Food Systems Resilience Dialogue and Pathway Development

Eastern Equatoria State - South Sudan

Gerrit-Jan van Uffelen, Julius Kaut, Tony Ngalamu, Pascal Debons, Charles Chapman

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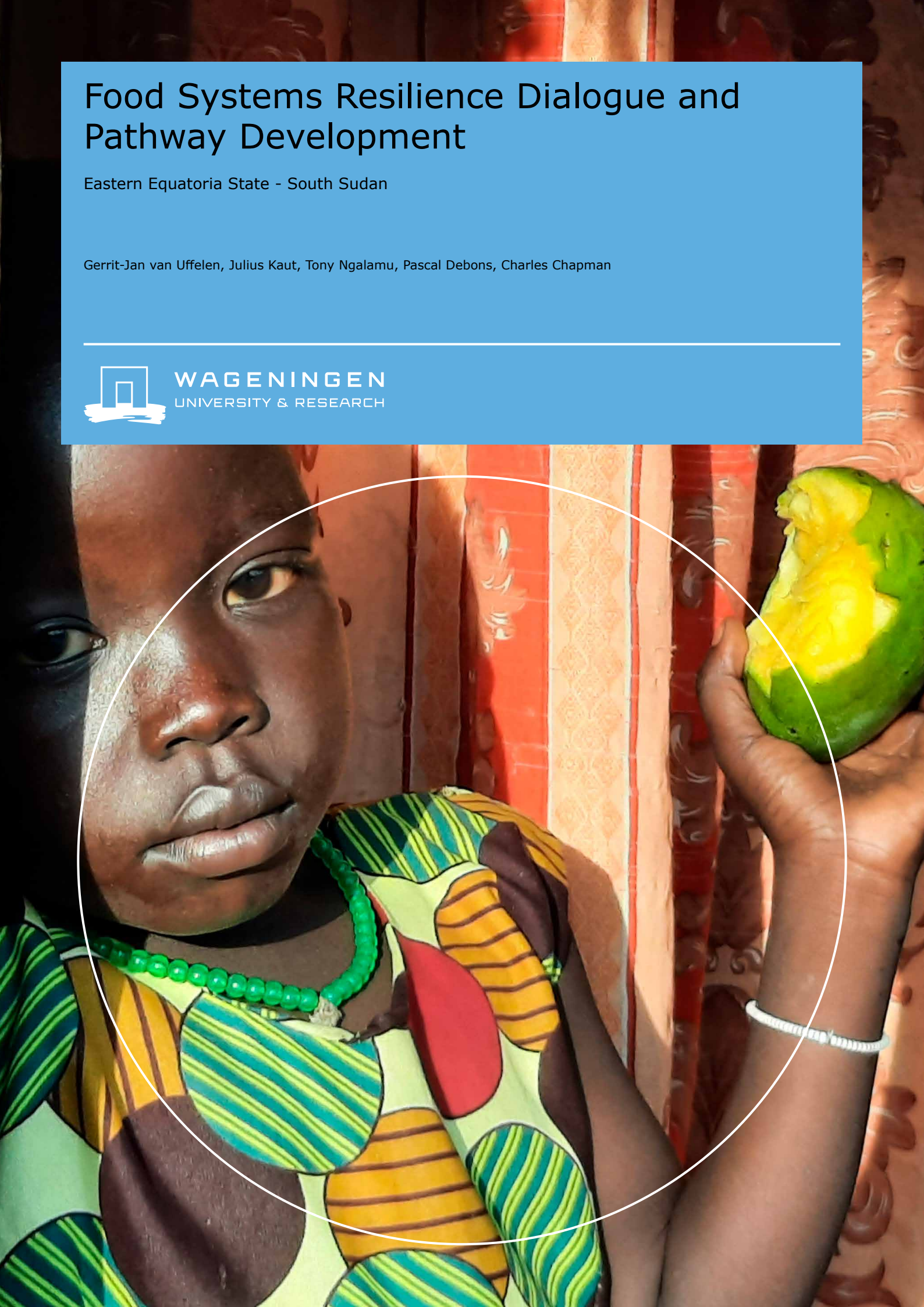

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Abstract
Food systems in Eastern Equatoria State, South Sudan, are in dire crisis because of multiple shocks and stressors, persisting conflict and violence, climate change, and natural resource deterioration. However, building upon South Sudan's National Food Systems Dialogue ample opportunities exist to build food systems resilience in EE through strengthening the capacity of people to produce and access nutritious and culturally acceptable food over time and space in the face of natural and/or man-made shocks and stressors.

This report provides a rationale for building food systems resilience in South Sudan by introducing its concept and operationalisation (part 1 of this report), presenting the main findings of the food systems resilience dialogue that took place in EE State (part 2), and introducing the main pathways identified to build food systems resilience in the State (part 3).

Food systems approaches are increasingly seen as a way forward to develop sustainable food systems in protracted food crisis as highlighted by the UN Food Systems Summit, the Global Network Against Food Crises and the Fighting Food Crises along the Nexus Coalition. It is therefore most opportune to act now by investing in an urgently needed transformation towards equitable, inclusive, and sustainable food systems for improved outcomes, in particular food and nutrition security in protracted food crises contexts. For South Sudan this means, in line with the outcomes of its National Food Systems Dialogue, to address four strategic challenges to transform the country's food systems: 1) strengthening the resilience of food systems in face of current and future shocks and stressors; 2) developing food systems that contribute to social cohesion and peace; 3) ensuring that food systems are based on sustainable use and management of natural resources and produce healthier diets, and; 4) promoting sustainable food supply systems through inclusive value chains and agribusinesses with an eye on youth employment.

Governance of food systems takes place at multiple levels and scales but transformation of local food systems will only succeed if communities, civil society organisations, small producers, farmers, and indigenous groups – with their local knowledge, and lived-in experiences – can shape how food is governed. The EE's Food Systems Resilience Dialogue & Pathway Development (FoSReD-PaD) provides an approach to strengthen local governance of food systems for improved food systems resilience and outcomes.

The State-Level Dialogue envisaged a total of nine pathways which together form a roadmap to transform EE's food systems to become more resilient; better serve the needs of all stakeholders (in particular smallholder farmers/agri-pastoralists and herders); and improve food and nutrition outcomes for all.

Keywords: food systems resilience, dialogue, protracted crises, food and nutrition security, South Sudan

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Disclaimer

The views and opinions expressed in this report are those of the authors and do not necessarily reflect those of Wageningen University, or any other parties involved in the making of this position paper.

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We would also like to acknowledge and highlight the important contributions of a wide range of persons representing government, UN organisations, I/NGOs, CSOs, youth and women's associations and the farmers' union, the private sector, knowledge institutions, and representatives of the communities in Eastern Equatoria. Through participation in the Food Systems Dialogue they co-created a better understanding of the food systems in the State; developed a vision to build resilient food systems; and developed the pathways to achieving this vision. They also supported the establishment of a Food Systems Resilience Hub to guide and inform further work on building food systems resilience in the State.

We appreciate the logistical support provided by FAO, UNMISS, and partners that enabled conduct of the dialogue in Eastern Equatoria.

In particular, we would like to express our gratitude towards the South Sudan National Bureau of Standards and the Eastern Equatoria State Governments, the Ministers and/or staff of the Ministry of Agriculture and Food Security, the Ministry of Information, the Ministry of Co-operatives, the Ministry of Peacebuilding, the Ministry of Animal Resources and Fisheries, and the Relief and Rehabilitation Commission (RRC).

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List of abbreviations and acronyms

AFDB	African Development Bank
ARG	Area Reference Group
ASPF	Agricultural Sector Policy Framework
CAADP	Comprehensive African Agricultural Development Programme
CAMP	Comprehensive Agricultural Master Plan
CLiMIS	Crop and Livestock Market Information System
CMDRM	Community Managed Disaster Risk Management
CSRF	Conflict Sensitivity Resource Facility
EWSKF	East West Seed knowledge Foundation
FAO	The Food and Agriculture Organization of the United Nations
FEWS-NET	Famine Early Warning Systems Network
FGD	Focus Group Discussion
FS4P	Food Systems for Peace
FNS	Food and Nutrition Security
FSR-TRC	Food Systems Resilience Training & Resource Centre
FoSReD-PaD	Food Systems Resilience Dialogue and Pathway Development
FS	Food Systems
FSR	Food System Resilience
GFW	Global Forest Watch
GoSS	Government of South Sudan
HLPE	High Level Panel of Experts
IMF	International Monetary Fund
IOM	The International Organization for Migration
IPC	Integrated Phase Classification
JRM - DRMFSR	Joint Regional Masters on Disaster Risk Management and Food Systems Resilience
KII	Key Informant Interview
KIT	The Royal Tropical Institute
LRA	Lord's Resistance Army
NAPA	National Adaptation Plan of Action
NBS	National Bureau of Statistics
NFP	Netherlands Food Partnership
NSS	North-South-South
PfRR	Partnership for Recovery and Resilience
R-TGoNU	Revitalized Transitional Government of National Unity
RSRTF	United Nations Multi-Partner Trust Fund on Reconciliation, Stabilization and Resilience
SPLA	Sudan People's Liberation Army
SPLM-IO	Sudan People's Liberation Movement-in-Opposition
SUN	Scaling Up Nutrition
ToT	Training of Trainers
TVET	Technical and Vocational Education and training
UNDRR	United Nations Office for Disaster Risk Reduction
UNHCR	United Nations High Commissioner for Refugees
UoJ	University of Juba
WCDI	Wageningen Centre for Development Innovation
WFP	World Food Programme
WUR	Wageningen University & Research

Concepts and definitions

Working definitions for the main concepts used in this document.

Protracted crisis
Macrae and Harmer (2004) define protracted crises as '*those environments in which a significant proportion of the population is acutely vulnerable to death, disease, and disruption of their livelihoods over a prolonged period of time'*.

Resilience
The United Nations Office of Disaster Risk Reduction (UNISDR) definition of resilience: '*The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions*'.

In relation to the Rome Based Agencies' focus on agriculture, food security and nutrition, resilience is essentially about the inherent capacities (abilities) of individuals, groups, communities and institutions to withstand, cope, recover, adapt and transform in the face of shocks.

Resilience is the capacity of a system to withstand shocks and external pressures while maintaining its basic structure, processes, and functions. Resilient systems have buffering capacity, which enhances their ability to adapt to changes, learn from past mistakes, and recover from disturbances (Schipanski, et al., 2016).

Food systems
A food system includes all processes, actors and activities associated with food production and food utilisation, from growing and harvesting to transporting and consuming. A food system also encompasses the wider food environment, from markets and trade to policies and innovation. (Van Berkum, Dengerink and Ruben, 2018[1]; Steenhuijsen Pieters et al., 2021[2]).

A food system operates in and is influenced by social, political, cultural, technological, economic and natural environments (HLPE, 2014; Global Panel 2016; HLPE, 2017).

Sustainable food systems
A sustainable food system is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised (FAO, 2014[3]). This means that:
- it is profitable throughout (economic sustainability);
- it has broad-based benefits for society (social sustainability); and
- it has a positive or neutral impact on the natural environment (environmental sustainability).

Food system resilience
In short: the capacity of food systems to deliver desired outcomes in the face of shocks and stressors (Steenhuijsen Pieters et al., 2021).

Food systems resilience is the capacity of people to produce and access nutritious and culturally acceptable food over time and space in the face of natural and/or man-made shocks and stressors (Schipanski, et al., 2016).

[1] https://library.wur.nl/WebQuery/wurpubs/fulltext/451505
[2] https://edepot.wur.nl/549244
[3] http://www.fao.org/3/ca2079en/CA2079EN.pdf

Executive summary

This report deals with the transformation of South Sudan's food systems and consists of three interrelated parts.

Part 1 focuses on the concept of food systems resilience and its operationalisation in South Sudan – this part is of key interest to policy makers and senior staff of agencies interested in food systems resilience and its promotion in South Sudan. Part 2 presents the key findings of the state-level food systems resilience dialogue in Eastern Equatoria state - it is of interest to state-level actors that seek a better understanding of how food systems function and produce outcomes. Part 3 presents the pathways that were devised on the basis of the Food Systems Dialogue and that together presents a roadmap to build the resilience of food systems in EE. This is of interest to practitioners, policymakers and donors.

1. BUILDING FOOD SYSTEMS RESILIENCE

South Sudan's protracted food crisis

Most of South Sudan has been classified by FEWSNET in crisis situation (IPC 3 and above) since early 2016. Currently 60% of South Sudan's population suffers from severe food insecurity, and there is alarming levels of both chronic and acute malnutrition in children under five. In June 2021 the Famine Early Warnings Systems Network categorised South Sudan as a country of highest concern.[4]

After decades of civil war, South Sudan's food systems are in dire crisis because of multiple shocks and stressors, persisting conflict and violence, climate change, and natural resource deterioration.

In almost every state there is civil insecurity and mass displacement. There is a breakdown of social cohesion among communities, with the weakening of family structures and limited access to education contributing to highly vulnerable youth. Rural and urban markets and supply systems have been disrupted and are poorly integrated into the national economy; transport and communication infrastructures are virtually absent. Government services are often limited and government presence poor, particularly in the more remote and conflict-affected areas.

As a result crop production has decreased; local livelihoods and coping mechanisms have been marginalised or seriously eroded. Much of the population is dependent on humanitarian food assistance; food insecurity has become worse in recent years despite growing humanitarian aid. There has been a widening grain deficit, and the diversity and quality of food is poor.

Addressing these problems is difficult on a national level because of economic mismanagement, weak institutions, trade and market constraints, and lack of capacity to get financial support.

South Sudan's National Food Systems Dialogue

Food systems approaches are increasingly seen as a way to improve food systems outcomes and sustainability, in order to deal with competing priorities and address the complex relationships that exist between components of food systems (Tendall, et al., 2015).

South Sudan has seen an interesting National Food Systems Dialogue with important initiatives such as *Catalysing the Sustainable and Inclusive Transformation of Food Systems*, jointly worked on by the South Sudan Ministry of Agriculture and Food Security (MAFS), the EU, and FAO.

[4] https://fews.net/east-africa/south-sudan

Four critical strategic challenges/ issues emerged from South Sudan's National Food Systems Dialogue to transform the country's food systems. For each of these, the national dialogue proposed key food system levers as areas of action.

1. How can food systems be more resilient to human-made and natural shocks, so there is food security for all and less dependence on humanitarian assistance?
Transformative levers: strengthen governance and institutions; enhance communities' food production resilience, and; facilitate the transportation of food products.

2. What development of food systems could best contribute to peace consolidation, stability and territorial balance?
Transformative levers: enhance governance on food system-related features; strengthen conflict-resolving processes (by developing community-based peace-building mechanisms); build capacity for enhanced land tenure security, and; protect and invest in human capital, particularly women and youth, and social cohesion through community-driven development interventions.

3. How can our rich natural resources produce a large spectrum of food for a healthier diet without hampering these resources and in an equitable manner between actors in food systems?
Transformative levers: strengthen farmer organisations and cooperatives; support responsible public and private investment; enhance awareness and knowledge related to nutrition and healthy diets; enhance the nutrition of infants and children, and; develop animal value chains.

4. How can the development of value chains and agri-businesses contribute to the employment of youth and women, economic stabilisation, diversification, and equitable wealth?
Transformative levers: enhance access to financial resources for small to medium businesses, and; promote business development.

2. EE FOOD SYSTEMS RESILIENCE DIALOGUE

Local governance of food systems
Governance of food systems takes place at multiple levels and scales however transformation of local food systems will only succeed if communities, civil society organisations, small producers, farmers, and indigenous groups – with their local knowledge, and lived-in experiences – can shape how food is governed.

The EE's Food Systems Resilience Dialogue & Pathway Development (FoSReD-PaDs), facilitated through the Partnership for Recovery and Resilience, provides a method to strengthen local governance of food systems and promotes community driven initiatives for improved food systems resilience and outcomes.

Addressing food system resilience in Eastern Equatoria State
The **Food Systems Resilience Dialogues and Pathway Development (FoSReD-PaDs)** method was designed to strengthen food system resilience at local level by the University of Juba, with the support of Wageningen University, by the invitation of the Partnership for Recovery and Resilience. It involved the EE State Government, the Area Reference Group, UN agencies, NGOs, private sector and representatives of the communities making up EE's population.

In order to tackle the manifold challenges and grasp the existing opportunities, participants saw the following principles as critical to the state's food systems transformation.
- Local ownership and leadership
- A multi-stakeholder approach and sustainable transformation
- The triple nexus: combining humanitarian relief, development and peace-building
- Focus on the most vulnerable people
- Mainstream risk-sensitive approaches
- Aim for sustained impact.

As the first exercise of the food systems resilience dialogue, participants were asked about their perspectives of the National Dialogue critical challenges for EE food systems transformation. It was important to establish how the national priorities resonated in the EE context and whether they captured local reality. There was alignment between the National and State Dialogue, because the dialogue participants found the key national challenges to be relevant and could be adapted to state level. The pathways were therefore grounded in the national challenges and recommendations.

The dialogue set out, mapped and prioritised the following.

1. Food system boundaries, activities, value chains, dynamics of production and consumption, transport, employment and so on. This meant that everyone had a common understanding of the food systems involved.
2. Major food system drivers, both socio-economic (such as markets, policy, science and technology) and environmental (like uneven distribution of water, land use, and climate change).
3. Risks and resilience capacities. Conflict was perceived to be the most serious hazard impacting food systems in EE, followed by drought and floods; resilience and coping mechanisms were mapped out.
4. Food and nutrition security outcomes. The dialogue participants discussed the food system socio-economic and environmental outcomes (acute food insecurity, acute malnutrition, and environmental /socio-ecological outcomes like deforestation, bush-burning and overgrazing).

As a result of this work on co-creating amongst all relevant stakeholders a joint understanding of the food systems, pathways were developed for EE.

3. EE FOOD SYSTEMS RESILIENCE PATHWAYS

In total nine pathways were envisaged to build the resilience of EE's food systems. In essence the pathways provide a roadmap for the transformation of EE food systems to become more resilient and better serve the needs of smallholder farmers/agri-pastoralists and herders across the State.

The pathways

I. Strengthen food systems resilience governance

1. Strengthen FSR governance in EE to create ownership and develop a regulatory framework set of principles to guide the development of FSR as required to deliver upon the four national food systems priority areas (see pathways 4-7).
2. Promote coordination, information sharing (digital inclusion), and catalyse partnerships in developing FSR.
3. Guide and support the transformation from humanitarian assistance to developing FSR.

IIa. Develop food systems resilience – address strategic challenges

4. Strengthen the resilience of food systems in the face of human-made and natural shocks (ensuring food security for all reducing the need for humanitarian assistance).
5. Build food systems resilience that contribute to social cohesion and peace - develop food systems for peace.
6. Build food systems resilience that maintains/develops natural resources and produce a variety of food for delivering healthy diets.
7. Develop inclusive value chains and agri-businesses maximising employment for youth.

IIb. Develop a resilient seed sector

8. Promote integrated seed systems development in EE as foundational to healthy food systems performance.

III. Learning, capacity building and evidence-based programming

9. Facilitate learning, build capacities of public and private institutions, and encourage evidence-based programming for effective food systems transformation.

The Food Systems Resilience Hub

To facilitate the transformation of the State's food systems, in line with the national priorities set by the National Food Systems Dialogue, the State Government has established a Food Systems Resilience (FSR) Hub. The FSR Hub is in essence a multi-stakeholder partnership bringing together people and institutions dedicated to developing food systems resilience in EE. It acts as a neutral and independent body; to ensure this, it will be facilitated with support from The University of Juba and, if required, Wageningen University.

The FSR Hub performs four interrelated functions:

- Promotes building FSR through dialogue (part 2 of this report)
- Develops shared FSR vision and pathways (part 3 of this report)
- Decides on action plans and guides collaborative implementation
- Facilitates evidence-based adaptive programming and learning.

The FSR Hub has delivered on the first two functions (the dialogue and the development of pathways to build FSR). The next functions are the development of action plans and facilitation of evidence-based programming and learning.

Ultimately the FSR Hub will contribute to the vision that *'the peoples of Eastern Equatoria State produce and access sufficient nutritious and culturally accepted food over time and space, in the face of man-made and/or natural shocks and stressors and live in peace and harmony with each other and with nature.'*

Introduction to the report

Background and purpose of the report

This report presents the key findings of the 'Food Systems Resilience Dialogue and Pathway Development' (FoSReD-PaD) in Eastern Equatoria (November 2022), facilitated by the University of Juba (UoJ) and its partner Wageningen University, under the auspices of the Partnership for Recovery and Resilience. Part 1 of this report introduces the concept of food systems resilience and its operationalisation in the case of South Sudan, and in particular for the State of Eastern Equatoria. Part 2 of this report presents the main findings of the dialogue, part 3 the pathways that are required to build food systems resilience in EE.

The State-level Dialogue was designed in such a way that it aligned with the key findings and recommendations of South Sudan's National Food Systems Dialogue.

The dialogue took place under the responsibility of the Partnership for Recovery and Resilience (PfRR) and made possible with contributions by FNS-REPRO, FAO and NFP.

The State-level Dialogue

The State-level Food Systems Resilience Dialogue was designed to build upon the ideas and priority areas set by the National Dialogue, and to co-create pathways to develop EE food systems resilience with relevant state-level actors and stakeholders.

In consultation with partners, the objectives of the State-Level Dialogue were set as follows:
- Develop a shared understanding of local food systems including their resilience in fragile settings.
- Co-create pathways and action plans for sustainable food systems transformation.
- Strengthen food systems governance and collaboration through a multi-stakeholder partnership.

In total around 76 participants representing local government, UN agencies, NGOs, private sector, academia, CBOs, civil society and community representatives participated in the FoSReD-PaD co-creation process from November 8th to November 15th, 2022, in Torit town. For a full list of participants see Appendix 1; for the dialogue schedules, Appendix 2.

A state-level validation workshop was organised during which all three parts of this report were validated[5].

The Food Systems Resilience Hub

As part of the FoSReD-PaD process a State-level Food Systems Resilience Hub was created at the University of EES which will be facilitated by the University of Juba with, if required, support by Wageningen University.

The FSR Hub is in essence a multi stakeholder partnership involving people and institutions with a key interest to developing food systems resilience in EE State.

[5] The workshop organised to validate findings of the Food Systems Resilience Dialogue on 8th December 2022 at Torit, EE, brought together 55 stakeholders (40 male and 15 female). Participants included Ministers of Agriculture, Cooperatives, Information, Peace Building and Animal Resources and Fisheries, the Commissioner of Torit county, Deputy Mayor of Torit Municipality, DGs from various ministries, academia, UN Agencies, I/NGOs, CSOs, Women Association, private sector and the PfRR ARG members.

In essence the FSR Hub has four interrelated key functions:

- Initiating and promoting FSR - within the Partnership for Recovery and Resilience (the FSR dialogue – part 2 of this report).
- Joint planning – identification of key issues and opportunities for building FSR (the FSR pathways – part 3 of this report).
- Collaborative action – development of detailed action plans.
- Evidence-based adaptive programming – creating a learning culture and documentation of good practice and policy recommendations on building FSR.

The Food Systems Resilience Hub, through its different functions, connects the three main components of this report.

The timeline of the dialogue process

The EE dialogue took place in November 2022 co-creating a shared understanding about the State's food systems, a vision for the transformation of the State's food systems and the development of in total nine pathways to build the resilience of the State's food systems.

The one-day validation workshop took place in December 2022 validating the key findings of the Food Systems Dialogue (part II of this report), the pathways (part III of this report), and the main concepts and operationalisation of building FSR in South Sudan (part I of this report).

Next steps are the development of detailed action plans and collaborative action, and evidence-based adaptive programming.

Structure of the report

The report is structured in three interdependent parts:

- Part 1 presents the background to and describes the importance of building food systems resilience by introducing food systems thinking, its main concepts and its operationalisation in the case of South Sudan.
- Part 2 presents the main findings of the EE State-level Food Systems Dialogue.
- Part 3 presents the pathways that were co-created by the dialogue participants based on envisioning a food systems-resilient EE.

Each part of the report can be read as an independent document. Part 1 is of particular interest to policy and senior decision makers with regard to the transformation of South Sudan's food systems. Part 2 and 3 of the report are of key interest to actors and stakeholders in Eastern Equatoria that are interested in the key findings of the dialogue and the pathways required to realise the vison of resilient food systems in EE.

Part I: Building food systems resilience in South Sudan: concept and operationalisation

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Part I of this report sets the foundation and rationale for conducting the Food Systems Resilience Dialogue and Pathways Development in Eastern Equatoria – South Sudan.

Part I contains the following chapters:

1. Introduction and background
2. How to build food systems resilience
3. South Sudan's food systems transformation at national level
4. Food systems transformation at state level.

1 Introduction and background

The United Nations Food Systems Summit – healthier, sustainable and equitable food systems
In 2021, the UN convened the Food Systems Summit[6] as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030. The Summit launched bold new actions to deliver progress on all 17 SDGs, each of which relies to some degree on healthier, more sustainable and equitable food systems.

