this case they are the most severe around food insecurity, governance effectiveness, human capital development, exposure to natural disasters, and access to services.

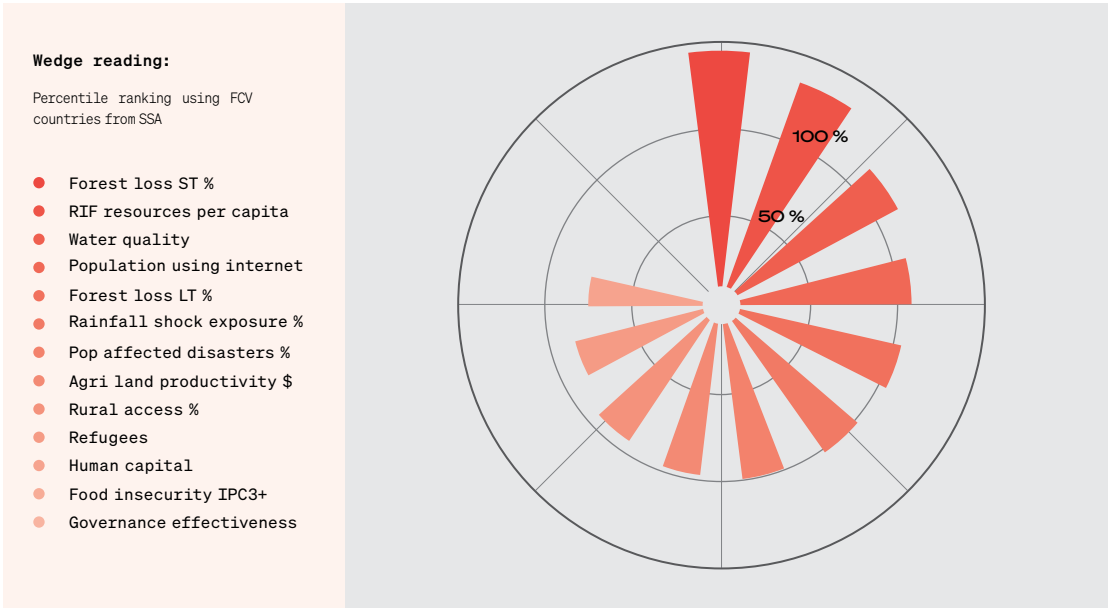

Figure A1
Performance of South Sudan relative to the median performance of FCV countries from sub-Saharan Africa

Source: Authors' own elaboration.

Following the percentile ranking for each country, second, the unweighted means of all indicators can then be taken to arrive at a score. Scores above (or below) 50 percent indicate the country performs better (or worse) than the median country. Figure A2 summarizes the scores for FCV countries from SSA.