The summit envisioned five Action Tracks.[7] We focus here on Track 5, as it is specifically aimed at building food systems resilience to vulnerabilities, shocks and stressors. This track works to ensure the continued functionality of sustainable food systems in areas that are prone to conflict or natural disasters; the ambition is to ensure that all people within a food system are empowered to prepare for, withstand, and recover from instability. Action Track 5 also aims to help people everywhere participate in food systems that, despite shocks and stressors, deliver food security, nutrition and equitable livelihoods for all.

The Summit established the UN Food Systems Coordination Hub[8] to act as the catalyst inside the UN system in relation to food systems and the 2030 Agenda. The Hub coordinates and brings together food systems knowledge and expertise from diverse constituencies to support national progress on the SDGs in response to country priorities.

Fighting Food Crises along the Nexus Coalition – food systems and peace
The UN Food Systems Summit gave rise to The Fighting Food Crises along the Humanitarian-Development-Peace Nexus Coalition[9]. Given that the increase in world hunger over the last seven years has been driven primarily by violent conflict and the impact of climate change, the coalition aims to contribute to ending hunger through pursuing peace and unleashing the potential of sustainable food systems to enhance the prospects for peace.

The Global Network Against Food Crises – sustainable food systems in protracted food crises
The Global Network Against Food Crises (GNAFC),[10] founded at the 2016 World Humanitarian Summit, is an alliance of humanitarian and development actors working together to prevent, prepare for, and respond to food crises and support the Sustainable Development Goal to End Hunger (SDG 2).

The Network seeks to reduce vulnerabilities associated with acute hunger; achieve food security and improved nutrition; and promote sustainable agriculture and food systems, using a '3x3' approach. This approach involves working at global, regional and national levels to support partnerships within existing structures and to improve advocacy, decision-making, policy and programming along three dimensions.

- **Dimension 1 - understanding food crises.** This aims to build greater consensus and promote evidence-based food security and nutrition analyses and reporting in order to strengthen the collection, quality and coverage of food security and nutrition data and analysis and inform decision-making and action.
- **Dimension 2 - leveraging strategic investments** in food security, nutrition and agriculture. This advocates for 'fit for purpose' financing and for improved coherence between humanitarian, development and peace actions ('the HDP nexus') to build resilience to shocks and promote longer-term self-reliance.
- **Dimension 3 - going beyond food.** This aims to foster political uptake and coordination across clusters/sectors to address the underlying multi-dimensional drivers of food crises, including environmental, political, economic, societal and security risk factors.

[6] https://www.un.org/en/food-systems-summit
[7] https://www.un.org/en/food-systems-summit/action-tracks
[8] https://www.un.org/sites/un2.un.org/files/2022/07/hub_faqs_en.pdf
[9] http://www.fightfoodcrises.net/hdp-coalition/en/
[10] http://www.fightfoodcrises.net/

GNAFC's 2022 report highlighted the importance of strengthening food systems by focusing on and promoting the following key elements.[11]

- **Key element 1 - sustainability:** acting at scale to move towards integrated approaches to prevention, anticipation, and improved targeting, to sustainably address the root causes of food crises and fragile food systems.
- **Key element 2 - smallholder agriculture:** this must be prioritised as a frontline humanitarian response to overcome access constraints and as a solution for reverting negative long-term trends.
- **Key element 3 - structural changes in external finance distribution:** humanitarian assistance should be reduced over time through longer-term development investments tackling the root causes of hunger.
- **Key element 4 - coordination:** strengthening a coordinated approach to ensure that humanitarian, development and peacekeeping activities are delivered in a holistic and coordinated manner.

The EE FSR dialogue

The dialogue participants, during the validation workshop, found these four key elements to be relevant in EE.

[11] https://www.fao.org/newsroom/detail/global-report-on-food-crises-acute-food-insecurity-hits-new-highs/en

2 How to build food systems resilience

2.1 Why food systems and resilience?

In a world of growing complexity and uncertainty, the security of food supplies is threatened by many factors. These include multiple processes of global change (e.g. climate change, rapid urbanisation, population ageing), unexpected shocks (e.g. natural disasters, financial and political crises), and unexpected responses of food systems themselves to these processes and events.

Food systems approaches are increasingly seen as a way to improve food systems outcomes and sustainability, in order to deal with competing priorities and address the complex relationships that exist between components of food systems (Tendall, et al., 2015).

Food security remains elusive for many populations worldwide. Greater emphasis on food systems resilience could reduce these vulnerabilities. This requires integrated strategies that together foster food systems resilience, including (a) integrating gender equity and social justice into food security initiatives, (b) increasing the use of ecological processes rather than external inputs for crop production, (c) fostering local and regionalised food distribution networks and waste reduction, and (d) linking human nutrition and agricultural production policies (Schipanski, et al., 2016). Enhancing social–ecological links and fostering adaptive capacity are essential to cope with short-term volatility and longer-term local-global change pressures.

For the sake of simplicity we understand food systems resilience to mean the capacity of food systems to deliver desired outcomes in the face of shocks and stressors (de Steenhuijsen Piters et al., 2021).

Box 1 *Food systems defined*

Food systems defined

Food systems
A food system includes all processes, actors and activities associated with food production and food utilisation, from growing and harvesting to transporting and consuming. A food system also encompasses the wider food environment, from markets and trade to policies and innovation. (Van Berkum, Dengerink and Ruben, 2018; de Steenhuijsen Piters et al., 2021).

Resilience
UNISDR definition: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.
https://www.unisdr.org/files/26462_8.annex2andacronyms.pdf

Rome Based Agencies (focus on agriculture, food security & nutrition): Resilience is essentially about ... the inherent capacities (abilities) of individuals, groups, communities and institutions to withstand, cope, recover, adapt and transform in the face of shocks.

Resilience is the capacity of a system to withstand shocks and external pressures while maintaining its basic structure, processes, and functions. Resilient systems have buffering capacity, which enhances their ability to adapt to changes, learn from past mistakes, and recover from disturbances (Schipanski, et al., 2016).

Food systems resilience
In short: the capacity of food systems to deliver desired outcomes in the face of shocks and stressors (de Steenhuijsen Piters et al., 2021).

The capacity of people to produce and access nutritious and culturally acceptable food over time and space in the face of natural and/or man-made shocks and stressors (Schipanski, et al., 2016).

2.2 Protracted crisis situations: characteristics, limitations and constraints

When building food systems resilience, it is important to consider the constraints and implications when doing so in the context of protracted crises.

Protracted crises are heterogeneous but are nevertheless defined by several characteristics (Maxwell, et al., 2011), which all apply to South Sudan:

- **Protracted crises are defined by both time duration and magnitude.** Many have lasted for 30 years or more and are characterised by extreme levels of food insecurity.
- **Few protracted crises are traceable to a single, acute shock**. Conflict is often one cause, but climatic, environmental, or economic factors may also be causes. Unsustainable livelihoods are both a consequence and cause of protracted crises.
- **Intervention mechanisms are often weak.** Development donors are often not willing to make significant investments, and private sector engagement is often lacking or dominated by informal or illegal economic activities that extract wealth but do little to invest in sustainable improvements. Hence, market-led or technology-driven development is extremely difficult to sustain in protracted crises.
- **Protracted crises remain on the humanitarian agenda** in part because of poor food security or nutritional outcomes, and in part because humanitarian agencies are often the only available vehicle for intervention under the prevailing architecture of international assistance.
- Protracted crises often occur in contexts in which **states are incapable of or unwilling to provide basic services or infrastructure** or are downright predatory toward the population. In short, protracted crises, and the populations caught in them, fall between standard categories of intervention and are often forgotten.

Taking a food systems approach in such situations should take into account those characteristics which requires dealing with complexity and competing priorities, to improve food system performances and outcomes.

2.3 The importance of local governance

The transformation of food systems
In general there is agreement that it is critical to act now by investing in an urgently needed transformation towards equitable, inclusive, and sustainable food systems for improved outcomes, in particular food and nutrition security in protracted food crisis.

This transformation will only succeed if communities, civil society organisations, small producers, farmers, and indigenous groups – with their local knowledge, and lived experiences – can shape how food is governed.

The need for greater focus on local governance of food systems
While the governance of food systems takes place at multiple levels and scales there are, even in the most fragile contexts, innovative mechanisms and tools that can empower local communities to shape food systems in ways that address hunger, food and nutrition security, and related concerns (Resnick, 2022).

In places where local democracy is relatively new, creating support for a culture of inclusion and accountability inevitably requires a high degree of learning, patience, and realism. According to Resnick, the local milieu—whether neighbourhood, district, or municipality— remains the main level at which citizens engage with the state and where they are most directly affected by food policy and service delivery performance. Harnessing their experiences and mobilizing their voices is therefore pivotal for meaningful food system transformation that ultimately benefits all people, especially the most vulnerable.

Key reasons for the importance of local food system governance include: (Resnick, 2022)

1. Farming and livestock rearing methods, consumer preferences and natural resource management practices are often grounded in local cultural traditions, historical experiences, and agroecological conditions.
2. As the world urbanises and cities grow, even in protracted food crisis contexts such as South Sudan, they present their own unique food security challenges that may require particular food system goals in the face of national level aspirations.
3. The general trend towards decentralising government functions has given greater authority to local governments over key elements of local food systems.
4. Informal sources of governance, such as traditional authorities, may have greater credibility with local communities; national government may be unable to exert power, authority or legitimacy, particularly in fragile states.
5. A local perspective on food system governance can better reflect food system priorities responding to local needs and preferences.

It is because of this importance of local governance, that these dialogue for EE was set up.

The EE FSR Dialogue

The dialogue participants agreed with and thereby validated all the key reasons for the importance of local food system governance during the validation workshop.

Bringing local communities into food system governance

There are several mechanisms through which communities at local level can engage in food system governance and programming. These include: (adapted from Resnick, 2022):[12]

- Use local platforms that bring many stakeholders together to contribute their perspectives on food system challenges, interventions and policy options.
- The use of subnational data on food system dimensions, such as agriculture, nutrition and food security data to inform local decision making and programming (the type and use of data extend well beyond Resnick's recommendations for improving data on budget and expenditure tracking)
- Use science and technology to track performance at the local level.
- Incentivise local governments and other local actors to perform better through peer reviews and comparisons.

The EE FSR Dialogue

The dialogue participants validated these mechanisms during the validation workshop.

Positive experiences and lessons learned

Positive experiences on local food system governance include: (Resnick, 2022)

- Multistakeholder platforms[13] (joint learning, planning and evidence-based programming) and performance tracking have demonstrated some successes such as improved service delivery, more inclusive budgeting processes, and the adaptation of laws, all of which indirectly affect food access and quality.
- Learning, planning and accountability tools/platforms may not directly improve food and nutrition security.
- Exercising participation and oversight empowers communities to demand government responsiveness while increasing their awareness of their entitlements and the means to access them for better food and nutrition security.

[12] https://www.globalhungerindex.org/issues-in-focus/2022.html
[13] They are especially popular for promoting citizens' entitlements to the right to food (see Box 2.1).

At the same time, several key lessons emerge from these experiences (Resnick, 2022):

- Local governments often have fewer resources and technical staff than their central government counterparts, so it is important to ensure that sub-national food system governance efforts match/are realistic to conditions and capacities on the ground.
- In fragile and protracted crisis settings, community efforts may be the only realistic channel for action on local food system governance. In such situations partners can learn from such efforts and facilitate the scaling up of such measures to other communities.
- Local leadership is pivotal to the sustainability of local interventions. Civil society organisations play a pivotal role, including 'champion' nongovernmental stakeholders who can ensure momentum on food policy.
- In situations of weak or poor governance, high levels of displacement, and a lack of security, initiatives to enhance accountability will benefit from incorporating a sufficiently long timeline and flexibility in funding arrangements for development partner planning and engagement with communities.

The EE FSR Dialogue

The dialogue participants acknowledged the experience and lessons learned on local food systems governance, indicating these are applicable in the context of EE, during the validation workshop.

Resnick (2022) raises several potential concerns about such platforms, including whether they create unrealistic expectations from participants about policy outcomes and whether they simply reinforce existing power asymmetries in the food system.

Overall, while the governance of food systems takes place at multiple levels, there are, even in the most fragile contexts, innovative mechanisms and tools that can empower local communities to shape food systems in ways that address hunger, food and nutrition security, and related concerns. This requires creating support for a culture of inclusion and accountability and therefor a high degree of learning, patience, and realism. Harnessing the experiences of local communities and mobilising their voices is therefore pivotal for meaningful food system transformation that ultimately benefits all people, especially the most vulnerable. (Resnick, 2022)

3 South Sudan's food systems transformation at national level

This section summarises key findings of the policy brief Catalysing the Sustainable and Inclusive Transformation of Food Systems.[14]

3.1 Profile of South Sudan

Country profile of South Sudan
South Sudan is the newest country in the world and has a very young and diversified population with over 65 tribes. Endowed with a large territory with rich resources, it has the lowest population density in the world, comprising between 13 and 18 people per sq. km. The land, water, and mineral resource base of South Sudan are substantial to its relatively small population.

After decades of civil war, South Sudan food systems are currently in dire crisis due to multiple shocks and vulnerabilities: persisting conflict and violence, climate change, and natural resource deterioration.

With only 4% of the potentially arable land cultivated, and a vibrant diversity of livelihood zones and climates, South Sudan can feed itself and its neighbours. There is ample scope for the expansion of the area cultivated. Currently, most crop cultivation is done on small farms, producing a little marketable surplus. Effective management and development of these resources offer the prospect of sustained strong economic growth for an extended period.

Macro drivers of South Sudan's food crisis
The macro drivers of South Sudan's food crisis reside beyond food systems themselves:
- Macroeconomic mismanagement, slow pace of the peace agreement implementation, widespread violence, weak institutional and governance frameworks, and the lack of capacities to acquire financial support, making the transformation of the current food systems difficult.
- Sustained improvement in the provision of infrastructure services will require the development of private sector capacities.
- Reduced livelihood options and the prevailing economic downturn have compromised the purchasing power of most poor households.
- The prevailing macroeconomic challenges and structural constraints to trade and markets are not expected to ease in the near term and will drive price inflation.

South Sudan's food insecurity
A combination of factors has had significant direct impact on food insecurity:
- Food insecurity is driven by displacement, decreased crop production, disrupted distribution systems and markets.
- Rural and urban markets are poorly integrated into the national economy due to a virtual absence of transport and communication infrastructures and civil insecurities.
- Food security and nutrition have deteriorated over the recent years despite growing humanitarian assistance, mainly in food aid. South Sudan has seen a widening grain deficit in recent years. The diversity and quality of food are poor.

However, food system transformation could have a tremendous economic role and job-multiplier effect and could contribute to peace consolidation.

[14] *EU, FAO and CIRAD (2021). "Catalysing the Sustainable and Inclusive Transformation of Food Systems."*

Characteristics of food systems at state level

Although South Sudan is a very diverse country, the situation in most of its states can be characterised as follows:

- A breakdown of social cohesion among communities.
- Limited government presence (as local authorities and law enforcement personnel have been absent) particularly in more remote and conflict-affected areas.
- Limited government services (such as health and education) because of insecurity and limited resources.
- Conflict and insecurity has resulted in the marginalisation, and in some areas the destruction, of local livelihoods and coping mechanisms.
- Prolonged conflict has rendered a significant proportion of the population food-insecure and often dependent on humanitarian assistance.
- Mass displacement (both internally displaced people as well as refugees) and returns of civilians strongly affect food production, availability and access.
- The high vulnerability of youth, including the weakening of family structures and limited access to education (including skill development), has contributed to a large pool of at-risk youth. In some areas the youth are also regarded with suspicion by authorities.

3.2 South Sudan's National Food Systems Dialogue

South Sudan's food systems

South Sudan's food systems are increasingly in crisis after decades of war and conflicts. The causes of food crises are often multifaceted, with several factors reinforcing each other. The most common primary driver is conflict. In June 2021, the Famine Early Warnings Systems Network (2021) categorised South Sudan as a country of highest concern.[15]

Despite growing humanitarian assistance and imports, South Sudan's food security and nutrition situation has been steadily deteriorating, particularly in recent years, with a current peak of people suffering from severe food insecurity reaching 60% of the population coupled with alarming levels of both chronic and acute malnutrition in children under five years of age.

Catalysing the sustainable and inclusive transformation of food systems.

In preparation for the September 2021 UN Food System Summit, the South Sudan Ministry of Agriculture and Food Security (MAFS), the EU, and FAO jointly worked on the initiative Catalysing The Sustainable and Inclusive Transformation of Food Systems. The initiative also benefited from South Sudan's National Dialogue in preparation for the September 2021 Food System Summit.

Central to the initiative was the assessment of South Sudan's food systems performances, looking at four sustainability goals: 1) Food security, nutrition and health, 2) inclusive economic growth, jobs and livelihoods; 3) sustainable natural resource use and the environment, and 4) territorial balance and equity. Sustainable food systems served as an entry point for 12 of the 17 SDGs.

3.3 Strategic challenges to South Sudan's food systems transformation

As part of South Sudan's Food Systems Dialogue, four critical strategic challenges/ issues emerged that were seen as fundamental to transform South Sudan's food systems. For each of these key challenges to achieve South Sudan's key sustainable food systems goals, the National Dialogue proposed key systemic levers as areas of action, and the State-level Dialogue adopted these levers to ensure alignment and consistency with the national dialogue findings and recommendations.

[15] https://sdgpulse.unctad.org/trade-agriculture-biotrade/#Ref_XZWZ5JGF

3.3.1 Building food systems resilience in face of natural and human-made shocks/stressors

South Sudan's National Food Systems Dialogue – key sustainability question 1: How can food systems be more resilient to human-made and natural shocks so that (i) it can ensure food security for all and (ii) communities and the country are less dependent on humanitarian assistance?

First transformative lever: improve governance and institutional strengthening to enable a multisector approach to food system development.[16]

Second transformative lever: enhance communities' food production resilience through technical and institutional innovations.[17]

Third transformative lever: facilitate the transportation of food products from areas with excess supply to high-demand areas, in particular the growing urban centres.[18]

3.3.2 Developing food systems for peace

South Sudan's National Food Systems Dialogue - key sustainability question 2: Which type of development of food systems could best contribute to peace consolidation, stability and territorial balance?

First transformative lever: enhance governance on food system-related features that could mitigate the impact of conflict and contribute to resolving some of the underlying causes of conflict.

Second transformative lever: re-balance territorial development and strengthen conflict-resolving processes by developing community-based peace-building mechanisms; these should allow evidence-based dialogue and peacebuilding and negotiated community development programming for peaceful coexistence among communities through equitable access to natural resources.

Third transformative lever: build capacity for enhanced land tenure security.

Fourth transformative lever: protect and invest in human capital, particularly women and youth, and social cohesion through community-driven development (CDD) interventions.

[16] The National Dialogue proposed five key elements for this first transformative lever: 1) Commitment to the Revitalized Transitional Government of National Unity (R-TGoNU) to restore and consolidate peace, security and stability is a pre-requisite. 2) Governance mechanisms in place for food systems and food security and nutrition (FSN). Capacity strengthening, coordination of institutions and mutual accountability is essential for food system transformation. 3) Improved macro-economic management, with trade and taxation policies in place. 4) The political will to allocate the necessary financial and human resources to implement the existing investment framework of the country - the Comprehensive Agriculture Master Plan (CAMP). 6) Reduced over-reliance of South Sudan on food importations from the Region and improved food quality and safety standards on imported foods.

[17] The National Dialogue proposed three key elements for this second transformative lever. 1) In face of absence of formal extension services and poor physical infrastructure, strengthen pastoral field schools (PFS), community animal health workers (CAHWs), farmer field schools (FFS), and business field schools (BFS). 2) Develop, propagate and adopt climate-resilient technologies and investments (in particular in face of recent floods and large-scale displacement). 3) Strengthen community seed production as a means to develop self-reliance and avoid the current dependency on donations or uncontrolled imports (extremely variable quality and questionable adaptation to local conditions).

[18] The National Dialogue proposed three key elements for this third transformative lever. 1) Invest in road infrastructure. 2) Policies to enable trade and transportation of domestic food from excess areas to deficit areas 3) Invest in (e.g., solar powered) cold storage, which will reduce the costs as well as losses of agricultural produce, particularly perishables, and improve storage quality.

3.3.3 Developing food systems for sustainable use and management of natural resources, and healthier diets

South Sudan's National Food Systems Dialogue – key sustainability question 3: How can these rich natural resources be seized to produce a large spectrum of food for a healthier diet without hampering these resources and in an equitable manner between actors in food systems?

First transformative lever: strengthen farmers' organisations (FOs) and cooperatives.

Second transformative lever: support responsible public and private investment that is respectful of the environment and enhance governance and equity in accessing productive natural resources.

Third transformative lever: enhance awareness and knowledge related to nutrition and healthy diets.

Fourth transformative lever: enhance the nutrition of infants and children.

Fifth transformative lever: develop animal value chains.

3.3.4 Developing Food Systems for agri-business and value chain development

South Sudan's National Food Systems Dialogue – key sustainability question 4: How can the development of agri-business contribute to youth and women employment, economic stabilisation, diversification, and equitable wealth?

First transformative lever: enhance access to financial resources for small to medium businesses, to enable them to flourish.

Second transformative lever: promote business development, to enable small-scale producers and food system entrepreneurs to cater for emerging markets in urban areas.

3.4 Critical conditions to transform South Sudan's food systems

South Sudan's food systems are in deep crisis, vulnerable to multiple shocks (conflicts, climate, natural disasters), and inefficient in productivity and competitiveness. At present it cannot fulfil their roles in terms of food security, poverty reduction, equity, job creation and peace consolidation.

Nevertheless, there are multiple opportunities to transform the food systems; the country has a young population on a vast territory and is endowed with a wide range of natural resources.

In order to tackle the manifold challenges and grasp the existing opportunities, the following elements are seen as critical to the country's food systems transformation.

- Peace consolidation and nation-building should take precedence and contribute to the process of building credible, functioning and accountable government structures.
- Policy reforms, innovations and responsible investments that can break the negative feedback loops (between a weak enabling environment, lack of incentives and finance for investment, and low agricultural / food production) that all keep the agri-food systems locked into underperformance.
- Strengthen the productivity and incomes of smallholder farmers, targeting the rural areas where the vast majority of them live and the agricultural sector on which their livelihoods depend on.
- Ensure that humanitarian assistance, development processes and peacebuilding are working in synergy to address short- and long-term needs and reduce risk and vulnerability.
- Food security and other sectoral response policies for urban poor populations should continue to attract the attention of humanitarian and development actors in the short run to create safety nets for the most vulnerable people and provide direct access to food.

- Government commitment and leadership to enhance governance and coordinate policies of the international community, to ensure synergies between all interventions across the food system spectrum.

The EE FSR Dialogue

The dialogue participants found these critical elements to South Sudan's food system transformation to be relevant at state level.

4 Food systems transformation at state level

4.1 Food Systems Resilience Dialogues and Pathway Development

The Partnership for Recovery and Resilience invited the University of Juba, with the support of Wageningen University, to design and facilitate a State-level Food Systems Resilience Dialogues and Pathway Development (FoSReD-PaD).

The process involved the State Government, the Area Reference Group, UN agencies, NGOs, the private sector and representatives of communities making up the State's population. Together they co-created a vision to build food systems resilience based on which they co-developed pathways to achievement of the vision. Together the different pathways comprise a road map for the transformation of the State's food system to become more resilient and better serve the needs of smallholder farmers/agri-pastoralists and herders across the State.

The pathways are grounded in, and contribute to:
- The key priority dimensions for building food systems resilience as identified by South Sudan's National Food Systems Dialogues (2021).
- South Sudan's Comprehensive Agricultural Master Plan - CAMP[19].
- The State Development Plan 2022-24.

The pathways address critical challenges related to governance (policy, principled approaches); coordination; public and private sector performance and programming (including key operations and services in food system development); and capacity building.

4.2 General principles of the pathways

The most important general principles of the pathways include:
- Build food systems resilience, in particular through strengthening localisation and humanitarian-development-peace nexus programming.
- Encourage and facilitate community-driven initiatives to ensure that interventions are responsive to community needs and priorities and are accountable to communities.
- Promote the agency of smallholder farmers, both in value chain development and in building upon their entrepreneurship around existing and new food commodities to improve the food system outcomes.
- Ensure that building food systems resilience is inclusive and that all, in particular women and youth, can participate in and benefit equitably from food systems resilience.
- See the roles of youth as an opportunity in food systems transformation, for example through the adoption of innovative activities/ideas/approaches.
- Ensure constructive engagement of local experts and expertise, thereby strengthening national as well as state-level knowledge/training/research infrastructure. Appendix 4 provides an overview of available knowledge/training/resource packages developed by the North-South-South partnership[20] on FSR, of which the University of Juba is the main hub in South Sudan.

[19] https://openknowledge.worldbank.org/bitstream/handle/10986/37951/cc1048en.pdf?sequence=1

[20] The University of Juba forms part of a North-South-South partnership in which a number of universities and training centres work together in the design and delivery of knowledge/training/resource packages to facilitate building food systems resilience. These initiatives are supported by the Dutch government through the NUFFIC Orange Knowledge Programme and the Food and Nutrition Security RESilience PROgramme (FNS-REPRO).