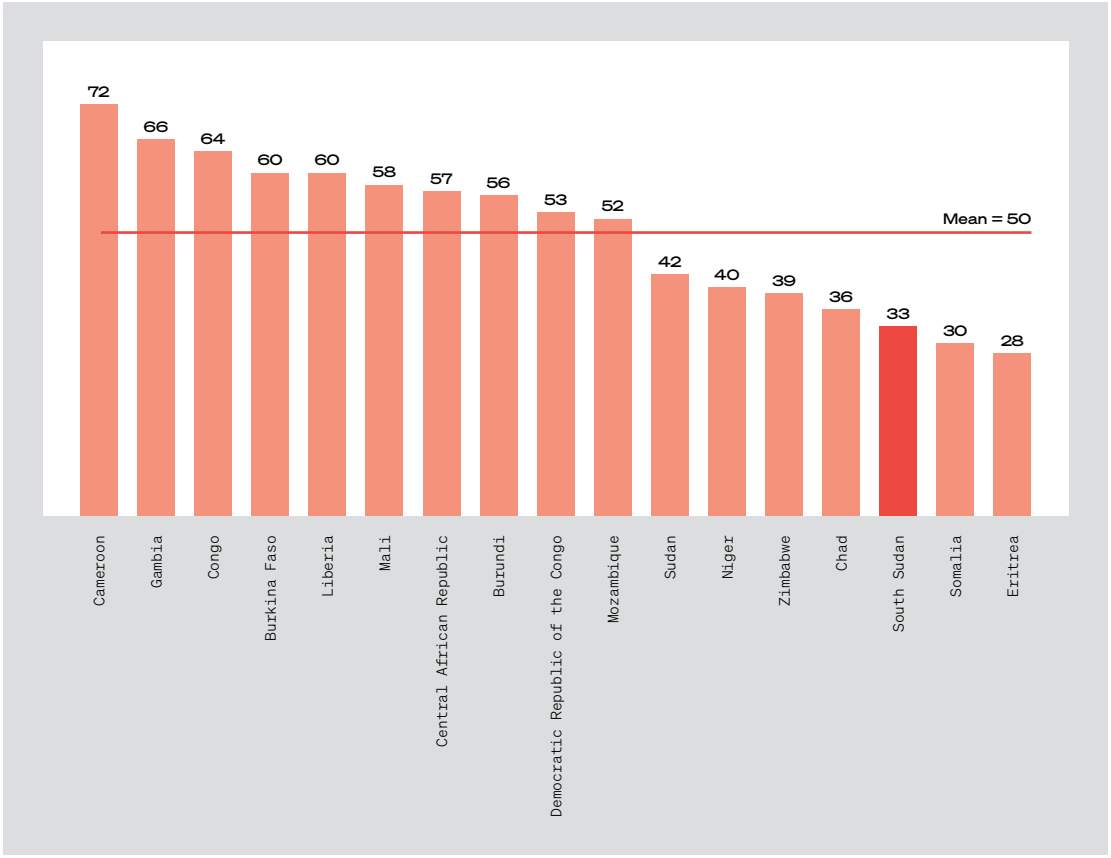

Figure A2
Benchmarking South Sudan against mean performance of FCV peer countries in SSA

Source: Authors' own elaboration.

LIST OF INDICATORS

Indicators	Source
Population affected by disasters (percent): The average share of population affected by geophysical, meteorological, hydrological, or climatological natural disasters over a 20 year period (2000-2019).	EM-DAT database
Rainfall shock exposure (percent population): The average share of the population exposure to a dry rainfall shock (rainfall <1 st. dev. below average) over a 5-year period (2009-2013).	Willmott and Matsuura (2014) as calculated in Uncharted Waters (Damania *et al.*, 2017)
IPC food insecurity P3+: The Integrated Food Security Phase Classification (IPC), also known as IPC scale, is a tool for improving food security analysis and decision-making. It is a standardised scale that integrates food security, nutrition and livelihood information into a statement about the nature and severity of a crisis and implications for strategic response. Data are for the year 2020.	The Economist Intelligence Unit: http://www.ipcinfo.org/ipc-country-analysis/population-tracking-tool/en/º

LIST OF INDICATORS (continued)

Indicators	Source
Human Capital Index: The index measures the amount of human capital that a child born today can expect to attain by age 18, given the risks of poor health and poor education that prevail in the country where she lives. It is designed to highlight how improvements in current health and education outcomes shape the productivity of the next generation of workers, assuming that children born today experience over the next 18 years the educational opportunities and health risks that children in this age range currently face (2017).	Human Capital Index, The World Bank
Refugees and IDPs index: An input into the Fragile States Index, this indicator measures the pressure upon states caused by the forced displacement of large communities as a result of social, political, environmental or other causes, measuring displacement within countries, as well as refugee flows into others.	https://fragilestatesindex.org/indicators/s2/
Water Quality SDG 6.3: A water quality index which covers the pollutants tracked by SDG 6.3.2, namely nutrients, salts, and chemical pollutants. It is an index of three water quality parameters, nitrates, electrical conductivity, and biological oxygen demand. The dataset was generated for the report *Quality Unknown: The Invisible Water Crisis*, using a machine learning model using data from 2000-2013. The resolution is the 0.5 × 0.5 degree grid cell. The country value here is calculated by taking a population weighted average of all grid cells where the centroid falls within the country (2020).	www.worldbank.org/qualityunknown
Total renewable freshwater resources per capita (cubic metres): Renewable resources (internal and external river flows and groundwater from rainfall) in the country. Total renewable freshwater resources per capita are calculated using the World Bank's population estimates (2014).	World Development Indicator
Forest loss percent, short term: "tree cover" is defined as all vegetation greater than 5 metres in height, and may take the form of natural forests or plantations across a range of canopy densities. Tree cover loss is defined as "stand replacement disturbance," or the complete removal of tree cover canopy at the Landsat pixel scale. Tree cover loss may be the result of human activities, including forestry practices such as timber harvesting or deforestation (the conversion of natural forest to other land uses), as well as natural causes such as disease or storm damage. Fire is another widespread cause of tree cover loss, and can be either natural or human-induced. Forest loss percentage is calculated as aggregate tree cover loss during 2001-2019 as a percentage of tree cover in 2000.	Global Forest Watch
Forest loss percent, long term: Historical land cover data for the years 1900–2005 are based on HYDE 3.1. These data represent fractional land use and land cover patterns annually for the globe at 0.5-degree (~50-km) spatial resolution. Land use categories of forest, cropland, pasture, primary land, secondary (recovering) land, and urban land, and underlying annual land use transitions, are included. National shares of land use devoted to forests are calculated for the year 1900 and again in 2005 and the percentage change is calculated over this time period.	HYDE version, 3.1 https://hyde.earth/mod/mod/hyde31
Agricultural land productivity: Gross production value as a share of total agricultural land (2016).	FAO
Governance effectiveness: Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (2018).	Worldwide Governance Indicators: http://info.worldbank.org/governance/wgi/#home
Population using internet (percent): The percentage of the population who used the internet from any location in the last three months. Access could be via a fixed or mobile network (2020).	https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx
Rural Access Index: The Rural Access Index (RAI) measures the proportion of the rural population who live within 2 km of an all-season road. It is included in the Sustainable Development Goals as indicator 9.1.1., providing a way of measuring progress towards Goal 9 and Target 9.1 (2020).	World Bank

Annex 3
Consistency of investment strategies with the CAMP

This Annex analyses the consistency of the four proposed investment strategies of this report with the CAMP.

Investment Strategy 1
The CAMP provides a comprehensive set of projects that feed Strategy 1 organized around the three sub-sectors of crops, livestock and fisheries. The highest priority projects that provide guidance to the development of the areas of investment below concern: (i) the support to production of an important range of crops, livestock and fish, thus contributing to the intensification and diversification purpose; (ii) the support to farmer organizations (project 1.12) and of livestock production association (2.23); (iii) quality seed production (1.12); (iv) the development of extension for crops and various livestock products; (v) the development of animal health services.

Investment Strategy 2
Strategy 2 can contribute to the development of all agricultural sub-sectors (crops, livestock, fisheries, forestry) but depends on the decisions of the targeted communities. Its set of investments (CDD in particular) is appropriate to finance necessary farm- or village-scale infrastructure such as those needed in the following CAMP projects: enhancement of animal power utilization; development of livestock water catchment and watering areas; feed mills; private sector promotion of small-scale aquaculture investment; and private sector establishment of ice production facilities.

Participatory approaches based on people-centred learning in Strategy 2 can foster subsistence production projects, but are not designed to target specific productions.

Strategy 2 can contribute to the farmers and pastoralists conflict resolution project.

Investment Strategy 3
The CAMP provides broad and generic direction for value chain and agribusiness development. In the crop subsector, the master plan mainly targets the development of quality seeds production, the enhancement of private sector agrodealers (1.17), tractor hire service providers (1.18) as well as in a longer-term the establishment of tractor assembly plants (1.33). Small value addition for staple crops is mentioned mainly for cassava (1.07) and groundnut (1.09) while marketing will be strengthened for urban and peri-urban vegetables (1.20). The CAMP also aims at promoting market-oriented farming through access to microcredit, market information, etc. to existing and newly formed FOs (1.13).