It is also strongly recommended that each of the pathways should:

- Include learning, capacity-building efforts, and the generation of evidence of impact, including the documentation of good practice, principled approaches and policy recommendations.
- Facilitate joined learning, peer reviews, and exchange visits, to share knowledge, experience and ideas.
- Develop evidence-based intervention models and principled approaches, on the basis of which advocacy is to be promoted for finance options/practice by government and donors.
- Improve data literacy, including data analytics and foresight, to inform state- and local-level decision-making and programming.

4.3 Specific principles in embracing the four national strategic challenges

Based on the various workstreams flowing from the UN's Food Systems Summit,[21] and consultations as part of the State-level Food Systems Dialogues, a number of specific principles were documented to guide and inform work on South Sudan's four strategic challenges at state level.

These strategic challenges, identified through South Sudan's National Food Systems Dialogue, are represented as individual pathways at state level (pathways 4 to 7; see part 3 of this report); this is done so deliberately to allow for state-level progress to inform national progress on each of the four key strategic challenges seen as fundamental to transform South Sudan's food systems.

Strategic challenge 1: food systems for resilience

Policy and good practice principles may include:

- Create a better understanding of how food systems work and interact. In particular, examine livestock-cropping system interactions, and how these fit into landscape-level management with other components, such as soils, trees, fuels, fibres, fruits, fodder, and food.
- Increase understanding of how livestock-cropping system interactions relate to resource access and management regimes relating to land tenure, governance, and plural legal systems.
- Account for context specific indigenous knowledge to build resilience of food systems through adaptation to local agro-ecologies and conservation of bio-diversity.
- Catalyse food system transformations through investment that responds to local needs, interests, and preferences of urban as well as remote rural areas, targeting youth and rural households to build up social, financial and human capital.
- Develop methodology to assist donors, agri-business and financial intermediaries to make wise investment decisions to increase the sustainability of food systems.
- Build climate-resilient and sustainable food systems that contribute to progress on climate action by accessing climate finance for locally led/driven projects that are practical/do-able and that create impact.
- Exploit the co-benefits of climate adaptation and resilience-building for peace and security.
- Promote synergies between the private sector, co-operatives, and local entrepreneurship in food production and accessibility.

Strategic challenge 2: food systems for peace

Policy and good practice principles may include:

- Facilitate community-driven and community-based activities that seek to improve local-level peace/security and food security outcomes, by working with communities to design and implement action plans.
- Actively engage communities in the identification and prioritisation of their local peace/security and food security concerns, and the development of appropriate and effective responses, jointly with local authorities, security/justice and food security service providers, and civil society.
- Work towards generating a positive social development benefit as well as greater community cohesion and improved perspectives relating to peace/security, reconciliation and food security.

[21] See for example http://www.fightfoodcrises.net/fileadmin/user_upload/fightfoodcrises/doc/resources/HDPNexusCoalition_ClimateSecurityandFoodSystemsWorkstream.pdf

Strategic challenge 3: food systems for sustainable use and maintenance of natural resources, and healthier diets

Policy and good practice principles may include:

- Aim for increased food production and supply by working with farmers, agripastoralists and herders, in ways that promote sustainable use and management of natural resources.
- Develop natural resource management/governance regimes that build upon and maintain landscape resilience.
- Programme for increased food diversity (based on analysis of main food deficiencies) and thereby more diverse diets.
- Develop the availability of and access to a variety of foods within and across different food systems: agriculture (including staple crops, nutrition dense crops, improved as well as indigenous vegetables, and wild foods which are nutritious and diverse), pastoralism, agro-forestry, silvo-pastoralism and fisheries.
- Promote healthy food habits amongst the younger generation, e.g. through schooling and education.
- Ensure a food safety component, especially with imported food products.

Strategic challenge 4: food systems for value chain and agribusiness development

Policy and good practice principles may include:

- Promote local economic development through enabling government policies, targeted investments in road and market infrastructure, and promoting entrepreneurship and involvement of the private sector.
- Establish a practical education and training system that facilitates the development of knowledge and practical skills on agricultural production to improve food production, value chains and the development of food supply systems.
- Prioritise those value chains and agribusiness that contribute to narrowing the food gap (strategic challenge 1), invest in cropping and livestock systems to increase mutual interdependency between famers and herders (strategic challenge 2), and contribute to healthier diets (strategic challenge 3).
- Invest in value chains as a complement to farmers' existing activities, using subsidies rather than distributing free input/kits.
- Promote cooperatives and linkages with traders to link demand with supply.

4.4 The State-level Food Systems Resilience Hub

To facilitate the transformation of the State's food systems, in line with the national priorities set by the National Food Systems Dialogue, the State Government has established a Food Systems Resilience (FSR) Hub. The FSR Hub is in essence a multi-stakeholder partnership bringing together people and institutions dedicated to developing food systems resilience in EE. The Hub acts as a neutral and independent body; to ensure this it will be facilitated with support from the University of Juba and, if required, Wageningen University.

The FSR Hub performs four interrelated functions:

- Promotes building FSR through dialogue (part 2 of this report)
- Develops shared FSR vision and pathways (part 3 of this report)
- Decides on action plans and guides collaborative implementation
- Facilitates evidence-based adaptive programming and learning.

The FSR Hub has delivered on the first two functions (the dialogue and the development of pathways to build FSR). The next two functions are the development of action plans and facilitation of evidence-based programming and learning.

Ultimately the FSR Hub will contribute to the vision that *'the peoples of Eastern Equatoria State produce and access sufficient nutritious and culturally accepted food over time and space, in the face of man-made and/or natural shocks and stressors and live in peace and harmony with each other and with nature.'*

Part II: EES Food Systems Resilience Dialogue findings

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Part II of this report presents the results of the data collected during the 'Food Systems Resilience Dialogue and Pathway Development' (FoSReD-PaD) for Eastern Equatoria State, South Sudan. The data presented is structured according to the van Berkum food system framework introduced in the first chapter of this part of the report. To utilise this framework, data needed to be collected from a variety of sources, ranging from thematic and geographic knowledge experts to communities in EE. An expert consultative workshop was held in November 2022 in Torit, EE. Each chapter presents the key data collected during the participant dialogue in these workshops.

Part II contains the following chapters:
5. Food systems resilience: framework and methodology
6. Objectives of the dialogue and data collection
7. Food systems transformation: stakeholders and their perspectives
8. Food system boundaries
9. Food system activities
10. Food system drivers
11. Food system risks and resilience
12. Food system outcomes

The complete compilation of these exercises and data on the value chains can be viewed in the separate FoSReD EE working[22] and background[23] document.

[22] Working Document: Outcomes of the 2022 Food Systems Resilience Dialogue in Eastern Equatoria State, South Sudan.
[23] Background Document: Context Analysis Eastern Equatoria State, South Sudan, to inform the 2022 Food Systems Resilience Dialogue and Pathways Development (FoSReD-PaD).

5 Food systems resilience: framework and methodology

5.1 Food system framework

Our approach is grounded in the food system framework developed by Berkum and al. 2018. We also used other action-oriented food systems resilience assessment methodologies based on good practices, such as the toolbox for food system analysis, developed jointly by KIT-Royal Tropical Institute, the Netherlands Food Partnership (NFP) and Wageningen University and Research (WUR).

The benefit of applying a system lens is that it broadens perspectives when seeking solutions for the root causes of problems such as poverty, malnutrition, climate change; or in our case sustainable solutions for a sufficient supply of healthy food in protracted food crisis contexts.

The food systems approach offers a number of benefits:

- It provides a checklist of topics and issues that should at the very least be addressed when it comes to improving food and nutrition security (in relation to other policy objectives).
- It maps the impact of environmental and climate changes on food security by pointing to the various vulnerabilities of a food system, and in doing so identifies possibilities for strengthening the system's resilience.
- It helps to pinpoint the most limiting factors for achieving food security, and hence identify effective interventions aimed at improvement.

In essence, a food systems analysis considers the relationships between the different parts of a food system, looking at its main elements such as:

- Food system activities – this includes the food supply system (agricultural production, food storage, transport and trade, food processing and transformation, food retail and provisioning, and food consumption); the enabling environment; the food environment; business services; and consumer characteristics.
- Drivers impacting food system activities such as socio-economic and environmental drivers.
- Food system outcomes - this includes food security (availability, access, and utilisation), socio-economic outcomes, and environmental/climate outcomes.

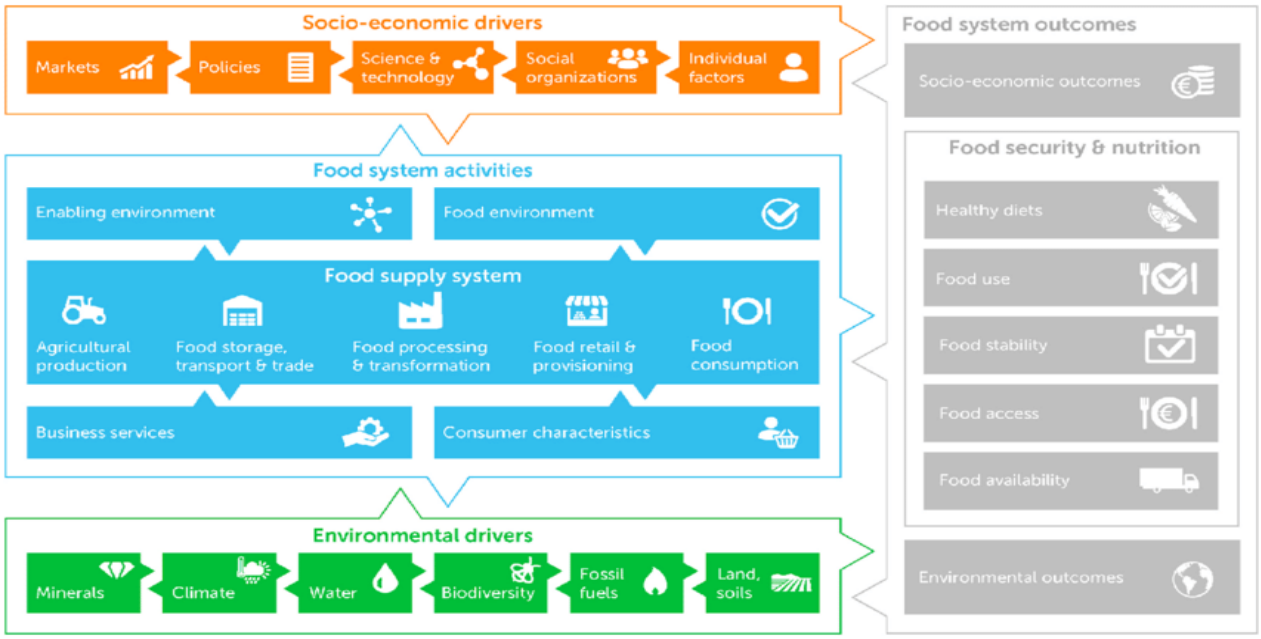


Figure 1 *The van Berkum food system framework (van Berkum, et al., 2018)*

Feedback loops are a distinguishing factor in systems thinking. They occur between parts of the food system activities, the drivers and the outcomes. For example, socio-economic and environmental outcomes of the food system will become drivers of the food system activities and initiate new dynamics which will lead to new outcomes over time.

5.2 Resilience framework

Because of the intensity and frequency of shock and stressors affecting EE, it is essential to apply a resilience lens to our analysis of food systems. In protracted food crises (typically characterised by fragile and conflict-affected situations) this approach explores how natural and man-made hazards impact food systems and their outcomes (such as food security, employment, and their impact on social relations and the environment). In doing so one can gain a better understanding of the resilience of food systems in such environments. Concretely, the specific risk landscape of EE can be applied to each activity and driver of the food systems to establish specific vulnerabilities and coping capacities. In turn, the food system activities and drivers are also assessed in terms of their dynamic contribution to the risk landscape.

When applying a resilience lens to a food system, we use **four basic resilience questions** to guide and frame our analysis:

- **Resilience of what?** The food systems in its protracted crisis context.
- **Resilience to what?** The typical shocks and stressors that make up the risk landscape of the State.
- **Resilience through what?** Strengthening local capacities and addressing vulnerabilities to better anticipate, absorb, adapt and transform in face of shocks and stressors.
- **Resilience for what?** Improved food systems performance and outcomes, including improved FNS, socio-economic and environmental outcomes.

See below for an illustration.

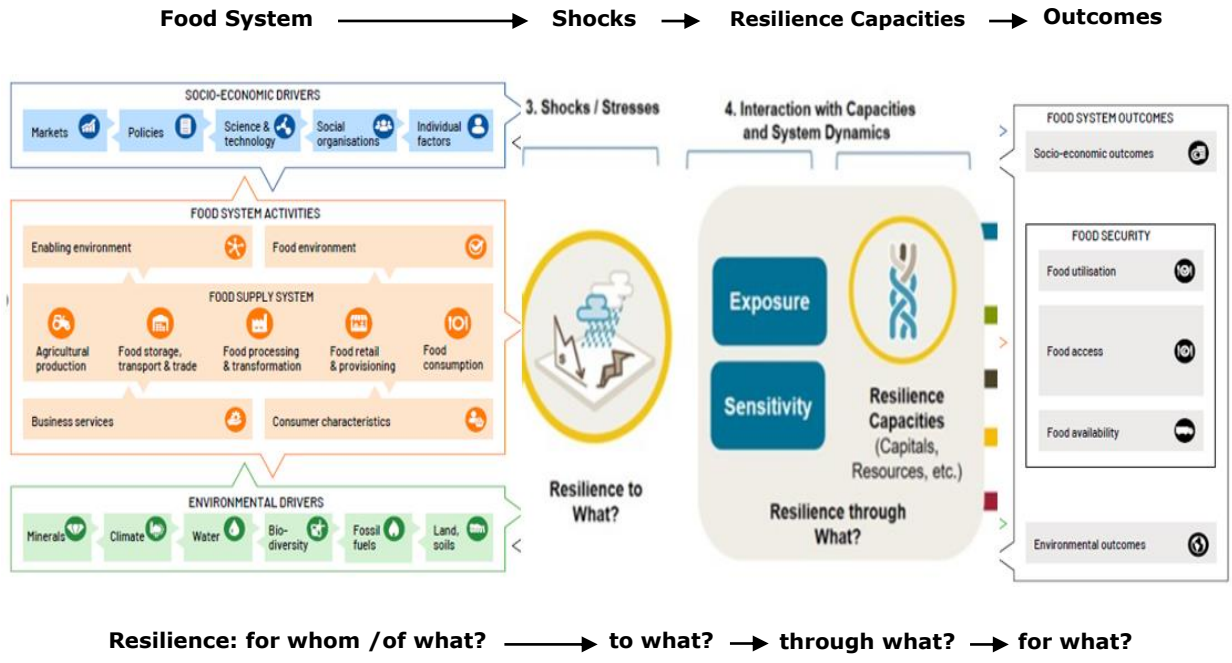


Figure 2 *The food systems resilience framework. Adapted from van Berkum et. al. 2018*

5.3 Dialogue and Pathway Definition: methodology and steps

To set our analysis on a strong track we were inspired by the Rome Based Agencies' conceptual framework for strengthening resilience for food security and nutrition in protracted crisis contexts[2]. This conceptual framework of resilience is guided by six principles (FAO, IFAD, and WFP, 2015). While keeping in mind the different principles in our analysis, we considered in EE the following elements:

Principle 1. Local ownership and leadership
'People, communities and governments must lead resilience building for improved FNS'. In the case of EE, this means that all efforts must not only be participatory and inclusive but be led by local actors as much as feasible. In our case, the Partnership for Recovery and Resilience (PfRR) and actors organised around the Area Reference Group (ARG), supported by academics from Juba University spearheaded a process that brought together representatives of the local government, the private sector, and civil society.

Principle 2. Multi-stakeholder approach and sustainable transformation
'Assisting vulnerable people to build their resilience is beyond the capacity of any single institution.' In the case of EE, this means that a variety of actors need to be involved to work effectively, including local organisations, communities, and governments (also see above). As mentioned, resilience building requires the breaking down of sectoral barriers and silos. The food systems resilience assessment is a step on that journey and will clarify a joint understanding, vision and priorities for food system transformation. The joint pathways and action plan will serve as a guiding document to steer and improve current interventions but also as a basis to raise further awareness and develop funding strategies and investment options for improving food system performances including contributions to social cohesion and peace. The group of diverse stakeholders, mobilised during the assessment phase, will remain engaged to continue learning and act together.

Principle 3. The triple nexus: combining humanitarian relief, development and peace building
'Planning frameworks should combine immediate relief requirement with long-term development objectives.' Given South Sudan's risk landscape, to pay particular attention to conflict and peace building in our understanding of food systems resilience is crucial. We need to explore how food systems respond to shocks and stressors through their absorptive, adaptive and transformative capacities, and at the same time explore how current food systems contribute to the risk landscape. Another element is the humanitarian-development linkage and how humanitarian investment (notably through safety nets, asset creation and school feeding) can catalyse sustainable food system transformations.

Principle 4. Focus on the most vulnerable people
'Ensuring protection of the most vulnerable people is crucial for sustaining development efforts.' This is an important aspect of our work. In doing this it is equally important to consider those that have potential to drive local development (and in doing so aim to protect the most vulnerable) and to improve on local capacities to protect the most vulnerable. For example, in value chain development, it makes sense to work with those that can make value chains successful while at the same time consider how income or other gains will benefit the most vulnerable.

Principle 5. Mainstreaming risk-sensitive approaches
'Effective risk management requires an explicit focus on the decision making of national governments, as well as enhanced monitoring and analysis.' Effective risk management is equally important at lower echelons of government, in our case in particular at state and county level.

Principle 6. Aiming for sustained impact
'Interventions must be evidence-based and focused on results.' Building food systems resilience requires evidence-based adaptive programming as local contexts are often dynamic and volatile and can include potentially violent conflict. Programming for impact is crucial; taking a food systems perspective requires improved outcomes, particularly in terms of food and nutrition security (seeing the current figures which are highly alarming).

An additional consideration when analysing food systems resilience is the risk of getting lost in complexity. As full investigation of all the elements of a food system is overambitious and can lead to information paralysis, we have focused our effort on several priority themes. These themes are non-sectoral and require an understanding of the dynamic relation between elements of a food system:

- Shocks and stressors and food systems: we worked on the particular risk landscape in EE, made of recurrent conflict, floods and droughts, and its impact on food systems.
- Balance of food production and consumption: We want to reinforce our understanding of affordable and healthy diets adapted to local realities. Beyond calorific needs, micronutrient gaps and the most effective ways to address these can be further defined. Using a systems approach, food consumption and food production dynamic relations can be further explored at County and Payam levels; competition between food import and local production, and opportunities for local rural-urban linkages, can be analysed and explored. Furthermore, the importance of Torit Town is crucial to understand the flow of food within the state and beyond. In this approach, a food system links rural food production with a reference city where food is sold and services are obtained. In this approach, the focus is on the urban-rural dynamic and interdependency, and on the need to ensure constructive dialogue between those different actors.
- Value chains, farmers agency and youth employment: potential for profitable food value chains exists (such as honey, shea, fish, groundnuts, cowpea). Our analysis focused on the potential contribution of value chains to wider food system transformation and resiliency. Starting with farmer realities, and their agency to act, we explored support from farm to policy level to help value chains develop. Particular attention was paid to solutions that promoted job creation, particularly for youth.

Box 2 *FoSReD EE priority themes at a glance*

Priority themes at a glance

- Shocks and stressors and food systems
  - Food Systems for Peace
  - Flood and drought risk mitigation
- Dynamics of food consumption and production
  - Role of Torit town in the food system
  - Humanitarian programming and food system transformation (school feeding, seeds and tools, food/cash for assets)
- Food system value chains
  - Food systems and youth employment

In conclusion, we structured our participatory dialogue using a classic describe-explain-explore-design approach, ensuring participants shared their understanding of food systems resilience by describing the situation, explained relation and dynamics, explored futures and scenarios, and designed pathways for transformation. Given these considerations we followed the following analytical steps in our process:

1. Constitution of a stakeholder group
2. Literature review and validation
3. Food systems description and analysis
4. Mapping of the risk landscape and its impact on food systems
5. Thematic deep dives
6. Pathway designs that build food systems resilience.

5.4 Limitations

The information presented in this report is mainly based on views expressed by a group of food system stakeholders during a ten-day dialogue in Torit town. The limits of such a participatory process are several, the most important of which are:

a. Our primary source of information was expert perspectives and knowledge, which are, even when well informed, a partial representation of the reality. Stakeholders act based on the information available to them and understood by them. To use this as a starting point for our dialogue and pathways definition was to ensure that participants were brought along in this process of knowledge co-creation. In some cases, the quantitative data available and the experts' perspectives did not align. These discrepancies are in themselves interesting and we have tried to reflect on them.
b. Food systems are complex and the list of actors involved in its numerous components is near infinite. We tried to involve as representative a group as possible, from all roles in the food systems, from various locations within EE and from different interest groups, but we are aware that some voices were little or less represented. Representatives from government, civil society (the UN, NGOs, youth and women's associations) and academia were present in number. But representatives from traders, financial institutions and armed groups proved more difficult to engage in the time that we had. More work with those actors is needed.
c. Opting for a dialogue format to our information-gathering is to run the risk of giving more voice to public speakers and group leaders than to people less used to this sort of engagement. We could observe that young NGO workers tend to take the lead in group work as they are more familiar with the concepts, tools and exercises proposed. To try to minimise this bias and maximise the possibility for a diversity of point to view to emerged, we kept groups small and had several groups working on the same topic in parallel.

6 Objectives of the dialogue and data collection

The objectives at the origin of this collective endeavour were set by several partners active in the food system in Eastern Equatoria. International NGOs under the banner of the Netherlands Food Partnership (NFP) as well as UN agencies collaborating within the Partnership for Recovery and Resilience (PfRR) expressed converging interest to conduct further work on food systems resilience at sub-national level.

To meet these objectives, Wageningen Center for Development Innovation (WCDI) and the University of Juba facilitated a participatory learning and action planning process, the Food Systems Resilience Dialogue and Pathway Definition (FoSReD-PaD).

A participatory and qualitative methodology was preferred for several reasons.

Firstly, the protracted nature of the crisis and the long-term presence of actors engaged in the humanitarian and (the emerging) development spaces meant that a significant amount of information on the different aspects of the food systems and their resilience already existed. The main challenges were to digest, make sense and act on this information, rather than generate entirely new data and analysis. However, gaps in key data were identified and adequate assessments envisioned.

Secondly, the sectorial divisions of humanitarian and development work generates a well-known silo effect, with interventions working in parallel and sometime competing against each other. The multi-sectoral dialogue used involved expert actors in agriculture, trade, value chains, security and peace, cooperatives, food assistance, and nutrition at multiple levels; experts from Juba and EES State; and experts representing multiple stakeholder groups, such as government, private sector, civil society, humanitarian and development actors.

This was a strategic element to ensure collaboration between actors that have usually little time to reflect and plan jointly.

Box 3 *Objectives for the FoSReD-PaD data collection*

The objectives of the Food Systems Resilience Dialogue and Pathway Definition

- To improve our collective understanding of local food systems resilience in fragile settings.
- To co-create action plans and pathways for sustainable food system transformation (food systems resilience pathways).
- To strengthen food systems governance and collaboration through multi-stakeholder partnerships.

7 Food systems transformation: stakeholders and their perspectives

Perspectives on the challenges to South Sudan's food systems transformation.
As the first exercise of the Food Systems Resilience Dialogue, participants were asked for their perspectives on the critical challenges (identified by South Sudan's national Food Systems Dialogue) to transform EE's food systems. It was important to establish how the national priorities resonated in EE's context and whether they captured local realities.

Each of the four strategic challenges for the transformation of food systems were introduced in the form of a statement. Participants were asked whether or not they agreed (using a five-point scale: strongly agree, agree, neutral, disagree, strongly disagree) with each statement, and were asked to provide a rationale for their choice. The arguments were weighted either in favour of or in opposition to the statement. The exercise presents overall perspectives on, and unique insights into, the perceived strengths of as well as challenges to the food systems of EE.

Key findings are discussed below. Detailed findings can be found in Appendix 4.

Development of the pathways to building food systems resilience in EE
Based on the perspectives voiced by the dialogue participants (in agreeing or disagreeing with the statements), and a context- and subject-based search in relevant publications, potential action agendas were generated.

The action agendas are presented below and were used to guide the development of the pathways and its key activities to building food systems resilience in EE (part III of this report).

7.1 Food systems resilience

Statement: Food systems in Eastern Equatoria are resilient to human-made and natural shocks/stressors (ensuring FSN).

7.1.1 Dialogue participant perspectives

A total of 35% of arguments agreed with the statement (strengths), 58% disagreed (challenges) and 8% of responses were neutral. See Figure 3.

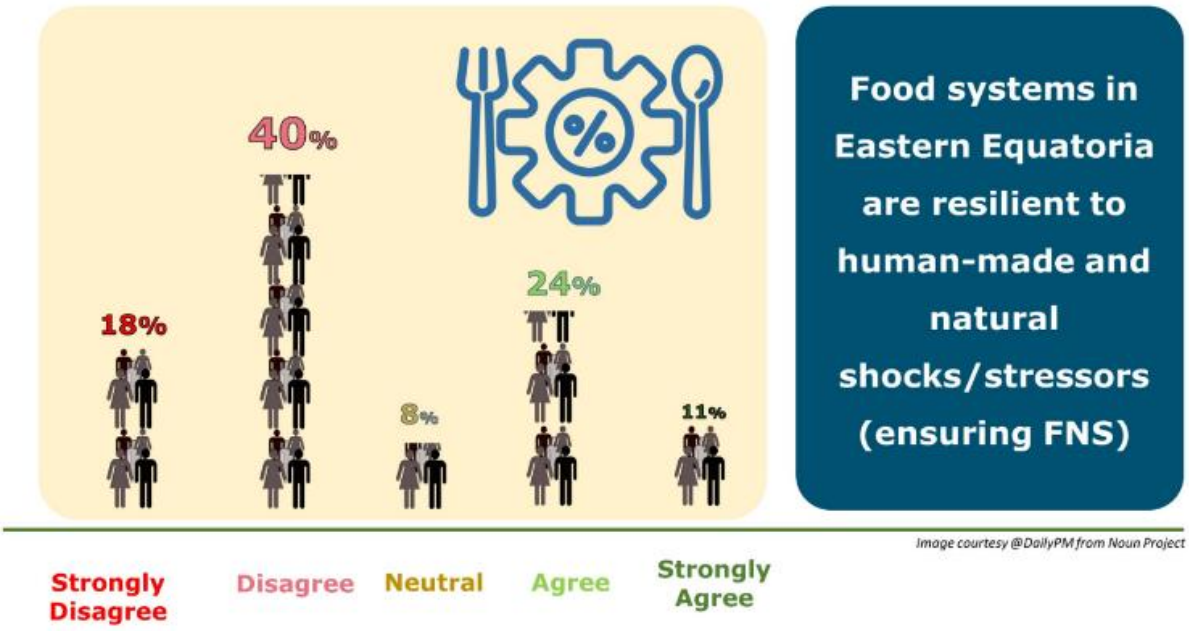


Figure 3 *Food systems resilience statement 1*

Key arguments in disagreement (challenges) were: 'Food systems are prone to both human and natural shocks in particular communal conflict, disputes over land, insecurity and droughts and floods; resilience will collapse in face of conflict and major shocks' and 'Cattle moves at will of herders creating conflict and undermining food systems - there is no effective policy on this'. Other arguments highlighted the poor status of livelihoods in EE and seasonality: 'Unstable livelihood systems results in low production and access to food for the majority of households in EE' and 'Consumption of food and food diversity is highly affected by the seasons significantly impacting nutrition's status of women and children'. An interesting and thought-provoking argument as to why food systems are not resilient was 'Inappropriate selection of beneficiaries to increase resilience of food systems'.

Arguments agreeing that food systems are resilient in face of natural and man-made shocks (strengths) included: 'In face of natural shocks local food systems are able to continue functioning', 'People have strong coping mechanisms and despite challenges continue to produce food'. There was also acknowledgement about the potential to develop the resilience of food systems and what is essentially required: 'Good policies and good leadership will make food systems stronger and more resilient'.

An argument for those taking a neutral position was that 'the security situation drives the lack of resilience of food systems'.

See Appendix 4: 'Dialogue participant perspectives on the four key strategic challenges to transform EE's food systems' for a detailed overview of the responses provided.

7.1.2 Potential action agenda elements

For food systems in EE to be more resilient to human-made and natural shocks (thus ensuring FNS), the following proposals for action were generated, based on the perspectives expressed by the dialogue participants (presenting both the strengths as well as the weaknesses/challenges of current food systems performance) and a semantics-based search of the relevant literature.

a. Government agencies:
   - Invest in infrastructure development, such as roads, markets, and storage facilities, to support food systems and improve food security.
   - Develop policies that support smallholder farmers and encourage value addition to agricultural produce.
   - Provide extension services and training programmes to farmers to improve productivity and post-harvest handling.
   - Invest in research and development of drought-resistant crop varieties to increase resilience of food systems to climate change.
b. Civil society organisations:
   - Support community-led initiatives that promote sustainable agriculture and food security.
   - Promote women's participation in the food value chain by providing training and access to resources.
   - Advocate for policies that support smallholder farmers and equitable access to land.
c. Food and Agriculture Organization (FAO):
   - Provide technical support to government agencies and civil society organisations to improve food systems and promote food security.
   - Develop and promote best practices for sustainable agriculture and food systems.
   - Provide emergency food assistance and support for disaster risk reduction.
d. Knowledge institutes (such as the University of Juba and Wageningen University):
   - Conduct research on sustainable agriculture and food systems in the region.
   - Develop and promote innovative agricultural technologies that increase productivity and reduce post-harvest losses.
   - Provide training and capacity building programmes for farmers and other stakeholders to improve food security and resilience.
   - Support efforts to build resilience to climate change and other shocks and stressors.

7.2 Food systems for peace

Statement: Food systems in Eastern Equatoria contribute to peace and stability within and across ethnic groups.

7.2.1 Dialogue participant perspectives

A total of 62% of arguments agreed with the statement (strengths), 33% disagreed (challenges) and 5% of responses were neutral. See Figure 4.

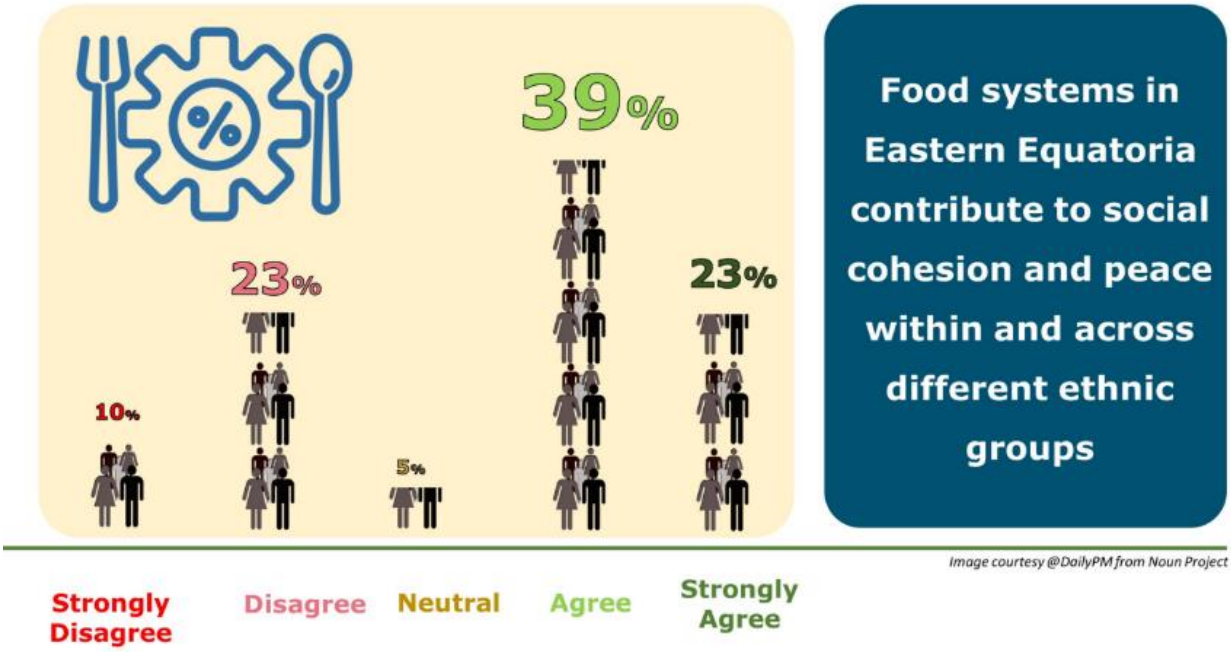


Figure 4 *Food systems resilience statement 2*

Arguments in agreement (strengths) highlighted the importance of interaction between people such as 'Production of food encourages togetherness particularly through communal work across communities and villages' and 'Sharing and sale of products from the one place to the other brings interaction: this contributes to peaceful living of communities across EE' and 'Different people in communities such as youth, women, men and the elderly are involved in the food production process hence contribute to social cohesion and peace'. The importance to have enough food was also highlighted: 'When people share food amongst each other it brings happiness because everybody is equally satisfied' and 'In areas were food is enough it attracts the return of IDPs (easing potential tensions elsewhere)'. It was also mentioned that 'People try to maintain peaceful relationships as they know their food systems depend on each other'.

Arguments in disagreement (challenges) highlighted the occurrence of fighting: 'Food systems have become a key source of conflict in most parts of EE and are in particular caused by cattle herders' and 'Communities are fighting over land and there are serious conflicts between farmers and herders'. Other arguments highlighted the lack of interaction such as 'Trade is limited and therefore cannot create bondage: there is a strong reliance on subsistence farming'.

Arguments voiced by those taking a neutral stance were: 'Crop production groups have a strong bond, work together and undertake exchange visits' and 'Livestock production creates enemies like intrusion into farmland and destruction of crops and cattle raiding'.

See Appendix 4: 'Dialogue participant perspectives on the four key strategic challenges to transform EE's food systems' for a detailed overview of the answers given.

7.2.2 Potential action agenda elements

For food systems in EE to contribute to social cohesion and peace within and across different ethnic groups) the following proposals for action were generated, based on the perspectives expressed by the dialogue participants (presenting both the strengths as well as the weaknesses/challenges of current food systems performance) and a semantics-based search of relevant literature.

a. Government agencies:
   - Support and promote community-led initiatives that promote peace and social cohesion through food systems.
   - Provide financial and technical assistance to farmers to improve food production and promote value chain development.
   - Develop policies and strategies that encourage inclusive participation of different ethnic groups in food systems.
b. Civil societies:
   - Educate and sensitize communities on the importance of peaceful coexistence and social cohesion through food systems.
   - Facilitate community-led dialogues and forums that bring together different ethnic groups to promote peaceful coexistence.
   - Support farmers to develop and implement sustainable farming practices that improve food production and increase income.
c. FAO:
   - Support the government in developing policies and strategies that promote inclusive food systems.
   - Provide technical support and training to farmers to improve food production and promote value chain development.
   - Facilitate the exchange of knowledge and best practices on food systems between different countries and regions.
d. Knowledge institutes (such as the University of Juba and Wageningen University and Research):
   - Conduct research on the role of food systems in promoting social cohesion and peace within and across different ethnic groups.
   - Develop and provide training programmes for farmers on sustainable farming practices and value chain development.
   - Share research findings and best practices on food systems through publications, seminars, and workshops.

7.3 Food systems for healthier diets

Statement: Food systems in Eastern Equatoria contribute to food diversity and healthier diets.

7.3.1 Dialogue participant perspectives

A total of 74% of arguments agreed with the statement (strengths), 19% of arguments disagreed, and 7% remained neutral. See Figure 5.

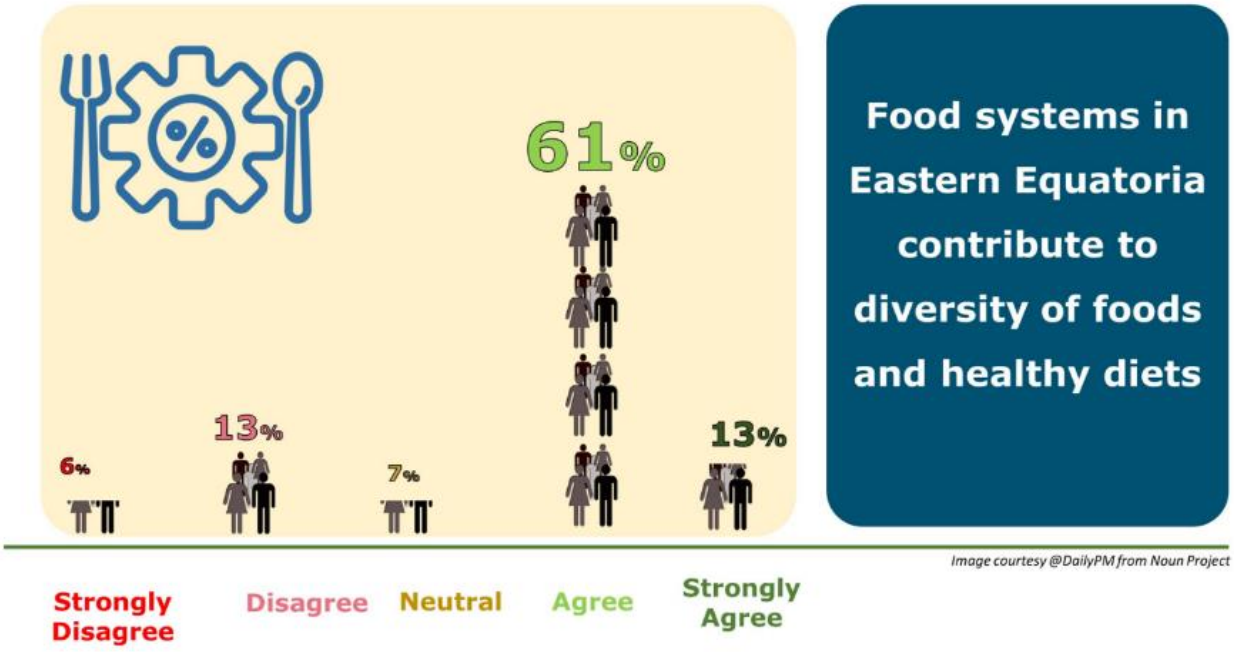


Figure 5 *Food systems resilience statement 3*

Unfortunately, the arguments given by the dialogue participants were lost and so no further analysis can be provided.

7.4 Food systems for inclusive value chains / agribusiness and youth employment

Statement: Agribusiness and value chains in Eastern Equatoria are inclusive and generate employment for youth and women.

7.4.1 Dialogue participant perspectives

A total of 67% of arguments disagreed with the statement (challenges), 22% of arguments agreed (strengths), and 11% of arguments were neutral. See Figure 6.

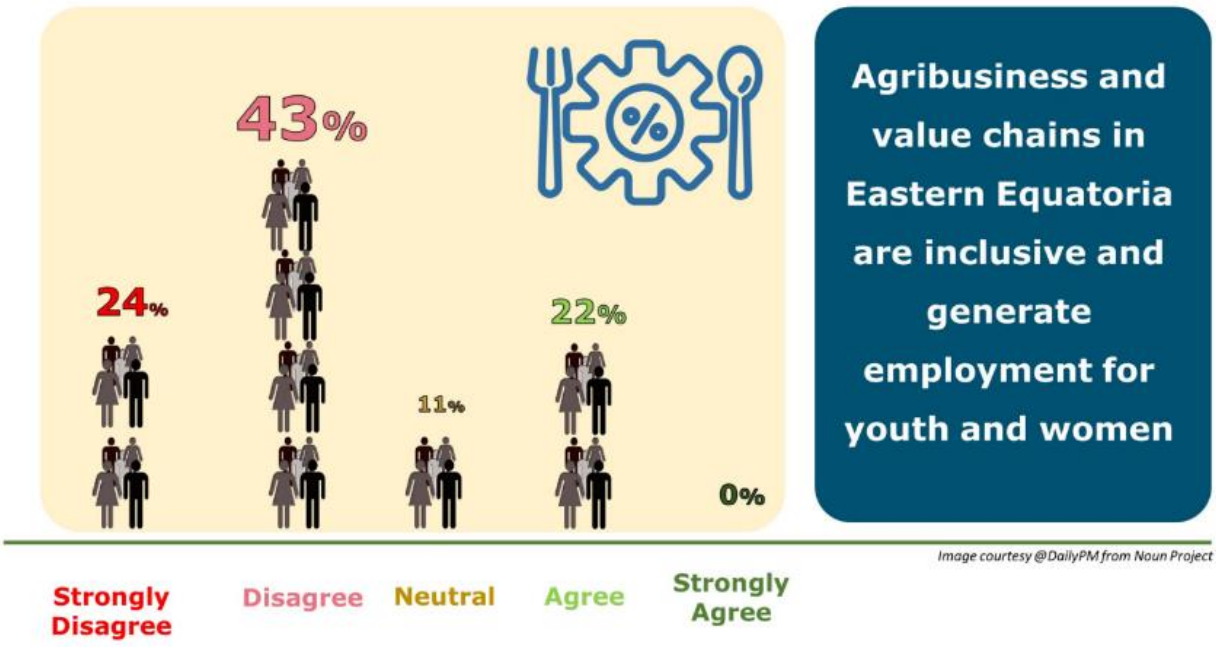


Figure 6 *Food systems resilience statement 4*

Arguments in disagreement (challenges) highlighted the lack of employment opportunities: 'Production beyond self-subsistence is very limited and therefore value chains and small businesses development is slow', 'Farmer producer groups and cooperatives do not have the capacity / resources to employ youth', and 'There is no significant commercial farming in EES limiting employment opportunities, due to lack of investors'. Some arguments focused on the lack of security: 'No significant employment for youth because of the poor insecurity, poor and insecure roads (robberies) and cattle rustling - all triggered by 'lack of engagement'. Others highlighted the challenges faced by the youth: 'The youth are not given a serious chance; they are being used by politicians for their own games'. Another important notion with major implications for programming was 'Agriculture is not considered as employment by youth'.

A typical argument in agreement (strength) was 'Most youth and women are now engaged in production, processing, storage and marketing of agricultural produce - this generates income and increases standard of living'.

Arguments mentioned by those taking a neutral position included: 'Food systems are not well developed to generate significant employment for youth and women', 'About half of the women are not involved in job opportunities as they are preoccupied with tending their (small) children' and 'Youth suffer and their lives are deteriorating because of frustration and trauma of war'.

See Appendix 4, 'Dialogue participant perspectives on the four key strategic challenges to transform EE's food systems' for a detailed overview of the answers given.

7.4.2 Potential action agenda elements

For agribusiness and value chains development in WBeG to become inclusive and generate employment for youth and women, the following proposals for action were generated, based on the perspectives expressed by the dialogue participants (presenting both the strengths as well as the weaknesses/challenges of current food systems performance) and a semantics-based search of relevant literature.

a. Government agencies:
   - Develop and implement policies that promote agribusiness and value chains in the region.
   - Encourage and support small business development in the food system.
   - Provide training and resources for farmers and cooperatives to improve their productivity and efficiency.
   - Improve infrastructure, such as roads and transportation, to facilitate the movement of goods.
   - Create incentives for investors to invest in agribusiness and value chains in the region.
b. Civil societies:
   - Work with farmers and cooperatives to develop their capacity to participate in value chains.
   - Educate youth and women about the opportunities in agribusiness and value chains.
   - Provide resources and support to small businesses in the food system.
   - Advocate for policies that support agribusiness and value chains in the region.
c. FAO:
   - Provide technical support and resources to farmers and cooperatives to improve their productivity and efficiency.
   - Promote and facilitate the participation of youth and women in agribusiness and value chains.
   - Work with policymakers to develop policies that support agribusiness and value chains in the region.
d. Knowledge institutes:
   - Conduct research on the inclusivity challenges and opportunities in agribusiness and value chains in the region.
   - Develop training programmes to improve the capacity of farmers and cooperatives to participate in value chains, particularly for women and youth-led entrepreneurships.
   - Provide technical support and resources to small businesses in the food system.
   - Advocate for policies that support agribusiness and value chains in the region.

8 Food system boundaries

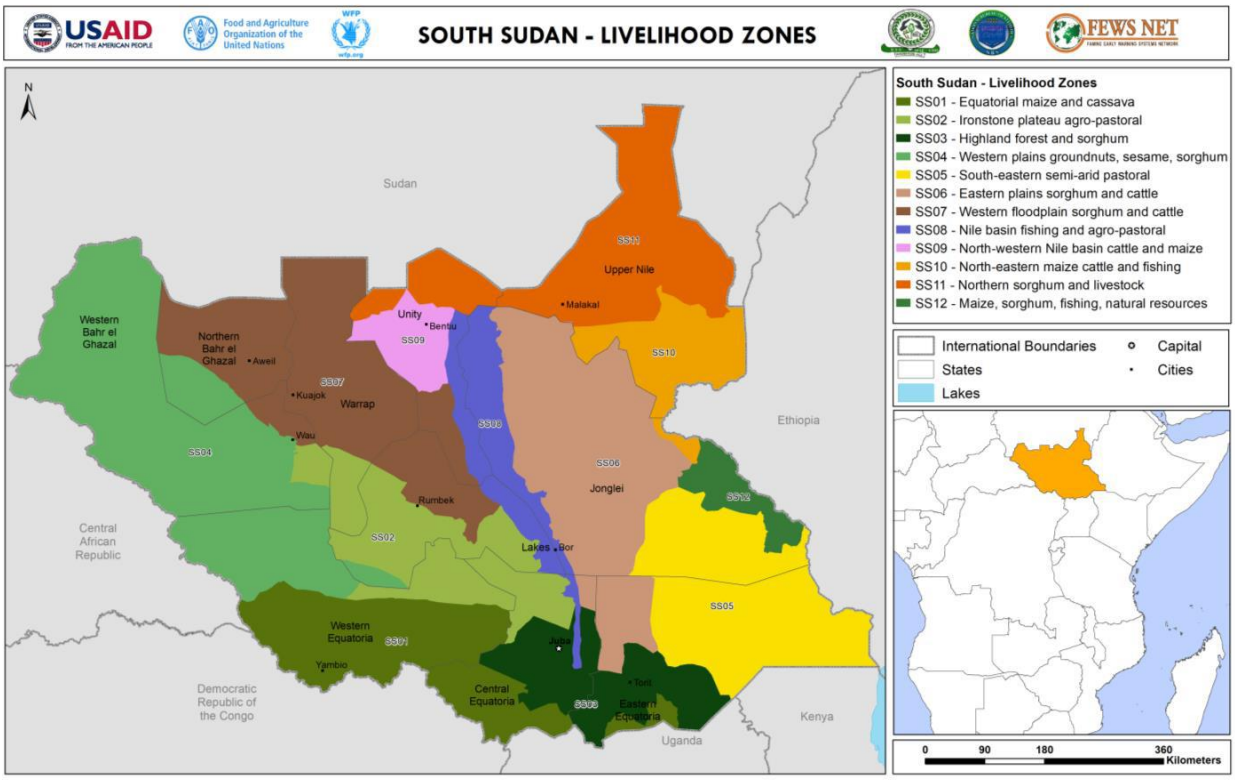


Figure 7 *South Sudan livelihood zones at a glance. Adapted from FEWS NET 2018*

As mentioned, the objective of this dialogue was to analyse and find entry points for transformation of the Eastern Equatoria State food systems. It was therefore important that all actors involved had a common understanding of the boundaries of these particular food systems. What do the EES food systems encompass? Food systems are complex and require a holistic view, bringing together different disciplines, sectors and geographical areas:

'Many food security and nutrition challenges are complex problems whose solutions are contested and which transcend disciplinary, divisional, institutional, and geographical or state boundaries. In increasingly globalised food systems, these challenges result from interactions across different scales and levels' (FAO, 2018).

Food system boundaries can be defined using a variety of criteria, such as:
- Administrative boundaries
- Specific population groups
- Livelihood zones
- Climate and ecological zones
- Food trade networks.

Furthermore, factors of physical geography such as climate, soils, water bodies and vegetation, as well as factors of human geography such as socioeconomic class, culture, trade and markets, settlement history and political boundaries, must all be carefully considered and woven together into a coherent analysis. These aspects are all relevant to South Sudan, with the additional complicating factor of multi-faceted conflict and war.

With the above in mind, it was decided that the different food systems in EES would be based upon the key agro-ecological zones as set out in South Sudan's Livelihoods Zone Map (Fout! Verwijzingsbron niet gevonden.) developed by FEWS NET in 2018. This is because food systems are strongly linked with livelihood zones.

A livelihood zone is a geographic area in which most households have a relatively similar pattern of production. This means that if we move from one livelihood zone to the next, we expect to see different means of production as determined by factors such as geography, markets, and trade opportunities. Socio-economic groups within a single livelihood zone tend to have similarities in their asset base, as well as relatively similar consumption patterns and coping strategies in response to shocks (FEWS NET, 2018).

During the workshop held in Torit, the central questions used to guide the reflection on food system boundaries were investigating the out/inflows of food in EES:

- Where is the majority of the food consumed in various areas of EES coming from?
- Where is the majority of the food produced in EES going to?

The result of the exercise was the development of food system boundary maps, describing the boundaries of food systems in EES as well as the flow of food between different counties of EES and across state borders. A full overview of this exercise can be found in the working document.