The Government of South Sudan also targets the development of a cash crop value chain for export through investment into medium to large-scale farms (1.28) while fruit, nut and sesame value chains will be promoted working closely with FOs (1.21 and 1.22).

The CAMP addresses livestock value chains through the development of livestock marketing (2.07) from products readily available. Value chains such as livestock, dairy, poultry and bees are targeted in a longer-term perspective.

Although Strategy 3 encompasses all dimensions promoted through the CAMP, priority investments will depend on two preconditions namely peace and macroeconomic stability.

Investment Strategy 4

Strategy 4 is mainly anchored in the CAMP theme of reconstruction and recovery from conflict. Reconstruction and recovery are to be addressed from phase 1 to phase 3, from 2015/2016 – 2029/2030 and is considered a long-term development objective to be achieved over more than ten years. It builds on the understanding that addressing the root causes of conflict and insecurity is a prerequisite for promoting agricultural development, particularly in the most affected areas. Reconciling conflicting parties, addressing historical injustice and trauma, and restoring trust between communities and between local and central government, and economic players will be a fundamental base for tackling the other development themes. In practice, Strategy 4 will cut across several, if not all CAMP development themes. Land reform is one of the required actions mentioned to create an enabling environment for private sector engagement in agricultural development. The highest priority projects that provide guidance to the development of the areas of investment below concern: (i) grazing allotments and land tenure project (project 02.01); and (ii) national and state livestock policy and legal framework establishment and maintenance project (project 02.03). This strategy will also contribute to applying key CAMP guiding principles for intervention, such as participatory planning and implementation and decentralization of public services.

Project term	CAMP project	Strategy contribution to CAMP High / Limited / None			
		S1	S2	S3	S4
	Agriculture				
Short	Conflict, IDPs and returnees' settlement	High	High	High	High
	Subsistence farmer production projects	High	High	High	High
	Production organization support	High	Limited	Limited	High
	Seed production	High	High	High	High
	Institution and national capacity building	Limited	High	High	High
Medium	Yield improvement projects	High	High	High	High
	Promotion of agribusiness projects	High	High	High	High
	Development of export value chains	Limited	Limited	High	High
	Enhancement of institutions and research	Limited	High	Limited	High
	Development of research and extension	Limited	High	High	High

(continued)

Project term	CAMP project	Strategy contribution to CAMP High / Limited / None			
		S1	S2	S3	S4
Long	National capacity building (phytosanitary, quality)				
Livestock					
Short	National capacity building (health, disease control)				
	Legal framework (regulation, land tenure)				
	Production development (marketing, watering areas)				
	Enhancement of livestock producer associations				
Medium	National veterinary and health control capacity building				
	Extension projects				
	Promotion of livestock markets (auctions, harvest facilities)				
	Actor coordination				
	Livestock public sector institutions capacity development				
Long	Development of livestock value chains				
	Enhancement of livestock management (traceability)				
	Livestock research centres and extension				
Fisheries					
Short	Regulation				
	Microcredit				
	Market development (infrastructure, information)				
	National capacity building (training, prevention)				
Medium	Private sector promotion				
	Market development				
	Value chains development				
	Establishment of research centres and training				
	National capacity building				
Long	Value chains development				
	Regulation				
	Development of research and extension				

Annex 4
Data sources for spatial analysis

Data	Primary data source	Secondary data source	Year(s) observed
Roads	Open Street Map	WBG Geospatial Operations Support Team (GOST)	2020
Energy lines	WBG 2021	WBG GOST	2021
Settlements	UNOCHA	WBG GOST	2017
Population density	Inter Cluster Information Management Working Group (ICIWG) OCHA	WBG project Intersectional Risks in South Sudan	2019
Cereal requirement	FAO-WFP		2019
Displaced population	IOM	WBG GOST	2020
Food insecurity	IPC (FEWS NET)	UNOCHA	2012–2020
Humanitarian need	UNOCHA		2019
Poverty at county level	WBG South Sudan Poverty Assessment		2018
Conflict	ACLED		2021
Average and total cereal area (ha) per count	FAO-WFP		2017–2019
Gross yield, gross and net production for cereals per county	FAO-WFP		2017–2019
Cereal surplus/deficit per county	FAO-WFP		2017–2019
Cattle density Sheep density Goat density	FAO's Gridded Livestock of the World (GLW3), shared by GOST team	WBG GOST	2010
Floods risk	Global Flood Hazard (FATHOM)	WBG GOST	2018
Drought (Agricultural Stress Index ASI)	FAO-GIEWS	WBG project Intersectional Risks in South Sudan	1984–2018
Land degradation	MESA project	WFP GeoNode	2015
Development operations	UNOCHA		2021