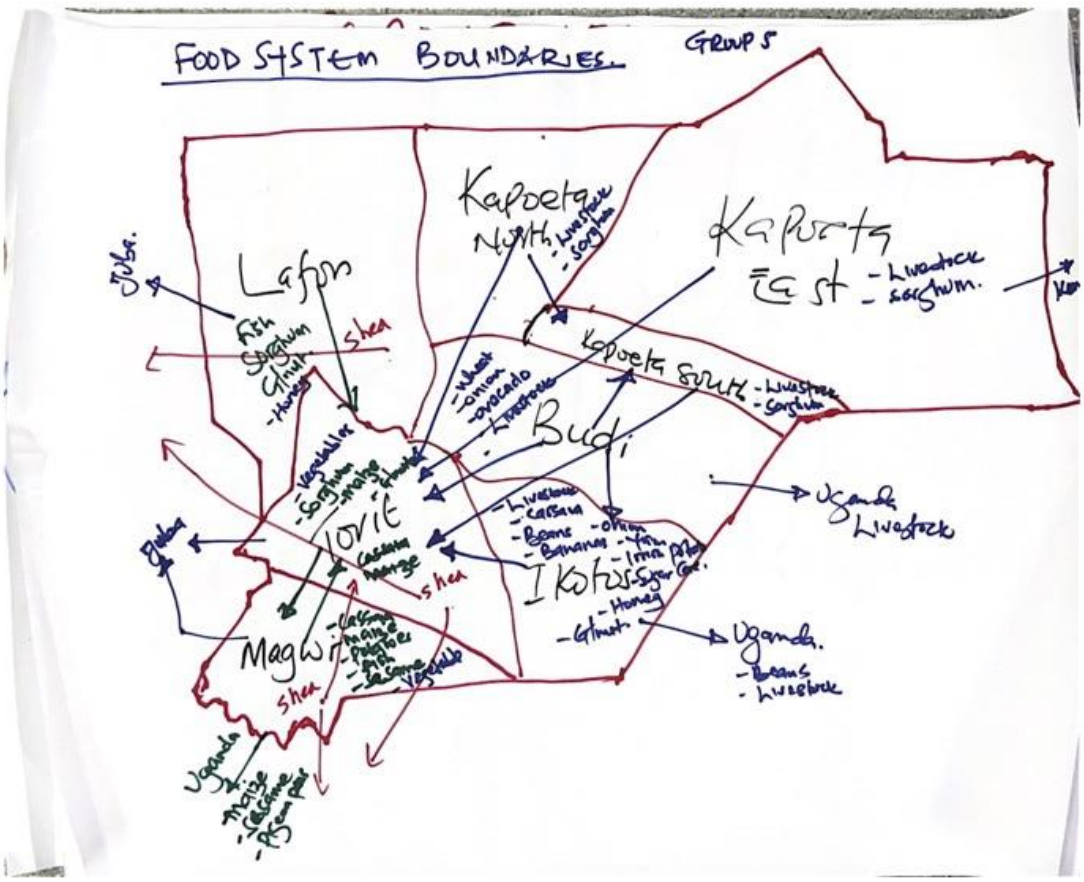
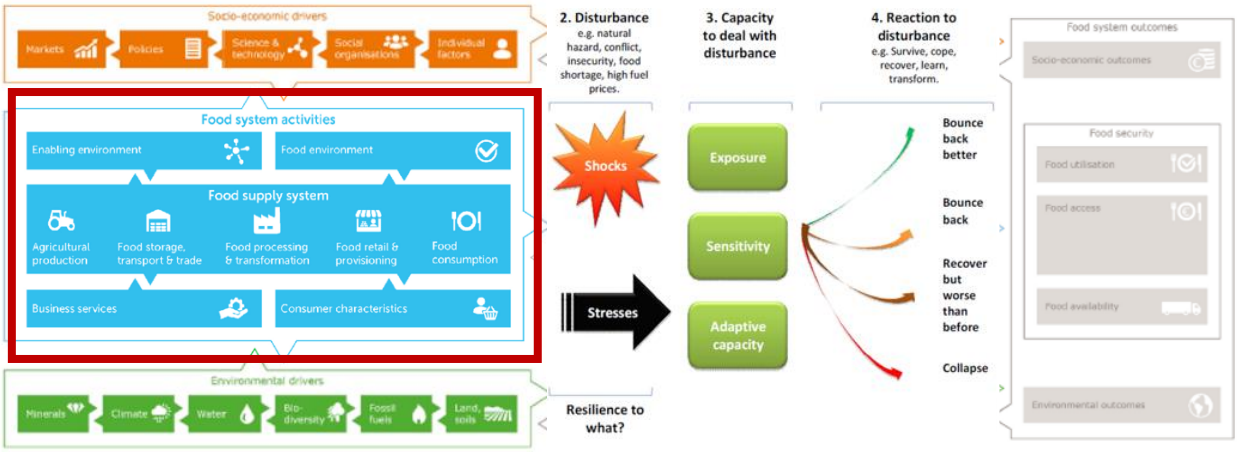


Figure 8 *Identifying EES food systems boundaries*

9 Food system activities

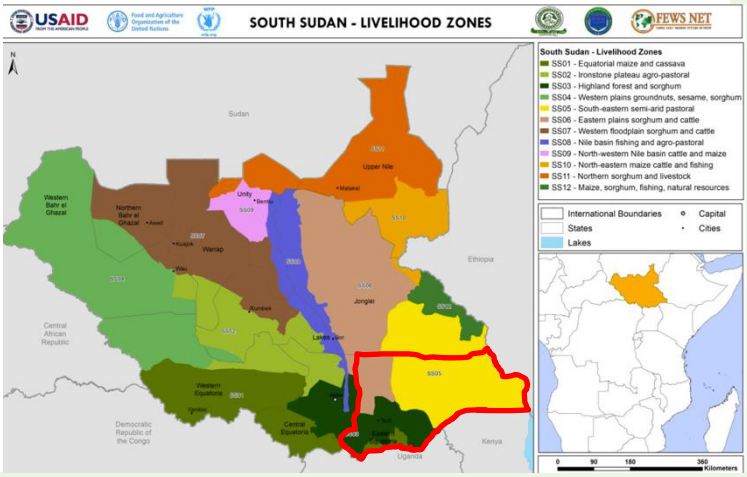


We focused our analysis on each element of the food supply system in EES, using available data and filling the gaps with information from the dialogue participants. We discussed how food production, food transport/trade/processing/retail and food consumption has evolved over the past 10 years, their future evolution, and the main constraints and opportunities. This review was designed to help participants align their understanding of the main strengths and weaknesses of the current food supply systems and potential for improvement.

We concluded our analysis by assessing the dynamic relation between food production and consumption within the state, trying to identify imbalance, bottlenecks and gaps.

9.1 Food production

EES food production systems can be describe using four livelihood zones found in the area. The Highlands Forest and Sorghum zone (SS03) is the major livelihood system in Torit county. Magwi and Ikotos counties are located within the Equatorial Maize and Cassava zone (SS01). The northern parts of EES are located in the Eastern Plains Sorghum and Cattle zone (SS06). The South-Eastern Semi-Arid Pastoral zone (SS05) lies at the south-eastern tip of Southern Sudan, covers many parts of Greater Kapoeta and is bordered by Kenya and Ethiopia (FEWS NET, 2018).



Highland forest and sorghum (SS03)

Livelihoods in this zone are dependent on rainfed agriculture cultivation with less reliance on livestock. The zone is a cereal deficit area characterised by low production output due to low rainfall and dependence on one growing season. A complementary source of livelihoods includes exploitation of forest products, labour and trade activities. Crops grown on a smaller scale include sweet potatoes, vegetables, millet, and cassava.

Equatorial maize and cassava (SS01)

Livelihoods in this zone are chiefly based on agriculture but supplemented by livestock, fishing, hunting, and gathering of a range of wild foods and bush products. In a normal year, the zone is highly productive and considered a surplus area due to good soils and reliable rainfall; market access, both local and cross-border (with Uganda, CAR, and DRC), is relatively good.

South-eastern semi-arid pastoral (SS05)

Local livelihoods in this zone are primarily based on livestock rearing, with limited crop production. The zone is inhabited by almost pure pastoralists who survive in a very harsh, drought-prone environment. Livestock kept include cattle, camels, goats, and sheep and, to lesser extent, poultry (mainly for household consumption).

Eastern plain sorghum and cattle (SS06)

Livelihoods in this zone are predominantly agropastoral and depend on rain-fed cultivation and livestock rearing, supplemented by fishing, hunting, and gathering of a large range of wild foods and bush products. It is a known deficit production area but is abundant in fish and livestock products.

Figure 9 *Description of livelihood zones. Adapted from FEWS NET 2018*

Torit is in the highland forest and sorghum zone (SS03). This is an agricultural zone with minor dependence on livestock. The zone is a cereal deficit area characterised by low production output due to low rainfall and dependence on one growing season (April – July). A complementary source of livelihoods includes exploitation of forest products, labour and trade activities. Crops grown on a smaller scale include sweet potatoes, vegetables, millet, and cassava. In a typical year, all wealth groups depend chiefly on their own crop production, supplemented by wild foods, dry fish, and market purchase for the poor. Most cultivation is done by hand and cultivated areas are small, averaging 1.25 hectare, although better-off households can employ labour and hire tractors for larger landholdings (1.4 – 2 hectares per household). The poor on average cultivate less land (less than one hectare) due to the limited availability of labour and resources (FEWS NET, 2018).

Livestock kept include goats, sheep, and poultry, with relatively few cattle owned by the better-off group. Livestock is used mainly for consumption (goats, sheep, and poultry) of milk and meat, and cash income to meet household needs. Extensive systems (free grazing) is the most common feeding method, although tethering is practiced for sheep while chickens are kept in the backyard and fed with grains. A wide variety of wild food plants are available in the hills and mountains including roots, fruits, berries and leafy vegetables gathered by both wealth groups to supplement household food needs. Hunting and collection of wild honey are practiced mainly during the dry season. Other livelihood activities include cross-border trade with Uganda in agricultural products through Nimule and Tseretenya border points. Self-employment activities include handicrafts and brick-making near urban centres (FEWS NET, 2018).

With respect to farming, households in Torit prioritise sorghum as a key crop (USAID, 2019a). Yet even within households/gardens, Torit's crop diversity is very minimal - drawing attention to the opportunities to

improve nutrition outcomes, food security and biodiversity through broader agricultural diversity (USAID, 2019a). Lack of diversification can put households and communities at risk when particular crops or varieties fail; it worsens with pest threats due to lack of biodiversity, and households may suffer serious malnourishment due to poor dietary diversity. This is especially striking since '80% of Torit's population participates in crop production—most all of them cultivating sorghum almost exclusively' (USAID, 2019a).

Key elements for food system transformation include:

- Opportunities to improve nutrition outcomes, food security and biodiversity through broader **agricultural diversification**.
- Increased **education around livestock value addition**: 'Training should be provided to the cattle keepers on how to add value to their products rather than only slaughtering the cattle for meat only' (USAID, 2019a).

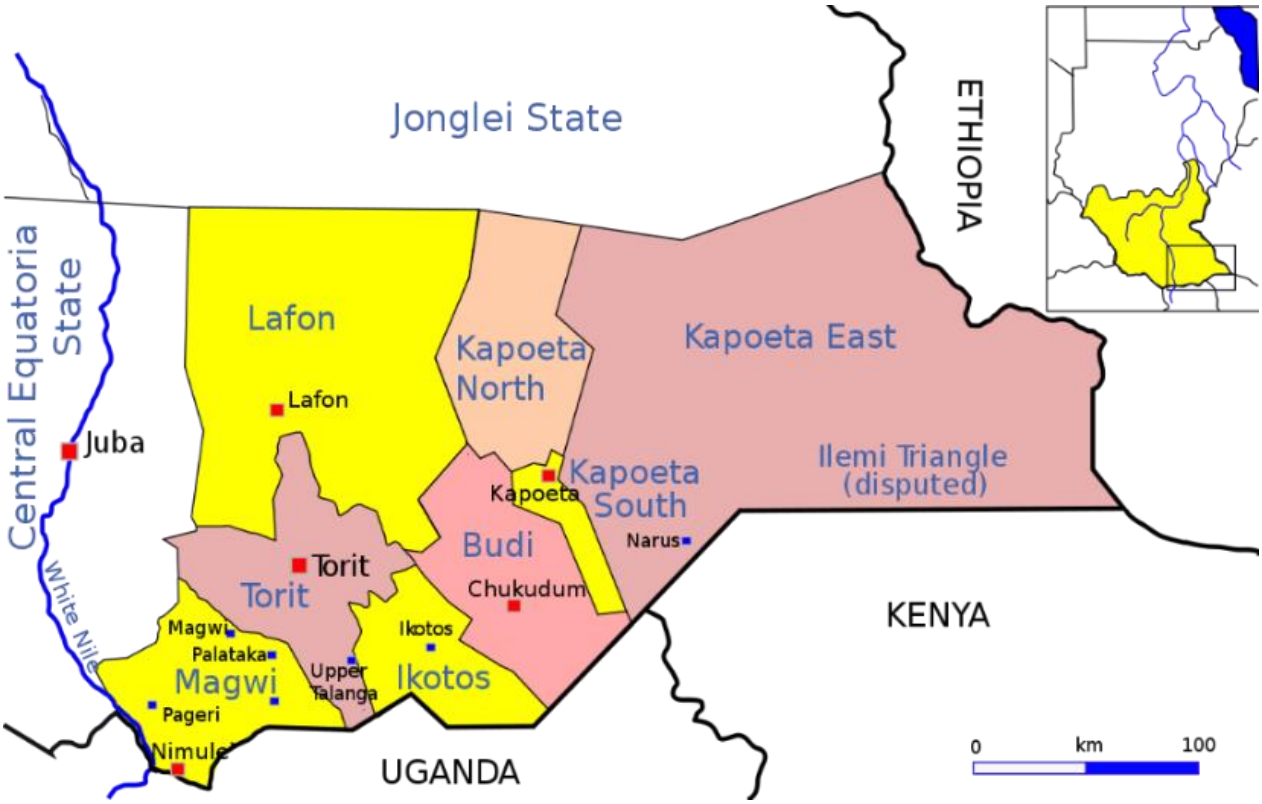


Figure 10 *Eastern Equatoria State and its counties*

9.2 Food transport -transformation-retail

Physical infrastructure such as roads, are a crucial element of food systems, as without access to good roads, receiving good agricultural inputs and market access remain a challenge. For instance, farmers, importers, traders, etc. need roads to access input and output markets. Road rehabilitation needs to take place on a massive scale in South Sudan, including EES, to get the agriculture engine of growth moving, and this will create thousands of temporary, but relatively long-terms jobs at various skill levels (World Bank, 2019).

The main markets for EES are Juba, Torit and neighbouring Lafon and Kapoeta trading centres. Additionally, trade and exchange routes between Uganda and Kenya continue to thrive, facilitating movement of goods in and out of the zone (mostly done by the Didinga, Langi and Toposa people). The road networks that connect

main towns are generally poor and consist of the main roads between Juba-Torit, Juba-Nimule, Torit-Ikotos, Torit-Immehejeck, and Torit-Chukudum; these connect to numerous feeder roads as the main transportation routes (USAID, 2019a).

Farmers sell their produce to local traders who buy at low prices and resell to larger traders who then transport the produce to nearby towns both inside and outside the zone, including Magwi, Kapoeta, Torit, and Juba. Farmers sell their produce through cooperatives, farmers associations, and individual sales. Livestock is sold both locally to local traders and abattoirs as well as across the border thanks to connections with Kenyan and Ugandan traders. The labour market is largely regional and includes agricultural work, construction work in nearby towns, and some labour migration to neighbouring zones and countries (FEWS NET, 2018). Key market challenges include: poor road conditions, security issues, long distances to markets, and seasonal access issues in the lowlands due to flooding. Lack of a good road network in the mountainous and hilly terrain restricts access to markets (FEWS NET, 2018).

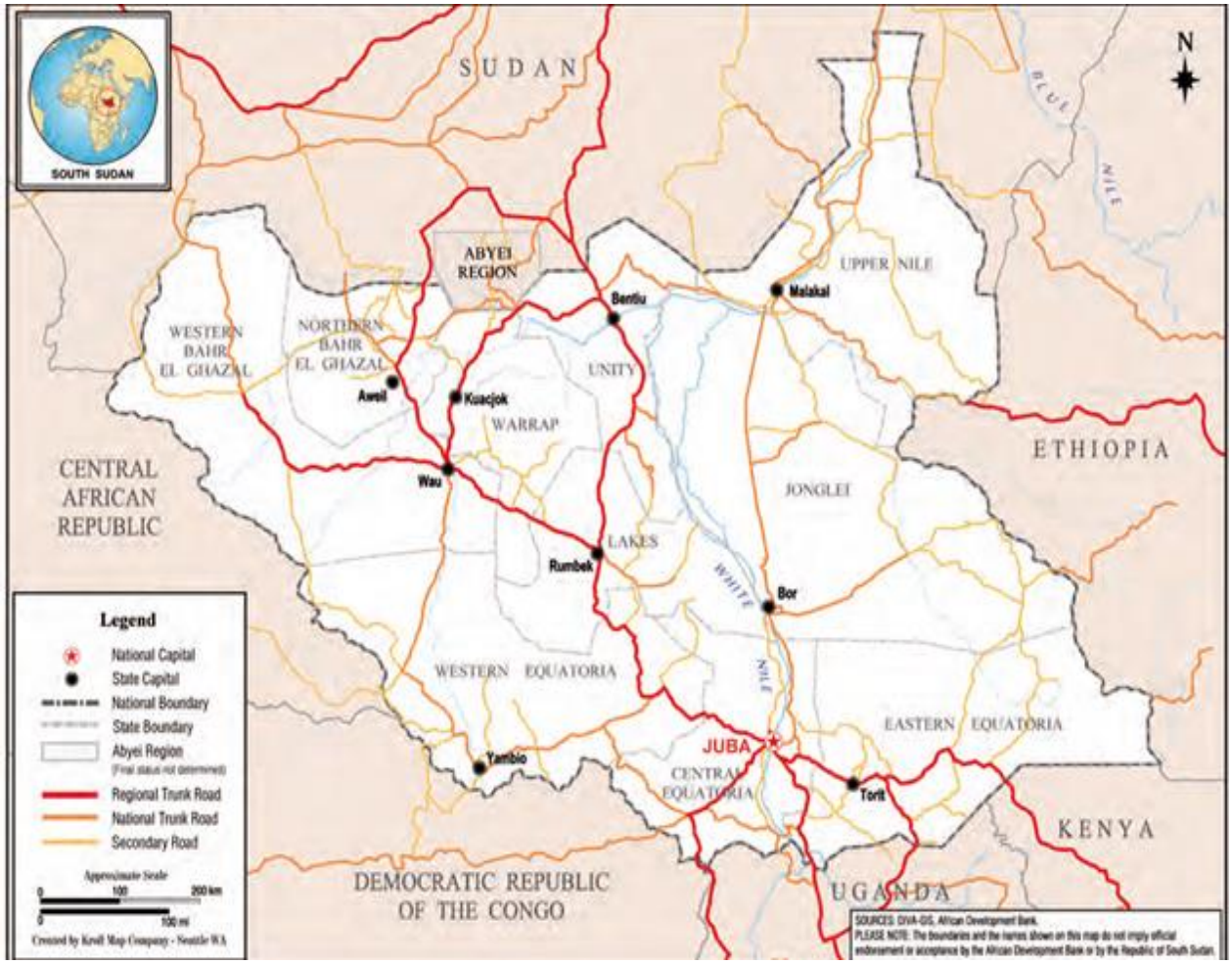


Figure 11 *South Sudan road network (AFDB, 2013)*

9.3 Food consumption

The main foods consumed in EES are sorghum, cassava, groundnuts, and sesame. Livestock is used mainly for consumption (goats, sheep, and poultry) of milk and meat, and cash income to meet household needs. Better-off households are able to add more meat to their diet. In addition, a wide variety of wild food plants are available in the hills and mountains including roots, fruits, berries and leafy vegetables. These are used to supplement household food needs. Hunting and collection of wild honey are practiced mainly during the

dry season. Traditionally, the lean season occurs in June to August, when green crops are still not ready for consumption (FEWS NET, 2018)

Widespread food and nutrition insecurity continues to affect a significant proportion of the population in EES. According to IPC projections (December 2022 – March 2023), 45% of the EES population (514,000 people), are projected to face acute food insecurity (IPC Phase 3 and above) (IPC, 2022).

Malnutrition also continues to have a devastating impact on communities across South Sudan. Looking ahead, the recently published South Sudan Humanitarian Needs Overview (UNOCHA, 2022b), predicts that 'the Global Acute Malnutrition (GAM) prevalence is projected to be above 15% in 59 counties in 2023' (OCHA, 2022: 7). According to UNICEF, 'as of August 2022, the number of acutely malnourished children admitted into treatment programmes has increased by 25.1%, as a result of conflict, floods and displacement across the country' (UNICEF, 2022).

The key drivers of acute malnutrition are multifaceted. At the immediate level, the causes of malnutrition include inadequate dietary intake and ill health, primarily from repeated infectious diseases. However, these immediate causes are exacerbated by many factors, notably conflicts characterised by political instability; drought and disasters linked to climate change; population growth; and rising food prices (Amegovu, et al., 2020).

A wide range of nutrition-specific programmes are being implemented in EES. According to Amegovu et al., (2020), these include both an outpatient therapeutic programme (OTP) and inpatient therapeutic programme, supported by UNICEF, for severe acute malnutrition (SAM) without medical complication and SAM with medical complications. In addition to a targeted supplementary feeding program (TSFP) and a blanketed supplementary feeding programme supported by WFP for the treatment of moderate acute malnutrition, Andre Foods South Sudan, among other UNWFP/UNICEF nutrition partners in Eastern Equatoria, also implements OTP and TSFP in Kapoeta East County.

To achieve a locally balanced diet, and improve FNS outcomes, a wide range of potential interventions could be promoted, such as:

- Preventive measures such as breastfeeding and nutrition counselling.
- Maternal, infant, and child feeding programmes at all levels.
- Childcare practices including improving quality of food consumed by children, improved access to safe water and sanitation services, and prevention and treatment of childhood illness. There is the need to intentionally invest in behaviour change communication, focusing on childcare and feeding.
- Nutrition information and education activities to address gaps in knowledge and to promote practices to prevent malnutrition and enhance maternal, infant, and young child nutrition.
- Nutrition-sensitive voucher schemes aimed at improving diets while promoting the diversification of livelihoods and nutrition education in protracted crises.

9.4 Dynamics of food production and consumption

EES has a high agricultural potential; out of the estimated 82,540 km2 of land, 78% is arable land (EES State Development Plan, 2022). Farmers mainly use their own local seeds carried over from the previous harvest or purchased in the market, with dry planting being common, especially in the areas where rains have a comparatively late onset. Sorghum is the main cereal grown. Maize (Longi-5) growing is more prominent in Magwi, Budi and parts of Torit County. Among other crops, cassava is grown in the southern and western areas of the State, where higher amounts of precipitations are normally received, while pearl millet is mainly grown in Ikwoto County and eastern drier areas. Successful crops include maize, sorghum, tubers (cassava, sweet potatoes), sugarcane, tea and coffee, and forestry products such as gum arabic, softwood timber, and honey (EES State Development Plan, 2022).

In terms of cereal production across the Greater Equatoria Region, including EES, moderate surpluses were produced up to 2016. In contrast, increasing deficits followed between 2017 and 2019 due to the spread of

conflict to the region in 2016, which resulted in massive displacements that severely disrupted agricultural operations. Subsequently, the deficit decreased by almost 60% in 2020 and by 15% in 2021 to about 46,000 tonnes in 2021, as the aggregate cereal production increased for two consecutive years due to an expansion in the harvested area following an improved security situation and higher yields due to abundant rains. In 2022, the cereal deficit is expected to increase by 20% to about 55,400 tonnes, as cereal production declined due to erratic weather, with prolonged dry spells affecting yields (FAO and WFP, 2021).

The cereal gap per county shows that deficit counties, such as Juba, face a major deficit while neighbouring Magwi County has a surplus. This highlights the production potential in Magwi and the flow of food out of Magwi into Juba. With the population in Juba strongly increasing, it is important to better understand these urban-rural food systems dynamics and understand how to further increase food production and its flow into Juba.

Regarding cereal production, key results from the annual FAO/WFP Crop and Food Security Assessment Mission (CFSAM) include:

- **Increase in harvested areas:** compared to the previous year, the 2021 harvested area (hectares) increased in EES (+4.9%).
- **Increase in cereal production:** compared to the previous year, the 2021 cereal production increased in EES (+2.5%).