Annex 5
Mapping of selected interventions in South Sudan

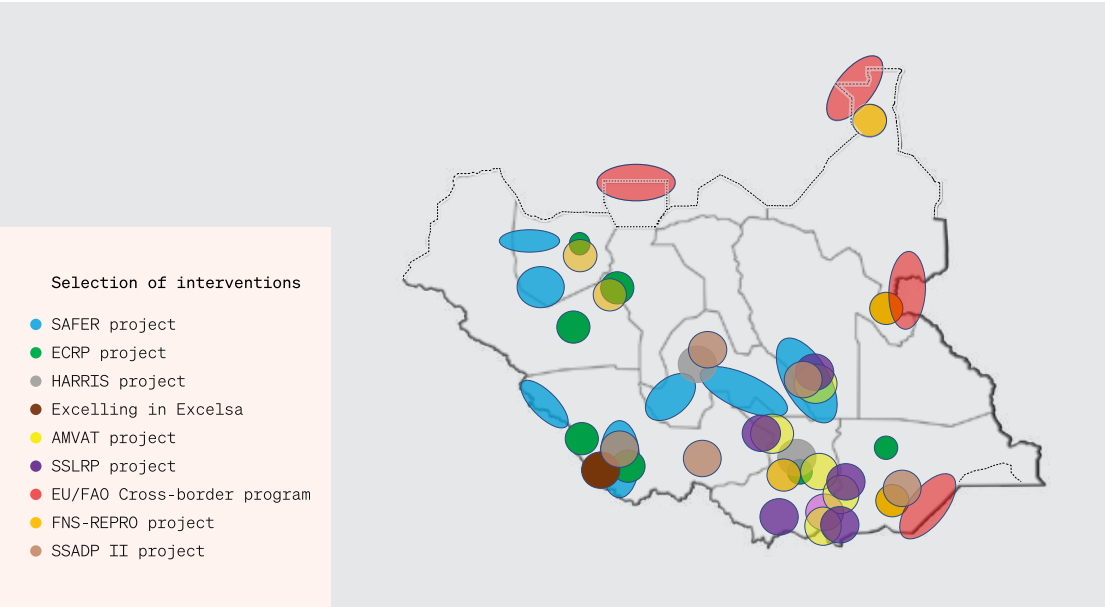

Figure A3
Map of interventions of a selection of interventions in South Sudan

Source: Authors' own elaboration.
Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

During the elaboration of this analysis, several past and ongoing interventions in South Sudan led by a wide array of development partners were reviewed by the authors.

This Annex locates and lists a sample of them to help understand the landscape of interventions in South Sudan, and thus contribute to building future partnerships. This list, which is a work in progress, is not comprehensive and does not presuppose the interest of the projects not represented or listed.