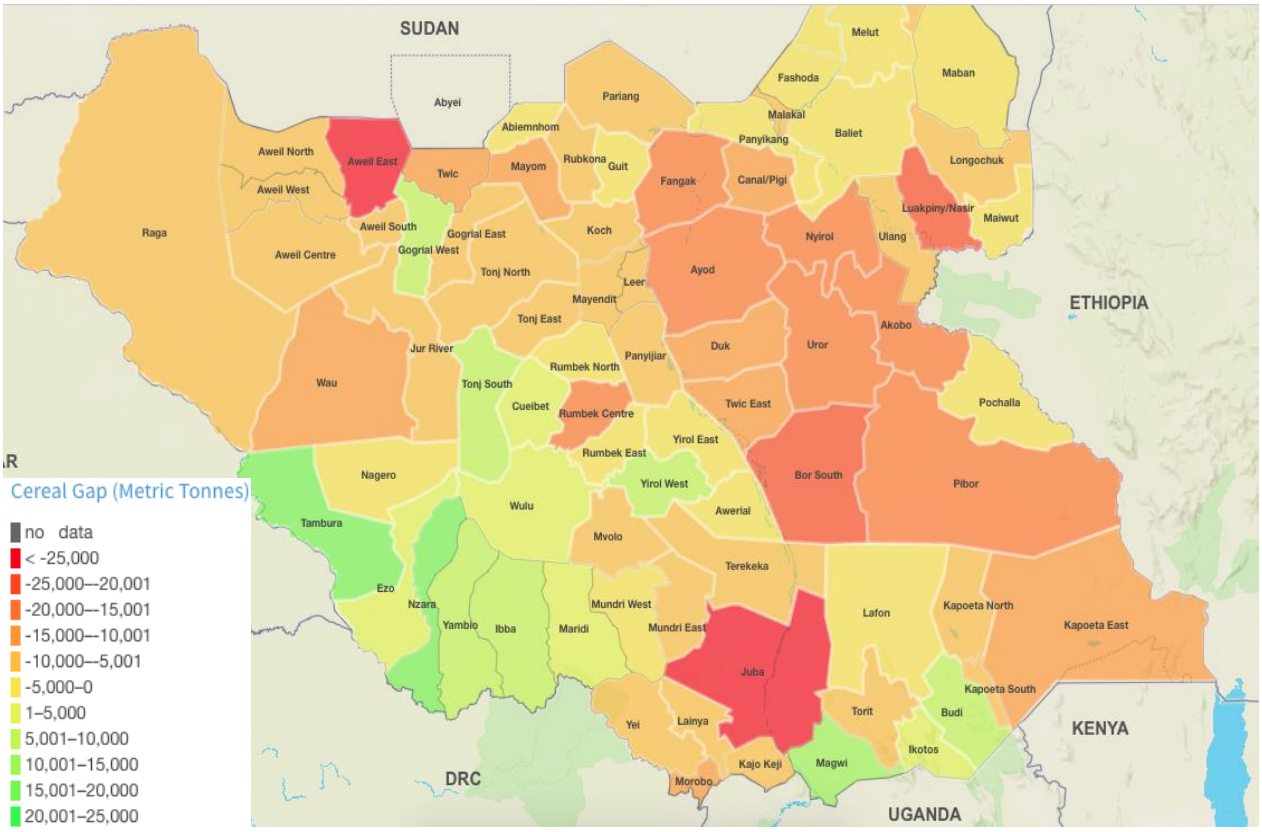


Figure 12 *Cereal crop gap in 2022. (CLIMIS, 2021)*

9.5 Youth employment

Employment and opportunities for labour are a key element in the food system, as livelihoods and income provide the very basis for the purchase of food items for those who are not self-sufficient in food production. Further, employment increases opportunity costs and reduces the susceptibility of people to engage in conflict. These effects are especially strong for youth, who are the most prone to engaging in conflict as a livelihood strategy.

In line with the trend in most developing countries, about 56% of the population in EES is under the age of 18 with 22% under the age of 5. This statistical report points to a youth bulge and high dependency ratio (EES State Development Plan, 2022).

Generally, there is a lack of employment opportunities in South Sudan. The agriculture sector, mainly crop cultivation, dominates employment opportunities but remains underdeveloped. These types of employment or jobs are often considered less desirable, particularly for youth, due to the underdeveloped activities in the food systems.

See also section 7.4 which provides interesting perspectives by the dialogue participants on value chains and agribusinesses and its potential to generate youth employment. A majority of their arguments (67% of all arguments) highlight that agribusiness and value chains are not inclusive and do not generate significant employment for youth: 'our youth are not engaging in value chain agro-business, 'there are 'no significant commercial farming practices in the state' and 'there is no value addition, agriculture is not considered as employment by youth.' A minority of the arguments (22% of all arguments) highlight that agribusiness and value chains do offer employment for youth: 'youth are involved in value chain activities or self-create employment' and 'value added in (the) food system can include and generate employment for youth.'

9.6 Linking food production, transformation and consumption through value chains

Our dialogue dedicated attention to exploring value chains specific to EES. We prioritised this theme as value chains have a strong potential to drive local food system transformation. However it is important to understand the potential of different value chains to deliver benefits on multiple objectives of the food system. Not all value chains can deliver improvement on income generation, food and nutrition security, climate resilience, conflict prevention, or youth and gender integration. Before investing in value chain development it is important to have a nuanced understanding of the trade-offs and synergies that commodities offer for different segments of the population or geographic areas.

9.6.1 Identification of value chains

Dialogue participants were asked to identify most potential value chains based on the following criteria:
- Potential for making food systems more resilient for improved FNS outcomes.
- Relevance to main agroecological zones and livelihood systems: greenbelt belt – farming (60% of EES); semi-arid – agri-pastoral (15%) and arid – pastoral (25%).
- The search for potential was differentiated for main staple crops (narrowing the food gap), nutrition dense crops (contributing to improved/healthier diets), fodder production and rangeland improvement, and agro-forestry and silvopastoral systems.

In total participants identified in total ten most promising and 'achievable' value chains:
- Value chains to narrow the food gap (those identified were sorghum, maize and simsim).
- Value chains to contribute to healthier diets (cowpea, tomatoes, milk, meat/livestock).
- Value chains to contribute to fodder production and improvement of rangelands (none were identified by participants).
- Value chains to strengthen agro-forestry and silvo-pastoral systems (Shea, Gum Arabic, Honey).

For the main value chains identified, dialogue participants applied a number of participatory activities to analyse the value chain and its key institutional factors affecting smallholder inclusion in markets, and on that basis identified options and strategies for change[24]. The participatory activities included:
1. Mapping the value chain
2. Mapping the institutional and policy environment
3. Mapping drivers, trends, issues and opportunities

[24] Use was made of 'Chain-Wide Learning for Inclusive Agrifood Market Development', a guide to multistakeholder processes for linking small scale producers to markets. https://edepot.wur.nl/248994

4. Mapping future scenarios
5. Mapping options for better inclusion
6. Mapping strategies to support change.

9.6.2 Description of the value chains

As part of the Food Systems Dialogue participants worked in small groups to apply a core methodology to describe the value chains. The methodology was chosen to allow for chain-wide learning for inclusive agri-food market development[25].

The methodology involved six main activities, identifying the following:
1. The main actors and the flows of products, monies and information.
2. The institutional and policy environment influencing the functioning of the value chain and the inclusion/exclusion of small-scale producers.
3. Drivers, trends[26], issues and opportunities affecting the value chain and its actors.
4. Future scenarios (in relation to uncertainties about drivers and trends).
5. Inclusion of small-scale producers.
6. Strategies to support change of policies and institutions with public, private and civil society actors.

Fout! Verwijzingsbron niet gevonden. provides an overview of the methodology.

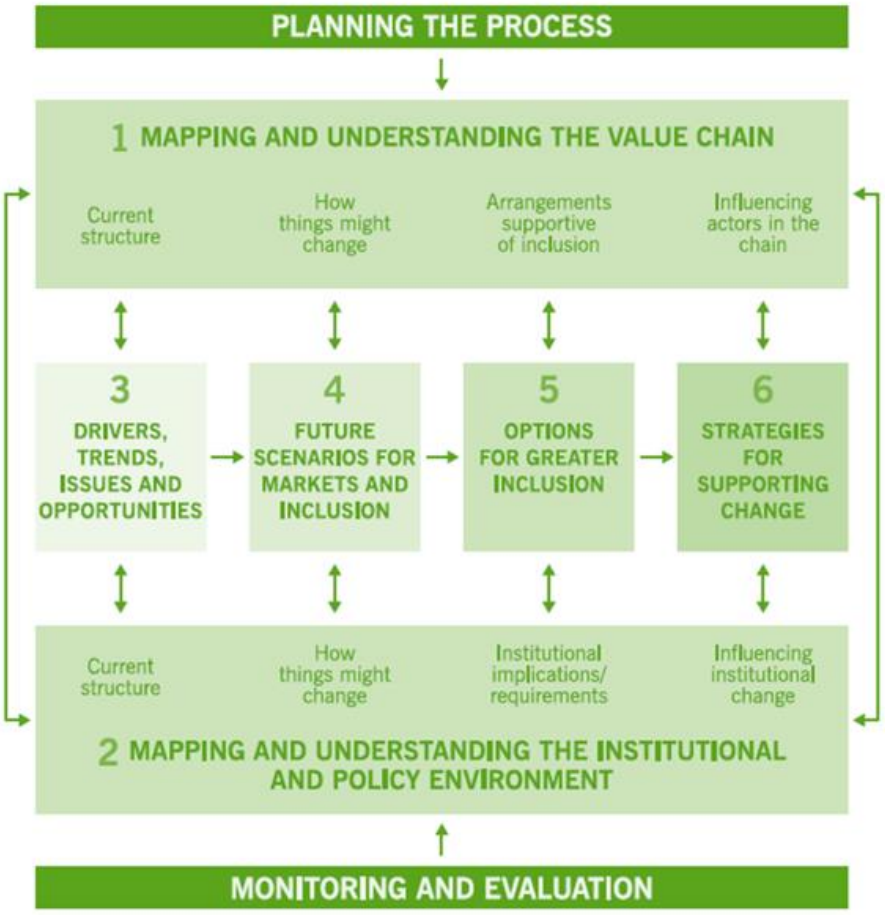


Figure 13 *Analytical framework for mapping and influencing policies and institutions in agri-food markets*

[25] https://www.wur.nl/en/Publication-details.htm?publicationId=publication-way-333636323538
[26] Drivers are the main external factors influencing change; trends are the direction of the change in the chain.

9.6.3 Example: gum arabic value chain

The following presents an example of the data collected on value chains during the participant dialogue. A full overview of all value chains can be found in the working document[27].

1. The value chain: gum arabic

Table 1 *The gum arabic value chain*

Main stages in value chain
Identification of the tree
Raising awareness about the value chain of the tree
Harvesting
Packaging and storage.
Main actors
Businessmen/women retailers
Government
Researchers
Value addition of gum arabic
Sun drying
Cleaning
Packaging and labelling
Grading
Profitable value chain
Wholesale
Government

2. The institutional and policy environment

Table 2 *Gum arabic institutional and policy environment*

Institution	Production	Collection	Wholesale	Processing	Retailers	Consumption
Public	Gov't (trade & investment)	Gov't (trade & investment)	Gov't (trade & investment)	Gov't (trade & investment)		Household
Private	Private companies	Private companies	Private companies	Private companies	Private companies, retailers	
Civil society	Communities (farmer cooperatives)	Individual farmers (cooperatives)	Cooperatives Wholesale	Individual farmers (cooperatives)		
Cultural	Traditional local leaders	Traditional leaders				

Table 3 *Current involvement in the gum arabic value chain*

	Men	Women	Youth	Total
Production	20%	50%	30%	100%
Processing	20%	25%	15%	100%
Retailers	55%	10%	35%	100%
Wholesale	65%	15%	35%	100%
Exporters	50%	20%	30%	100%

[27] Working Document: Outcomes of the 2022 Food Systems Resilience Dialogue in Eastern Equatoria State, South Sudan.

3. Drivers, trends, issues and opportunities

Table 4 *Gum Arabic drivers, trends, issues and opportunities*

Drivers	Trends		Stakeholders	
Climate change	Certain trends	Uncertain trends	Stakeholders	Opportunities
Conflict	Destruction	Displacement	Government	Policies to be in place
Bush /wildfire			Ministry of Forestry	
Research /knowledge	Land degradation		Trade and investment	Market expansion
	Drought		Community trades	Employment
	floods		Private companies	

4. Better inclusion

Table 5 *Gum arabic inclusion: potentials and barriers*

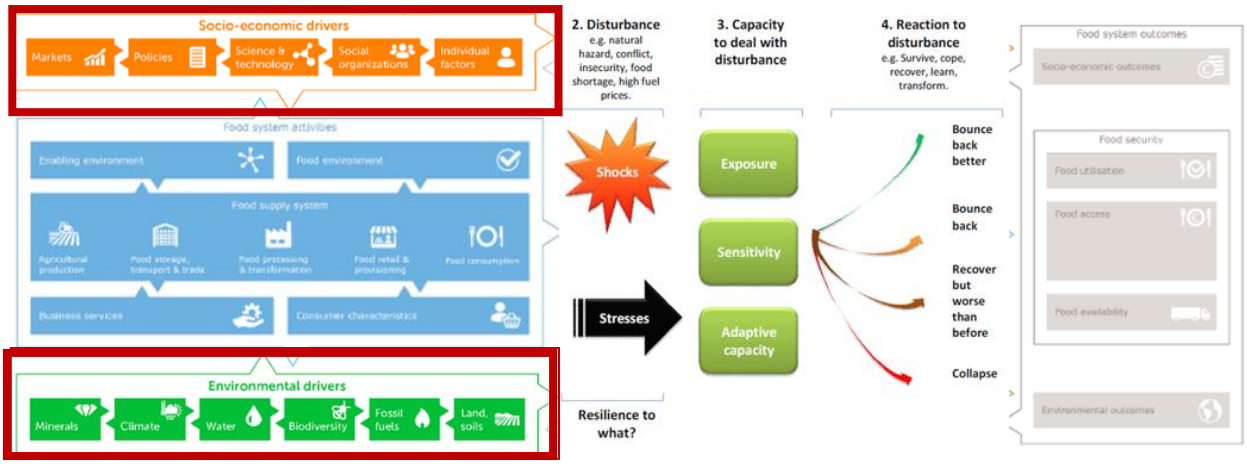
Options for inclusion opportunities
Employment of youth & women in production
Market availability for gum production
Barriers
Conflicts
Poor infrastructure
Wildfire
Climate change
Limited technology for youth and women

5. Strategies to support change

Table 6 *Gum arabic: strategies to support change*

What	Who	When	Where	Condition/risks
Awareness creation	Gov't (SMOAE&F, SMOT)	Dec 2022 - Mar 2024	EES	Seasonal Cultural behaviour Wildfire Conflict
Policies development	All Gov't institutions	Dec 2022	EES	Change of leadership Cultural behaviour
Research making	Research institutions (University of Juba)	Jan 2022	EES	Lack of funding
Capacity building for producers & private sectors	Partners (NGOS)	Jan 2022	EES	Lack of funding and personnel skills
Reestablishment of existing cooperatives	SMOC &RD (partners)	Feb 2023	EES	Insufficient fundings

10 Food system drivers



The food system drivers impacting food system activities and food system outcomes include socio- economic drivers and environmental drivers.

Participants of the FoSReD-PaD workshop were encouraged to think about the different types of socio-economic and environmental drivers impacting the food systems in EES.

10.1 Socio-economic drivers

The socio-economic drivers of the food system can be divided into five categories. This division into five categories shows concisely and adequately the different aspects that can make up a driver of food systems. Socio-economic drivers of food systems cover, for example, the local market situation, policies, the standard of science and technology, the way society is organised (aspects such as health care, household structures, or education), and individual factors including lifestyle, beliefs, values and culture. Each of these socio-economic drivers has the potential to influence food system activities but can in turn also be affected by the activities and actors in the system. This can give rise to multiplier effects or feedback mechanisms (van Berkum, et al., 2018).

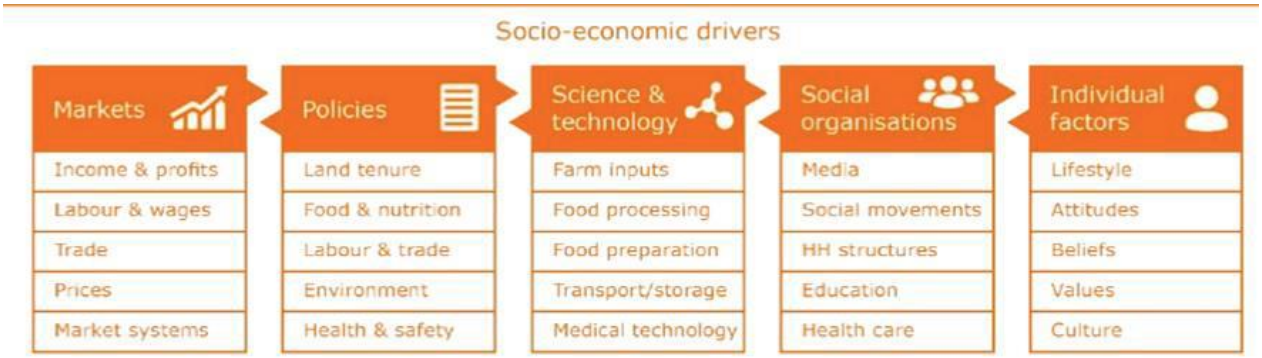


Figure 14 *Socio-economic drivers at a glance, adapted from Van Berkum et. al., 2018*

10.1.1 Socio-economic drivers: participant dialogue

During the **Eastern Equatoria State (EES) participant dialogue workshop,** different socio-economic drivers impacting the food system were introduced and explained. Participants were also asked to identify strategic actions for improvement. These are their transcribed answers.

Group 1: Markets and poor infrastructure

Key socio-economic driver: markets and poor infrastructure
- 'Infrastructure has a great impact on food systems and is a priority. For example, poor roads make transportation difficult, as food can't reach markets.'
- 'Poor storage facilities among markets, is leading to post-harvest losses due to the lack of facilities to preserve foods, leading to high levels of food waste and financial losses.'
- 'Lack of continuous flow of information, absence of networks and telecommunication networks, is making it difficult to understand where food is being produced, the market gaps which exist and economic opportunities.'
- 'Other identified socio-economic drivers: fluctuation of market prices and insecurity (road ambushes, communal conflict, cattle raiding).'

Strategic actions for improvement:
- 'Improving roads to facilitate trade so more food can flow into markets; improving storage facilities both for government and partners to preserve and store food for longer periods; expanding telecommunication networks, improving flow of information.'
- 'Develop infrastructure: lack of infrastructure is a major obstacle for private sector development in South Sudan. Investing in infrastructure, such as roads, electricity, water supply, can help reduce production costs and increase competitiveness.'

Group 2: Policies

Key socio-economic driver: Poor policy implementation
- 'Since independence, South Sudan is still using the old policies of Sudan which are not appropriate for EES. When policy formulation started in Sudan after independency, they were redundant and not legislated.'
- 'National/Juba level policies are not appropriate for state level.'
- 'The key challenge is that policies are not actionable as there is no guiding policy framework.'
- 'Absence of policies means absence of standards.'
- 'M&E capacity is very low and weak.'

Strategic actions for improvement:
- 'There is need for relevant institutions to enact and disseminate policies to regulate food systems; allocate more resources to strengthen local food systems.'
- 'We need policies related to production, processing, marketing, and utilisation which strengthen the EES food systems.'
- 'Policies which exist are not regulated; the state has authority and power to implement, they should use it to move the state ahead.'

Group 3: Science and technology

Key socio-economic driver: science and technology
- 'Research goes hand in hand with science and technology; lack of funding; inadequate capacity; lack of infrastructure (lack of storage facilities and equipment).'

Strategic actions for improvement:
- 'Allocation of funds; partnerships with other research institutions, building capacities of research institutions; establishment of modern labs, storage facilities etc as our current technology is outdated.'
- 'Bring new technologies from developed countries to develop our nation.'
- 'The need for tractors and other agricultural tools in South Sudan is critical for increasing productivity, improving efficiency, reducing post-harvest losses, increasing mechanization, and promoting commercial

farming. The government and other stakeholders need to invest in research and development of the agriculture sector to ensure that farmers have access to the required tools and technologies, which can help to transform the sector and drive economic growth in the country.'

Group 4: Social organisations

Key socio-economic driver: social organisations
- 'Social organisations which impact food systems: cultural differences; limited information; land disputes; traditional methods of farming.'
- 'Key social challenges: bad practice of customs; limited participation in decision making; lack of opportunities for women; limited access to information.'

Strategic actions for improvement:
- 'Changing of mindset & community; inclusive decision making; create awareness which requires advocacy and involvement of government as well as humanitarian actors.'
- 'Comment by the audience: we need humble institutions; people usually do not want to go by blueprint; turnover of staff is a problem as they come with a new agenda and that confuses people.'

Group 5: Individual factors

Key socio-economic driver: individual factors
- 'Key challenges: lack of capital; insecurity; lack of skills and know-how; gender; broken communal fabric; food imports; landscape and climate; lack of infrastructure; broad lack of good government support and services; lack of rain in some areas; road conditions are poor.'
- 'Limited access to farmland; limited movement of goods and services.'
- 'Lack of access to capital and agricultural inputs.'

Strategic actions for improvement:
- 'Engage partners to provide inputs.'
- 'Private sector engagement: Engaging the private sector in the provision of agricultural inputs can help to improve access to quality inputs and services for farmers.'

10.1.2 Socio-economic drivers: context analysis

Additional desk research was conducted in a context analysis / literature review, which looked more broadly at how various socio-economic drivers impact food systems in South Sudan and focused on EES (where possible).

Markets
Changes in market systems, world prices, trade relations, incomes, profits, wages and labour availability. Markets provide opportunities for matching food supply and demand, but sudden changes in supply, for example, can cause large price fluctuations (van Berkum, et al., 2018).

- South Sudan's economy is experiencing a macroeconomic crisis caused by the depreciation of the local currency and the global impacts of the conflict in Ukraine.
- Recent market data from CLIMIS indicates that market prices continue to increase in EES, driven by increasing fuel prices, depreciation of the SSP, trade route barriers due to flooding and insecurity, and high market demand (FEWS NET, 2022).
- Food prices across most parts of South Sudan, including EES, have been on the rise since the beginning of the year driven by various factors including below-average production due to poor distribution of rainfall, a reduced import flow from Uganda, and conflicts and insecurity disrupting trade flow in parts of the country, mainly due to insufficient supplies and a sharp depreciation of the parallel market exchange rate (WFP, 2022a).
- Imported food prices have increased despite easing global markets. As of August 2022, prices of imported food (wheat flour, bread, wheat, pasta, rice, sugar and vegetable oil) were remarkably higher in South Sudan compared to pre-Ukraine war levels (Jan 2022) (WFP, 2022b).

Table 7 *Percentage change in imported food commodity prices (WFP, 2022b)*

Country	Market, Commodity	pre-Ukraine crsis (Aug vs. Jan '22)	m/o/m (Aug vs. June '22)	y/o/y (Aug '22 vs. Aug '21)
South Sudan	Juba, Wheat (flour)	2%	0%	11%
	National Average, Wheat Flour	34%	13%	19%
	National Average, Rice	20%	14%	7%
	National Average, Vegetable Oil	50%	14%	17%
	National Average Fuel (Diesel)	86%	15%	63%
	National average Fuel (Petrol)	86%	7%	46%

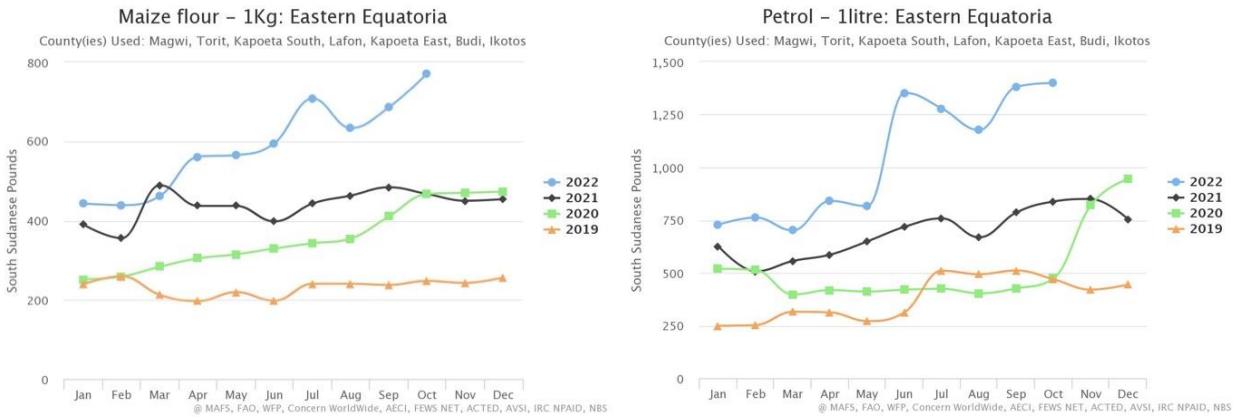


Figure 15 *Market prices for staple food and fuel increase in EES (CLIMIS, 2021)*

Overall, the growth of South Sudan's economy, which is predominantly agricultural sector-driven, employs over 70% of the population. Consequently, South Sudan requires a comprehensive approach to address multiple interacting factors affecting the sector. While market factors exert the greatest influence over food insecurity, nutritional needs and output levels, underlying weak structures and systems affect markets through supply disruptions and need to be addressed (EES State Development Plan, 2022).

Policies

Different kinds of policy – for example, on land rights, food security, the environment, labour, trade or food safety – can influence the food system. Policy seeks to guide the outcomes of food system activities in a socially desired direction, but outcomes are sometimes different to what is expected or policy measures do not align with the private interests of actors in the food system (van Berkum, et al., 2018).