Project	Main donor	Period	Location	Amount
Building Food System Resilience in Protracted Crises/FNS-REPRO	Netherlands (implemented by FAO: Food and Nutrition Security Resilience Programme FNS-REPRO)	2019–2023	South Sudan (Akobo, Aweil, Bor, Renk, Torit, Wau, Yambio), Sudan, Somalia	EUR 28 million
South Sudan Agribusiness Development Program (SSADP- II)	Netherlands (implemented by Cordaid, AgriTerra, Spark)	2018–2023	Yambio, Maridi, Torit, Bor and Rumbek	EUR 10 million
Excelling in Excelsa	Netherlands Enterprise Agency (FAO South Sudan, Hummingbird Action for Peace and Development, ICCO Cooperation and Equatorial Teak Company ETC)	2020–2023	Nzara and Yambio counties	
Food Security and Agricultural Development Project (FSAD)	GIZ Germany	2017–2020		EUR 13.5 million
Strengthening the livelihoods resilience of pastoral and agropastoral communities in South Sudan's cross-border areas with Sudan, Ethiopia, Kenya and Uganda (European Union cross-border programme on the map)	European Union (implemented by FAO)	2016–2021	Borders with Sudan (Abyei Cluster and Renk Cluster), Ethiopia (Gambella Cluster), and Uganda and Kenya (Karamoja Cluster)	EUR 28 million
Enhanced local value addition and strengthened value chains ZEAT BREAD	European Union (implemented by UNIDO)	2015–ongoing	Northern and western Bahr el Ghazal, Warrap, Lakes	EUR 3.1 million
South Sudan Rural Development: Strengthening Smallholders' Resilience - SORUDEV SSR	European Union	2014–2017	Western Bahr el Ghazal	EUR 2 million
South Sudan Rural Development: Strengthening Smallholders' Resilience - SORUDEV SSR European Union (with World Vision Australia, International rescue Committee, FAO)	European Union (with World Vision Australia, International rescue Committee, FAO)	2017–2023	Northern and Western Bahr el Ghazal, Warrap, Lakes	EUR 15 million
Northern Bahr el Ghazal Recovery and Stabilization Programme	FAO-UNDP-UNICEF-WFP pilot action			
Improving livelihoods, social peace and stability in the Abyei Area	EU European Union	2016–2017	Abyei Area	
PROPEL	USAID (implemented by Global Communities and Catholic Relief Services)	2015–2018	Jonglei, Lakes, and Eastern and Central Equatoria	USD 13 million
Sustainable Agriculture for Economic Resiliency (SAFER)	USAID	2017–2020	Northern Bahr El-Ghazal, Lakes, Jonglei, Western Equatoria	USD 37.8 million
Famine Early Warning Systems Network (FEWSNET)	USAID			
Emergency Livelihood Response Programme (ELRP)	USAID, Norway, Netherlands (FAO programme)	2019–2020 (started in 2014)		USD 25 million

(continued)

Project	Main donor	Period	Location	Amount
Emergency Livelihood Response Programme (ELRP)	FAO programme	2021–2023		
Strengthening the capacity of smallholder farmers in vulnerable regions for disaster risk management and climate resilient agricultural practices	Switzerland (FAO programme)		Wau, Torit	USD 6.3 million
Building Resilience through Asset Creation and Enhancement (BRACE II) - Phase Two	UKAID	2015–2023	Lakes, Eastern Equatoria, Northern Bar el Ghazal, Western Bar el Ghazal, Warrap	USD 75.5 million
Building Resilience through Asset Creation and Enhancement (BRACE I) – Phase 1	UKAID	2012–2015	Northern Bar el Ghazal, Western Bar el Ghazal and Warrap	USD 21.3 million
Humanitarian Assistance and Resilience in South Sudan – HARISS	UKAID	2015–2023	Central Equatoria, Upper Nile, Warrap, Northern Bar el Ghazal	USD 950 million (STG 443 million for 2015-2020
Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) / IRISS: Strategies and technologies to build resilience against droughts and floods	UKAID (implemented by Concern Worldwide, ACTED, Oxfam, FAO and the Sudd Institute)	2015–2018	Northern Bahr al Ghazal, Warrap and Lake	STG 5 million
Urban Food	UKAID	2013–2016		STG 9 million
Agricultural Markets, Value Addition and Trade Development Project (AMVAT)	AfDB (implemented by FAO)	2021–2026	Estern Equatoria (Magwi, Torit), Central Equatoria (Juba, Terekeka), Jonglei (Bor)	USD 14 million
South Sudan Livelihoods Resilience Project (SSLRP)	IFAD	2021–2027	Estern Equatoria (Magwi, Torit), Central Equatoria (KajoKejo, Terekeka), Jonglei (Bor)	USD 17.9 million
Food assistance for assets	Global Affairs Canada (GAC), Department for International Development (DFID), Federal German Ministry of Economic Cooperation and Development, (BMZ) and Japan (implemented by WFP)	2016–2019 (started in 2012)	Northern Bahr el Ghazal, Warrap, Lakes and Western Equatoria, and a few counties in Jonglei, Unity, Western Bahr el Ghazal, and Eastern Equatoria states	USD 23 million in 2018
Mitigating cattle-related violence in the tri-state border areas of Tonj, Gogrial, and Wau	FAO/ UNDP (in partnership with IOM and UNMISS)	2020–2021	Tonj, Gogrial, and Wau	USD 3.5 million
South Sudan Resilient Agricultural Livelihoods Project (RALP)	World Bank	2021–2026		USD 62.5 million
Emergency Locust Response Project (ELRP)	World Bank	2021		USD 53.7 million
South Sudan Safety Net Project (SSNP)	World Bank (implemented by UNOPS)	2020–2022		USD 40 million