- South Sudan has a policy framework that provides the basis for transformation of agri-food systems. This includes the Agricultural Sector Policy Framework (ASPF) (Republic of South Sudan, 2012) as well as 14 sub-sector policies (Appendix 4: Status of agricultural policies). However, this policy framework is outdated, and lacks implementation capacity due to a number of critical gaps and political economy considerations (see for example: (FAO and The World Bank, 2022)).
- First, since the vast majority of these policies were prepared prior to 2013, they are now largely obsolete as they do not account for recent security developments and the current fragile situation created by the revived conflicts that have unfolded since they were formulated (FAO and The World Bank, 2022).
- Second, many of the policies are yet to be approved and, as such, are still in the draft phase. In addition, the policies lack a more concrete implementation strategy and budget allocation (FAO and The World Bank, 2022).
- For example, the country has a national nutrition policy and has been a member of the SUN initiative since 2016. However, this initiative is still largely a work in progress and lacks any specific operational results (FAO and The World Bank, 2022).
- A recent attempt was made in early 2019 to revitalise medium-term investment in agriculture through the preparation of the South Sudan National Agriculture Sector Development Initiative (2019– 2021). Aligned with the Comprehensive Agriculture Master Plan (CAMP), its aim was to 'develop a competitive, sustainable and gender sensitive agricultural sector that enhances household food systems, economic growth, and a

peaceful coexistence in South Sudan.' However, the initiative remained as a draft and has been neither financed nor implemented (FAO and The World Bank, 2022).
- Customary law continues to govern the use of land and other natural resources in South Sudan, with each ethnic group applying its own laws relating to land and land rights within its own territory. However, customary rules are not equitable and restrict women's access to land and property (IOM, 2021).
- A major ongoing concern for policy-makers is that most of the food sold in the market in South Sudan is imported and a significant proportion of food-insecure people rely on imported food aid (AFDB, 2013).

Science and technology

The African Development Bank (2013) has summarised some of the key challenges facing the sector:

- A weak entrepreneurship base and limited commercial farming.
  Agriculture largely remains a subsistence activity by smallholder farmers using simple implements; the average farm size is in the range of 0.4 - 1.7 hectares. Intensive farming with little fertiliser application has progressively lowered yields and depleted soils. There are very few cooperatives and little commercial farming and/or adoption of modern farming technologies. Farming remains primarily rain-fed; irrigation farming is still limited. In addition, the private sector is nascent and has weak business management skills (AFDB, 2013).
- Weak or non-existent capacity to provide farm and off-farm extension services to farmers.
  Weak extension service support to agricultural and livestock farmers is a major concern for farmers throughout South Sudan. Public sector extensions and veterinary/animal care services are extremely limited. Inspection services are weak in enforcing standards and lack equipment and training. There is a lack of critical mass in the number of community animal health workers (AFDB, 2013).
- Poor and inadequate infrastructure.
  The lack of developed feeder roads (and other types of infrastructure – railway/rolling stock, electricity and transport systems as well as ICT) inhibits movement of goods and services into and out of rural areas, increases the cost of transportation and dampens producers' incentives to generate surplus. The absence of rural and feeder roads and, therefore, access to domestic, regional and international markets is a key bottleneck to increased agricultural production. Similarly, the near complete absence of rural electrification limits the choice of farm implements and the adoption of modern farming techniques (AFDB, 2013).

Social organisations

These are organisational forms or sectors that affect the functioning of the food system, such as households, social movements, media, education and health care. These organisations can help strengthen the position of farmers in the food system, for example, and possibly result in higher incomes (van Berkum, et al., 2018).

- The Government's ability to provide basic services to its people is low and inconsistent across the country. Even prior to the crisis, total health sector staffing stood at 10% of actual need. Out of approximately 2,300 health facilities that provide health care services to the entire population, more than 1,300 facilities are non-functional. Currently, four in five health facilities in South Sudan are managed by non-governmental organisations (NGOs). Only one in five childbirths involves a skilled health care worker. Health facilities are poorly equipped and staffed, making them unprepared for health risks. This deficiency is exacerbated in times of conflict with internal displacement placing a strain on the health system, and with health facilities often looted and health workers' lives threatened (EES State Development Plan, 2022).
- Latest population estimates suggest that more than 53% of the 11.7 million people in South Sudan are under 15 years old and 70% are younger than 30 years old (EES State Development Plan, 2022).
- The Republic of South Sudan's (RSS) score on the Human Development Index (HDI) is 0.385, which ranks South Sudan last globally. South Sudan's life expectancy stands at 55 years, people spend just 5.5 years in school on average and earn $768 a year (Hegarty, 2022).
- Weak farmer/producer organisations. Years of war and population displacement have weakened or destroyed whatever farm cooperatives existed before. Some donor projects have worked with smallholders to organise themselves into groups, cooperatives or associations. However, many of the producer members do not farm as a business, and decisions are not made based on a cost/ benefit basis. There is little ability to calculate costs of production and to use market information to determine if products will be

competitive and profitable in markets. Extremely weak literacy and numeracy skills, particularly among women, are constraints to smallholders becoming commercialised (AFDB, 2013).

- More than 40% of the population has no access to primary health care services. The ratio of skilled health personnel to people who need medical services stands at 1 to 65,574, and the situation is even direr for mental health services (EES State Development Plan, 2022). The health facilities in EES are documented below:

Table 8 *Health facilities in EES by county (EES State Development Plan, 2022)*

County	Hospitals	PHCC	PHCU
Budi	1	6	16
Ikwoto	1	4	23
Kapoeta East	0	6	13
Kapoeta North	0	3	12
Kapoeta South	2	1	8
Lafon	1	2	26
Magwi County	2	16	32
Torit County	1	7	29
TOTAL	8	45	159

Individual factors – culture, beliefs, lifestyle etc.

- The people of EES have diverse cultures that vary from community to community. The culture of the people of EES is rooted in community. Community identity is shaped by communal values. The State has inherited chieftainships for various tribes, clan systems and generational mandates which form a rich part of the local heritage development plan.
- Traditional culture is highly upheld, and a great focus is given to knowing one's origin and dialect. The main languages spoken in EES are Arabic, English, and tribal languages, with English as the official language of communication and instruction in schools. EES is the most ethnically diverse state in South Sudan with over 22 tribes (EES State Development Plan, 2022).
- The social fabric of societies in EES is strongly shaped by traditional beliefs and customary laws, which guide behaviour, norms and practices. Some of the key cultural activities include festivals, naming ceremonies, marriage ceremonies, initiation and hunting ceremonies. The older generations are highly conservative, with younger generations less conservative. Culture and norms continue to change with generational change, inter-marriages, migration, displacement and external influences (EES State Development Plan, 2022).
- The people of EES often exhibit strong communal bonds, with community work key in helping the less fortunate /disadvantaged. Conflicts in EES have inter and intra-ethnic dimensions. For interventions at community level, chiefs and elders remain significant community entry points, with elders still having a strong influence on community dynamics including conflict resolution.
- Cattle culture is very important for most South Sudanese ethnic groups. The size of one's herd is a key marker of wealth, and a culture of cattle raiding is particularly common amongst young men. In many parts of South Sudan, cattle are also used for the bride price required to marry (Care International, 2020).
- Livestock farming is dominated by culture and tradition that lack business orientation (cattle, for instance, are still raised for prestige and for dowry payments rather than for meat, milk, hides and other by-products) (EES State Development Plan, 2022).

Additional research is needed on a series of socio-economic indicators for conducting a deeper analysis, including on social organisations, science and technology and individual factors.

10.2 Environmental drivers

The environmental drivers indicate the biophysical context in which the food system operates (van Berkum, et al., 2018). The information in this section has been mainly derived from the participant dialogue workshop held in Torit, EES. It is kept brief as it focuses on the most relevant aspects.

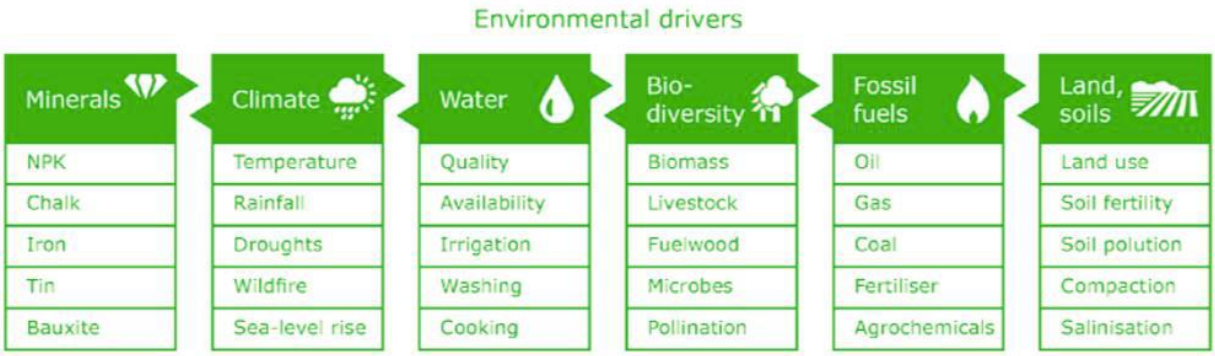


Figure 16 *Environmental drivers, adapted from van Berkum et. al., 2018*

10.2.1 Environmental drivers: participant dialogue

Eastern Equatoria State workshop: The main environmental drivers were identified by the dialogue participants, subsequently ranked in order of decreasing importance ('water' being the most important), and with intervention strategies discussed. See below for a summary.

Group 1: Water

- Driver: Uneven distribution of water

Table 9 *Environmental drivers: water*

Challenges	Strategies
Low production to farmers	Construction of dams to harvest water and dykes
Destruction of infrastructures	Introduce drought-resistant crops
Limited access to farms and markets	Strengthen monitoring systems for early warning
Displacement of populations	Introduce irrigation systems
Disease humans and livestock	Construction of dams to harvest water and dykes

Group 2: Biodiversity

- Driver: natural resource management

Table 10 *Environmental drivers: biodiversity*

Challenges	Strategies
Climate change	Advocating for reforestation
Bush burning (uncontrolled)	Dissemination of policies promoting improved NRM
Deforestation and charcoal burning	Establishment of forest reserves
Animal migration	Establishment of wildlife reserves / national parks
Food insecurity	Establishment of range lands
	Preservation of indigenous crops

Group 3: Lands and soils

- Drivers: deforestation; flooding; wildfire; land degradation; landslides; mining activities

Table 11 *Environmental drivers: land and soils*

Challenges	Strategies
Global warming (rain patterns, flooding)	Policies on environmental management by government
Increase surface runoff / soil erosion	Enaction of by-laws that protect forests
Exposure of crops to extreme temperatures	Environmental management committees (forest rangers)
	Providing alternative sources of energy (biogas, solar)
Poor rainfall patterns	Afforestation
Less crop production	Policies (inclusive pathways, government, community)
Migration of people	Re-enforcing government land policies

10.2.2 Environmental drivers: context analysis

Additional desk research was conducted in a context analysis / literature review, which looked more broadly at how various environmental drivers are impacting food systems in South Sudan, focusing on EES where possible.

Climate: trends and projections

The country's climate is characterised by extremes with localised droughts, torrential rains and seasonal flooding. The increasingly erratic rainfall patterns delay planting seasons, decrease pasture, disrupt people's agricultural and livestock activities, and temporarily displace communities. The latest climate projections agree that South Sudan will get warmer with the less certain rainfall patterns. South Sudan is ranked among the five most affected countries in the world according to the Climate Change Vulnerability Index. In EES there are increasing incidences of flooding in flood-prone areas of Lafon and Lower Hinatie, affecting farmers along the Hinatie River (EES State Development Plan, 2022).

South Sudan is experiencing the effects of long-term climate change, such as increased temperatures and precipitation change, as well as short-term changes, like more frequent droughts and floods.

Temperature: Mean annual temperatures across South Sudan have varied between 25°C and 35°C over the past 30 years, with an increase of 0.4°C every decade (World Bank, 2022). Average temperature is projected to increase between 1°C and 1.5°C by 2060, leading to a warmer and drier climate (USAID, 2019b).

Precipitation: In the last 20 years, rainfall in South Sudan has been erratic.[28] Summer rainfall has decreased by 15–20%, particularly in the northeast (Ministry of Environment South Sudan, 2016). Recent floods have affected more than 835 000 people across eight states in South Sudan; livelihoods, food production and drinking-water supplies have all been severely impacted (UNOCHA, 2021). Consensus is lacking on long-term precipitation trends for the country; recent data indicates reductions in rainfall, but heavy rains are expected more often and with greater intensity, increasing the risk of flooding.[29]

[28] See online graphic: South Sudan rainfall anomalies 2000–2020. Red indicates lower-than-average rainfall, blue shows above-average rainfall. Source: FEWS NET, NASA Land Data Assimilation System (FLDAS).

[29] Ministry of Environment, 2016; Quinn et al., 2019; African Development Bank (2018). National Climate Change Profile: South Sudan.

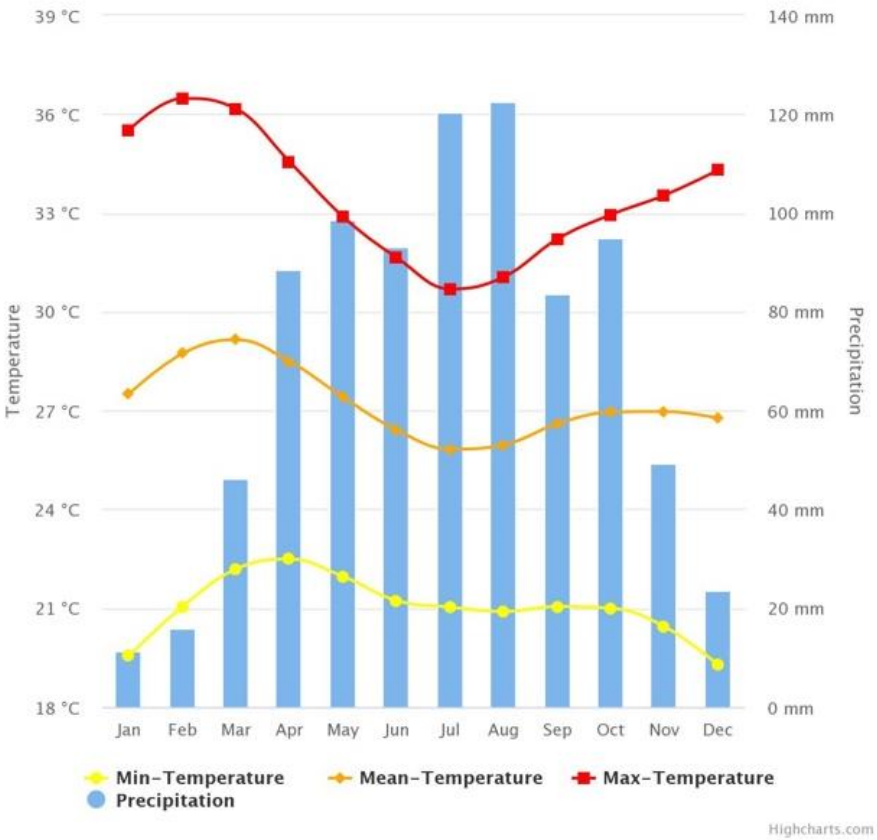


Figure 17 *Temperature and rainfall in EES from 1991-2020 (WFP 2022)*

The climate of Eastern Equatoria

EES experiences a six-month uni-modal rainy period which promotes a flush evergreen belt. Rainfall is at an average of 1,500 mm per year in the highlands and 750 mm per year in the lowlands, falling between April and November. The vegetation ranges from equatorial dense forests in the mountains through wooded savannah grasslands to semi-arid to arid scrubland in the north and north-east (EES, Development Plan, 2022:5). South Sudan is at risk from several natural hazards, including floods, droughts, and climate-related epidemics. The section below provides a summary of the key environmental drivers and their associated socioeconomic impacts on EES.

The current situation of drought and floods could get even worse across the country. EES in the southeast of the country has seen the most significant deterioration in food security across the counties in South Sudan impacted by the Horn of Africa drought. Dry conditions have taken hold across the Greater Kapoeta region and decimated livelihoods as crops and cattle perish. Meanwhile, the northern part of the country is flooding, and all crops submerged by water as well as livestock are dying (Takpiny, 2022).

About 11 million people, accounting for 95% of South Sudan's population, are dependent on climate-sensitive livelihoods, such as agriculture, fisheries and forestry resources (UNDP, 2017). The effects of warmer and drier climates on people's livelihoods, combined with a projected average temperature increase of 0.5°C by 2030, could increase existing vulnerabilities and tensions (Accord, 2022).

Forests and woodlands cover a large proportion of South Sudan's vast territory, but are fast disappearing by over-extraction, as more than 90% of the population directly depends on forests for wood fuel and charcoal production, timber for construction, and non-timber forest products for food and nutrition security.

Other environmental problems affecting the population include soil degradation, pollution environment due to oil drilling and other mining activities, over-exploitation of fisheries, and conflicts over diminishing resources such as rangelands and water sources for livestock. Riverbank activities such as brick-making and sand harvesting are also increasingly contributing to environmental degradation. In fast-growing urban areas,

waste management has become an increasing strain on infrastructure and treatment facilities, and directly impacts the environment and thus human health.

Increased deforestation

Since gaining independence, immigration and natural population growth in South Sudan have resulted in an increased demand for charcoal and fuelwood as well as land for agricultural purposes. The influx of refugees and IDPs have been identified as one of the important drivers of inappropriate land use and over-exploitation of natural resources, putting more pressure on already scarce environmental resources (EES State Development Plan, 2022). The rate of deforestation has consequently accelerated. From 2001 to 2021, EES lost 13.2kha of tree cover, equivalent to a 2.1% decrease in tree cover since 2000 and 4.86Mt of CO_2 emissions (Figure 18) (GFW, 2021). Uncontrolled lumbering, clearing of forests for agriculture and settlement, and charcoal burning pose the greatest threat to EES forest cover.

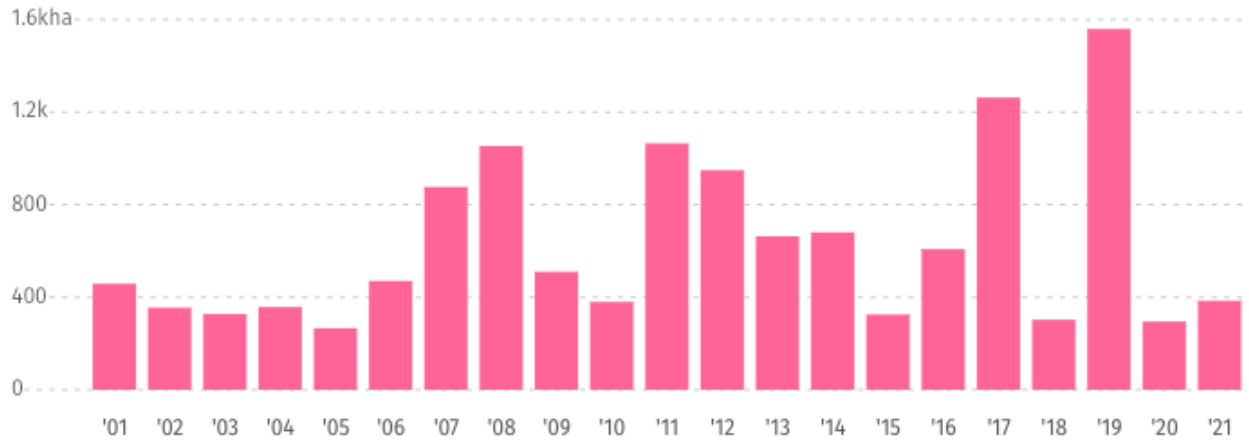


Figure 18 *Tree cover loss in EES (GFW, 2021)*

Fires in Eastern Equatoria State

From 2001 to 2021, EES lost 63ha of tree cover from fires and 13.1kha from all other drivers of loss. The year with the most tree cover loss due to fires during this period was 2019 with 14ha lost to fires — 0.87% of all tree cover loss for that year. In EES, 1.9Mha of land has burned so far in 2021. This total is high compared to the total for previous years going back to 2001. The most fires recorded in a year was 2016, with 3.6Mha (GFW, 2021).

Soil erosion

As a result of deforestation, overgrazing and bush fires, soil erosion in South Sudan is increasingly becoming a problem. Consequently rivers, lakes, dams and irrigation canals are silting up, reducing the supply of water for drinking and irrigation. Soil quality is also declining, which negatively affects agricultural productivity (Ministry of Environment South Sudan, 2016). Analysis of land degradation in South Sudan shows that 27, 019 km^2 (4.32%) out of the country's 624, 919.2 km^2 was degraded (Lado, 2020).

Bush-burning, charcoal-burning and over-grazing

The USAID-commissioned report 'Resilience Profile – Torit (USAID, 2019) recognises additional human activities in Torit which disrupt ecosystems, and threaten food security, human health and livelihoods; some mining, lumber, toxic dumping and fishing chemicals affect Torit, but bush-burning, charcoal-burning and over-grazing are rampant (Figure 19). 'The community has resorted to charcoal burning business to raise money to buy food. People go and burn the bushes to get charcoal to bring to the market. The trees are important for rain formation, but all the gangs of cattle raiders are focused on tree cutting to sell to tobacco traders in the areas of Jongole and Turkana' (USAID, 2019a).

Previous research on South Sudan soils notes the degradation that has been caused by overgrazing, loss of soil nutrients due to poor soil management and lack of replenishing the soil with organic matter, and the impact of charcoal-making that drives loss of trees, woodland and vegetation (Ayoub, 1974). Qualitative data

also reveals the threat of fires as well as crops destroyed by climate heat and drought. The forestry department 'creates awareness among the people…advising them to put fire lines to safeguard their farms and homes.' Despite the obvious present value of bush burning and timber lumbering for charcoal, they have various deleterious future effects, so efforts must be made to prune, plant and preserve, and to encourage applied agroecological or agroforestry knowledge that enhances food security by building healthy soils and ecosystems (USAID, 2019a).

While it is difficult to make sweeping generalisations about the impact of bush burning due to the particularities of ecosystems and the intensity and regularity of burning, the potential effects can be devastating for soil erosion and soil inherent fertility, which is foundational to agricultural food security resilience and to flood and drought resilience (USAID, 2019a).

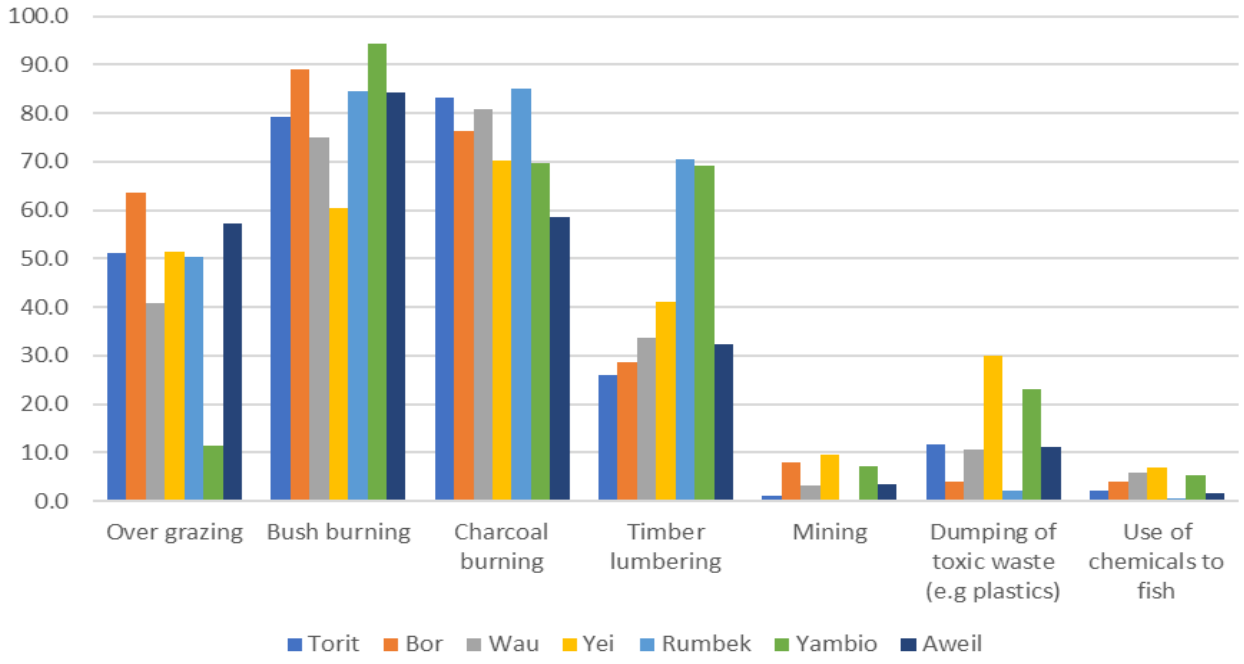
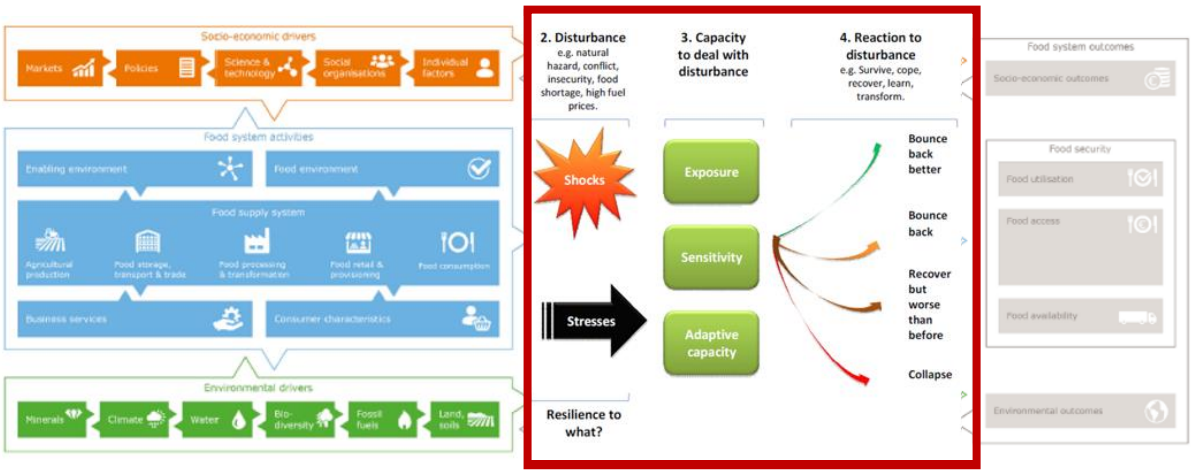


Figure 19 *Activities destroying the environment in EES (USAID, 2019a)*

Other environmental problems affecting the population include soil degradation, pollution of the environment due to oil drilling and other mining activities, over-exploitation of fisheries, and conflicts over diminishing resources such as rangelands and water sources for livestock. Riverbank activities such as brick-making and sand harvesting are also increasingly contributing to environmental degradation. In fast-growing urban areas, waste management has become an increasing strain on infrastructure and treatment facilities and directly impacts the environment and thus human health (EES State Development Plan, 2022).