(continued)

Project	Main donor	Period	Location	Amount
South Sudan Enhancing Community Resilience and Local Governance Project (ECRP)	World Bank (implemented by UNOPS)	2022–2023		USD 45 million
Project for Capacity Development for CAMP/IDMP Implementation	JICA	2017–2021		

Annex 6
Methodology for the agricultural freight demand model for Sudan

For the purpose of this report, a preliminary freight flow model was created for the agriculture sector in South Sudan (Simpson and Swarts, 2021). For a detailed description of the methodology applied in other countries the reader can refer to the references provided at the end of this Annex.

The freight analysis is based on a gravity-model which considers points of supply and demand per agricultural commodity. Supply is comprised of production and imports. Demand is comprised of local demand and export. The results presented in this report are preliminary as the work is ongoing at the time of the writing of this report.

Estimating disaggregated agricultural supply

Agriculture supply includes over 13 commodities (milk, grain sorghum, maize, cassava, rice, vegetables, fruits, sesame seeds, groundnuts, sunflower seeds, citrus, yams and others). The preliminary estimate of total agricultural freight in the country is about 8.2 million tonnes.

Data used results from triangulation of a wide array of sources, most of them coming from FAO Stat and FAO/WFP field mission reports (FAO and WFP, 2020 and previous editions), completed with additional literature on specific commodities. Estimates were calculated using reported productions, areas planted, and ratios of imports to productions. Work on livestock products is still ongoing.

Creating freight flows from supply and demand

The analysis starts from the existing road network of South Sudan. For each county, centre points were allocated supply and demand per commodity. As the publicly available locations of centre points did not sufficiently correspond to actual locations in the counties, centre points were repositioned to better reflect the transport activity within the county. The freight flow model connects supply and demand points as described in the provided references. This model does not take into account blocked roads due to conflict and floods.

Methodology references

Kourounioti, I., Tavasszy, L. & Friedrich, H. (eds). 2021. *Freight transport modeling in emerging countries.* Book 5. World Conference on Transport Research Society. Elsevier.

Simpson, Z.P., Havenga, J. H., Witthöft, I. E. & Aritua, B. 2021. *A methodology for disaggregated freight demand modeling in emerging economies,* Chapter 4, pp.55-84. Faculty of Engineering, Stellenbosch University. (PhD dissertation).

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FAO teamed up with the World Bank on this strategic analysis of the investment, policy and institutional support needed to shift South Sudan's agriculture sector from humanitarian relief to a development-oriented growth path. The team carried out a thorough review of lessons learned in South Sudan and other conflict-affected countries and held consultations with a wide range of stakeholders in the country. As a result, four complementary investment strategies were identified: agriculture production and food security; community resilience and social capital; value chain development and jobs; and peace consolidation. The authors advocate for combining these four strategies in a flexible way, depending on how the shocks currently affecting agriculture (conflict, violence, macro-economic instability, governance, natural disasters) evolve in the coming years. The Government of South Sudan and the World Bank consider this analytical work a milestone that will pave the way for future investments in agriculture and rural development in the country. This publication is part of the Country Investment Highlights series under the FAO Investment Centre's Knowledge for Investment (K4I) programme.

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