11 Food system risks and resilience



There are a variety of natural as well as man-made hazards in Eastern Equatoria State, which may result in disaster. These food system risks - shocks and stressors - impact on the food system and negatively affect food system outcomes.

From a recent historical perspective, the main natural disasters that have affected EES have been droughts as well as 2019 flash floods. Compared to other states in South Sudan, EES has been less affected in terms of major natural disasters.

Year	Disaster type	Location	Total Deaths	No injured	No affected
2009	Drought	Unity, Northern Bahr Ghazal, Jonglei, Upper Nile, Eastern Equatoria, Warab provinces			4,300,00
2016	Drought	Western Bahr El Ghazal, Northeren Bahr El Ghazal, Warab, Unity, Upper Nile, Jonglei, El Buheyrat, Western Equatoria, Central Equatoria, Eastern Equatoria provinces			3,600,000
2019	Flash flood	Lafon, torit and Kapoeta South counties (Eastern Equatoria); Ayod, Akobo, Bor South, Duk, Twic East, Pibor, Pochalla and Uror counties (Jonglei); Aweil Center, Aweil North (Northern Bahr el Ghazal); Abiemnhom, Mayom, Mayendit, Panyijiar (Unity); Maban (Upper Nile); Gogrial East, Gogrial West, Tonj North (Warrap); Juba, Terekeka (Central Equatoria)	3		234,800

Figure 20 *The main natural disasters affecting EES since 2009. Source: EM-DAT*

The following sections outline and describe a number of food system risks and resilience capacities to address risks identified in EES, based on a literature review and observations and data collected during the FoSReD-PaD workshop in EES.

11.1 Food system risks

This chapter outlines food system risks - shocks and stressors – and their impact on the food system in EES, based on information and inputs collected during the FoSReD-PaD workshops in Torit.

11.1.1 Identification of shocks and stressors

Participants were asked to identify food system risks impacting food systems in EES. Groups were formed, and participants were asked to identify shocks and stressors impacting food systems in EES. The following transcribes summarises the results of this activity.

Participants identified a wide range of shocks and stressors impacting food systems in EES. Environmental shocks were the most commonly mentioned. These included floods, drought, bush fires, pest and disease outbreaks, and adverse climate conditions. To a lesser extent, earthquakes and landslides were also mentioned. Other shocks mentioned included insecurity (cattle raids), market inflation, and poor infrastructure.

Participants also identified several stressors impacting food systems in EES. The main environmental-related stressors mentioned were climate change and poor yields. Group participants also highlighted a number of conflict-related stressors such as civil unrest (war), inter-intra communal conflicts, cattle raiding and insecurity. In addition, poor road conditions, lack of transport facilities, and inaccessibility, were identified as key issues affecting food systems in EES. Lastly, limited skills and a gender imbalance in farming were also identified as key stressors by participants.

In plenary, participants agreed to the following shocks and stressors being of major concern regarding the impact on food systems in EES:

- Crop pests / disease outbreaks
- Conflict (intra- and inter-communal)
- Drought
- Floods

Pests/ disease outbreaks were perceived to be the most serious hazard impacting food systems in EES.

11.1.2 Pests and diseases

Every year numerous types of crop pests and diseases cause significant yield reductions. The 2021 Crop and Food Security Assessment Mission (CFSAM) to South Sudan, carried out by WFP and FAO, identified some of the most common crop pests and diseases affecting EES.

Crop pests
Common crop pests include green grasshoppers, caterpillars, millipedes, termites, aphids, stalk (stem) borers, sorghum cinch bug, local birds, monkeys, rodents, wild pigs, porcupines, domestic livestock, and migratory pests such as the quelea finch (*Quelea quelea*). In addition, storage pests, particularly weevils, rats and moulds, also continue to cause severe damage on harvested crops throughout the country (FAO and WFP, 2021).

Desert locusts have also negatively impacted crop production in EES in 2020. The greatest impact on food security was seen in Magwi county, where it was estimated that around 60% of crop fields were invaded (ACTED, 2020).

Fall Army Worm (FAW) has also caused localised but significant damage to maize and sorghum crops, mainly in the Greater Equatoria Region. According to FAO and WFP, 'no control measures were taken, except for a few farmers using ashes to kill the insects' (FAO and WFP, 2021).

Crop diseases
The most common diseases impacting crop production in South Sudan in general include sorghum head smut, cassava mosaic virus, groundnut rosette virus, and groundnut leaf spot. Farmers in most parts of the country use traditional practices to protect stored crops and do not have access to improved crop storage practices and facilities (FAO and WFP, 2021).

Zoonotic diseases
The threat of zoonotic diseases is on the rise globally with over 70% of all emerging and re-emerging infections being zoonotic; 'diseases that spread between animals and humans and pose risks to animal, public and environmental health' (WHO, 2021). South Sudan is endemic to several zoonotic diseases and public health threats including rabies, anthrax, brucellosis, bovine tuberculosis, Rift Valley Fever, yellow fever, coronavirus, and Sudan ebolavirus species (WHO, 2021). More recently, Covid-19 seriously impacted South Sudan affecting, amongst others, the country's agrifood systems, and requiring a response in addressing its short-term effects and longer-term implications. [30]

11.1.3 Conflict

Conflict was identified as a main food system risk in EES.

From a conflict perspective, the following trend over the last 10 years has been documented in terms of fatalities in EES counties.

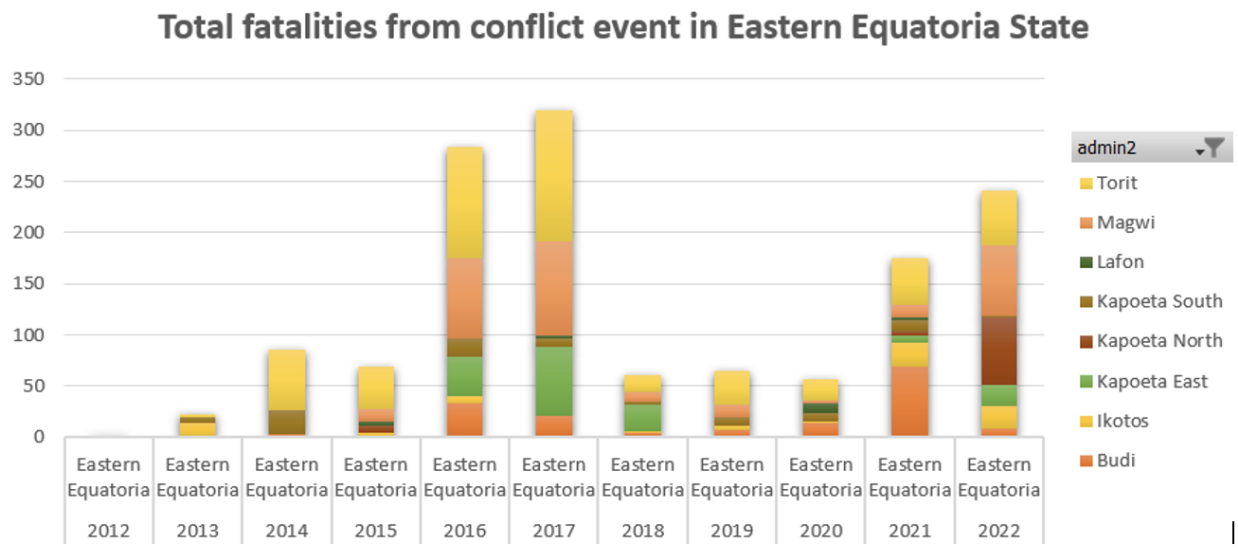


Figure 21 *Total conflict fatalities in EES since 2012. Source: ACLED*

Conflict has a direct impact on a region's internal stability and the macro environment surrounding food systems; so it indirectly influences food system outcomes by influencing the factors and actors in which food system activities take place. Beyond this, conflict impacts on FNS outcomes where people lose or are refused access to food or where food availability is limited due to conflict. During times of conflict, people in EES have frequently lost access to their land, disrupting their ability to produce food.

Delgado et al. (2021) state that violent conflict impacts food systems and the FNS outcomes of people who depend on them, and negatively impacts FNS outcomes on the food production side by destroying assets and resources needed for food production, destroying human capital, and increasing risks/diverting resources in the wider operating environment. Further, on the distribution and food sales side, violent conflict impacts negatively on FNS outcomes by disrupting the distribution of food and market links, by reducing availability of goods, by shifting market dynamics, and by changing the institutional market environment (Delgado, et al., 2021).

[30] https://reliefweb.int/report/south-sudan/national-agrifood-systems-and-covid-19-south-sudan-effects-policy-responses-and

11.1.3.1 Types of conflict

As a second step, the main types of conflicts happening locally were identified by participants and ranked by order of perceived impact and importance. 11 conflicts were identified in total, and 6 were prioritised.

Question: What are the main type of conflicts affecting food security in Eastern Equatoria State?

Participants in Torit identified and prioritised the following six types of conflict in EES, presented in order of importance/impact on food systems performance:

1. Farmer-herder conflicts
2. Land grabbing
3. Inter-communal conflicts
4. Civil war
5. Resources (conflict over)
6. Border conflicts.

Further, participants identified – but did not prioritise – other types of conflict.

- Tribal conflicts
- Intermarriage
- Revenge killings
- Cattle raiding
- Political conflicts.

11.1.3.2 Understanding conflict causes, effects, and triggers

Each prioritised type of conflict was explored by six different group (focusing on one type of conflict each) and a conflict tree was drawn. The conflict tree distinguishes three important issues:

- What are the core issues?
- Underlying and immediate causes (root causes)
- Effects (consequences).

11.1.3.3 Focus on conflict between herders and farmers

As farmer-herder conflicts were perceived as the most important conflict impacting food systems in EES, the following presents the results of the group working on this type of conflict. The results of the other groups on different conflict types can be found in the working document.

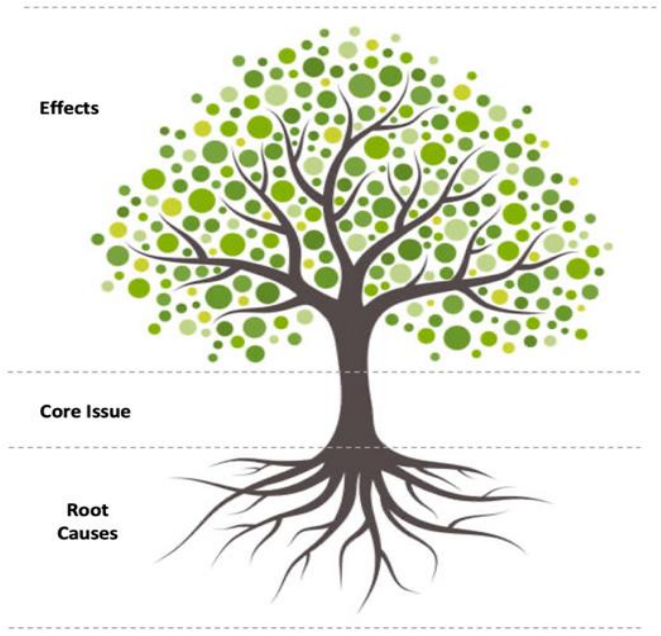


Figure 22 *The 'conflict tree'*

Table 12 *Overview of conflict tree results, farmer-herder conflicts*

Results: farmer-herder conflicts		
Root causes	**Core issues**	**Effects**
Migration	Lack of respect for existing ethical settings	Fear
Natural disasters	Lack of consultation	Food insecurity
Poverty	Lack of political will	Destruction of farmland and property
Poor Government policy	Superiority complex	Revenge killings
Power impunity	Political agenda	Loss of lives
Tribalism		Road ambushes
		Displacement
		Trauma

Conflict timeline

As a next step, participants developed a conflict timeline identifying the most severe years and constructing an historical narrative.

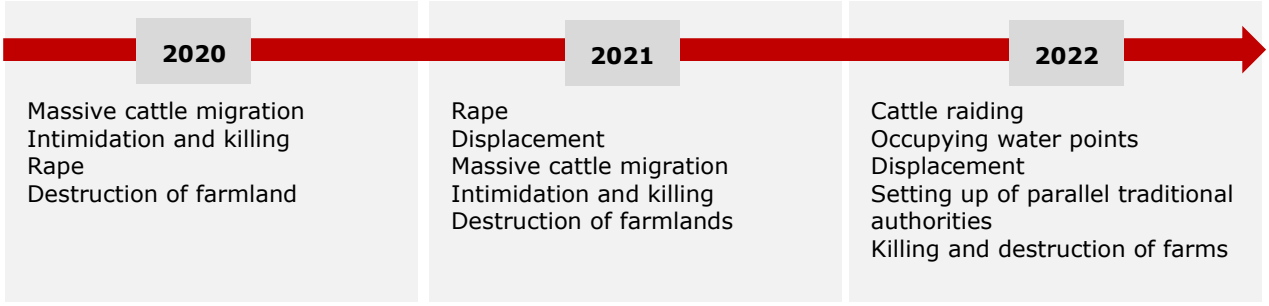


Figure 23 *Conflict timeline, farmer-herder conflicts EES*

As final part of this exercise, participants identified coping strategies and resilience capacities to deal with conflict (see the working document).

11.1.4 Drought

Droughts are very common in South Sudan due to the hot and dry conditions experienced during the dry season. In general, the country is experiencing substantially warmer and drier weather, and the combination of these effects leads to more droughts. In 2022, an early season drought affected most of South Sudan until mid-July. The combination of drought and high temperatures are leading to drier seasonal rivers, and reduction of wetland size and may contribute to wildfires that destroy grazing and agriculture habitats (USAID, 2019a). The World Food Programme's Seasonal Monitor provides more detailed information into the climatic trends across South Sudan (WFP, 2022c).

Reports indicate that EES is currently experiencing a drought, caused by lower-than-average rainfall in the previous season. This has meant people have been unable to cultivate in many parts of the state and appears to be driving hunger-induced displacement. Further investigation is needed to understand the impacts of the event on affected populations (REACH, 2022).

For example, WFP's seasonal monitor (October 2022) provides an update on the drought situation across EES. Administrative areas (counties in this case) have been classified in drought levels according to the extent of very low SPI values.[4] The results below are based on SPI-3 at end of June (hence for April-May-June).

[4] The standardized precipitation index (SPI) is the most commonly used indicator worldwide for detecting and characterising meteorological droughts.

- Severe Drought: More than 50% of the county, with SPI-3 < -1.5
- Intense Drought: More than 50% of the county, with SPI-3 < -1
- Moderate Drought: More than 33% of the county, with SPI-3 < -1

Table 13 *Drought severity levels in EES (WFP, 2022c)*

STATE	COUNTY	LEVEL
Eastern Equatoria	Magwi	SEVERE
Eastern Equatoria	Torit	SEVERE
Eastern Equatoria	Ikotos	INTENSE
Eastern Equatoria	Lafon	MODERATE

Droughts impact on food production in EES. Droughts, which are slow onset climatological stressors, are very common in South Sudan. In fact, droughts have been indicated to be the second most impactful hazard faced by populations in EES; they may lead to destruction of agricultural habitats, crop failure, destruction of grazing habitats, and loss of lives and livestock, thereby affecting FNS outcomes (Hrachowitz, et al., 2020).

For pastoralists in EES, for instance, droughts may result in the loss of grazing areas and access to water, and the combination of drought and high temperatures can contribute to wildfires that destroy grazing habitats (Hrachowitz, et al., 2020).

It is important to note that human activities, such as deforestation, grazing, overgrazing and rudimental cropping methods, can worsen the effects of drought, as these activities further reduce the water retention capacities of soil and lead to soil erosion (Hrachowitz, et al., 2020).

11.1.5 Floods

Flooding mainly occurs between July and September, when heavy rains fall in most parts of the country, leading to the flooding of the Nile River tributaries. South Sudan is experiencing severe flooding for the third consecutive year since 2019. In 2022 flooding and heavy rains continued to impact people across the country, including Jonglei, Lakes, Northern Bahr el Ghazal, Western Bahr el Ghazal, Unity, Upper Nile, Warrap, and to a minor extent Eastern Equatoria (UNOCHA, 2022a).

As floods are a frequent occurrence in South Sudan, they also affect EES, albeit less than other states. Floods are hydrological rapid onset hazards and can have devastating effects on people and environment alike. Flash floods, in particular, because of their rapid onset, pose a threat to people's lives, livelihoods and FNS situations.

Flooding in EES can destroy crops or decrease yields and kill livestock. Further, floods limit people's market access at times, as roads become impassable. Thus, flooding impacts on food systems in EES by disrupting production as well as transportation and storage.

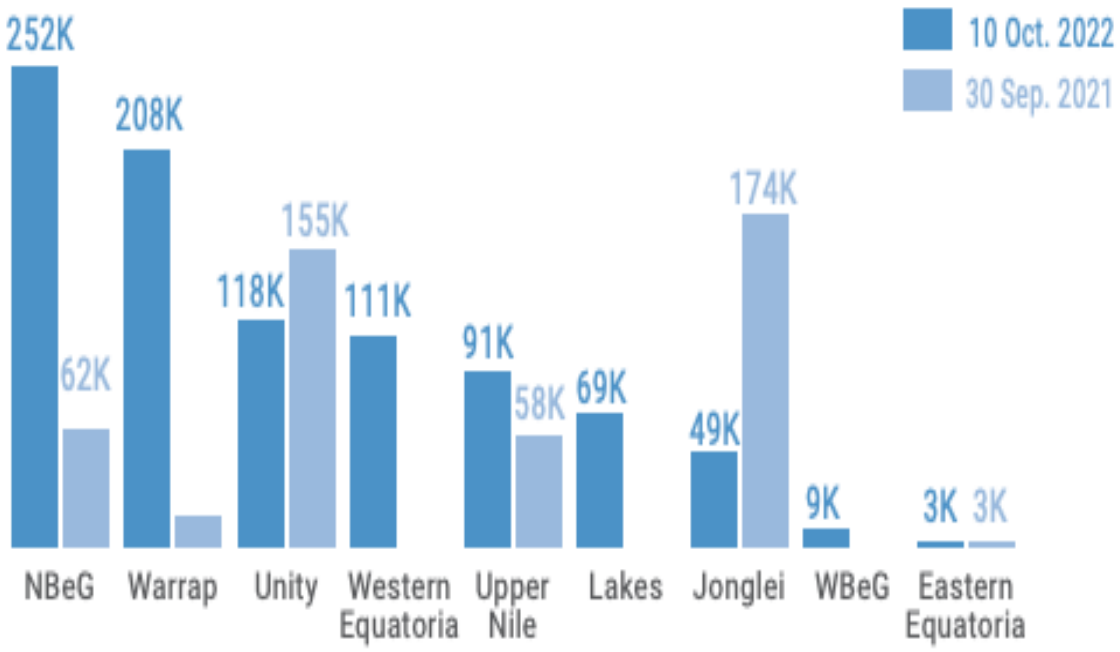


Figure 24 *People affected by flood by state (UNOCHA, 2022)*

11.2 Coping and resilience capacities

11.2.1 Identification of resilience and coping mechanisms

As part of the group exercise on shocks and stressors, participants were also asked to identify resilience capacities and coping strategies commonly applied to deal with shock and stressors. The following are transcripts of the identified capacities and strategies:

Participants identified a number of resilience and coping mechanisms to deal with shocks and stressors in EES. Group 1 stated that local seed varieties and crop rotation are common coping methods used to deal with pests and disease. Other market-related coping mechanisms mentioned, included improved trade with neighbouring communities and improved access to food aid. Alternative livelihood activities, such as charcoal production, tea farming, and gathering of wild foods, were also mentioned as key coping mechanisms.

Group 2 identified a number of coping mechanisms centred around improving capacity building efforts, such as awareness raising and training on pest control, procurement of pesticides and equipment, and encouraging mixed farming methods. Similarly, Group 3 mentioned that communities can grow drought-resistant crop species, and also adopt irrigation to increase the resilience of food systems.

Groups 4 and 5 mentioned a number of coping mechanisms, depending on the specific stressor. To increase resilience to drought, for example, crop diversification and drought-resistant crops are required. To increase resilience to flooding, dykes, diversion channels, and flood tolerant crops are required. To address the prevalence of pests and diseases, communities ought to introduce resistant crops and varieties. Improved seed research also has an important role to play.

To address conflict, a number of coping mechanisms were mentioned by participants. These included disarmament, community dialogue on peaceful coordination, having the right policies in place, and following up on resolutions.

11.2.2 Coping with conflict

As part of the exercise on conflict, participants were also asked to develop a more detailed narrative about the conflict dynamics they identified, in particular the risk management strategies available. To that effect participants worked on:

- Question 1: What can communities do to mitigate / prevent this type of conflict?
- Question 2: What can outside actors do to mitigate / prevent this type of conflict?
- Question 3: What resilient capacities are there in the community regarding this type of conflict?
- Question 4: What coping capacities are there in the community regarding this type of conflict?

Table 14 *Coping with conflict: transcripts of participant responses*

Mitigation / prevention	What can communities do?	What can outside actors do?	Resilience capacities	Coping
Dialogue	Community bylaws	Build the capacities of farmers and herders in resilient food systems	Engage in community meetings involving different actors	Food aid (partners, government, neighbouring communities)
Early warning or response mechanism before the conflict escalates	Strengthen traditional systems	Promote funding for peace (awareness, ToT training, water structure development, M&E)	Encourage more production	Alternative food (wild fruits and vegetables)
Truth-telling and accepting facts	Awareness	Promote community dialogue on co-existence	Enforcement of local by-laws	Provision seeds and tools
Mapping of land use like pasture areas and farming areas	Community policing	Innovation on fodder production	Strengthen community capacity through trainings	Provision of animal health services
Developing rangelands	Promote barter system	Healing and reconciliation through religious initiatives	Protection of community assets or resources	Livestock restocking (?)
Clear policy on cattle migration		Inclusive education	Local fencing	

11.3 The cause-effect relationship between conflict and food insecurity in EES

11.3.1 Exploring the cause-effect relationship

As part of the Food Systems Resilience Dialogue, participants were asked their perspectives on the cause-effect relationship between conflict and food insecurity.

Participants were asked to reflect on two key statements and indicate whether or not they agreed (using a five-point scale: strongly agree, agree, neutral, disagree, strongly disagree), and provide a rationale for their choice. The arguments were weighted in either in favour of or in opposition to the statement.

The exercise presented an overall perspective on, and insights into, the cause-effect relationship between conflict and food insecurity by participants in the EE Food Systems Resilience Dialogue (government, academia and local universities, UN agencies, NGOs, the private sector, and CSOs).

The dialogue participant responses reflect a diverse range of perspectives and rationales, but ultimately present a nuanced understanding of the interplay between conflict and food insecurity. As such, the exercise underscores the need for a multi-faceted approach to addressing food insecurity that not only addresses the root causes of conflict but also seeks to build stability and peace. The insights gained from this exercise can

inform interventions that prioritise the role of food systems in building peaceful and stable communities while also addressing the underlying drivers of conflict and insecurity.

Key findings are discussed below. Detailed findings on participant's responses to the statements can be found in Appendix 6.

11.3.2 Statements

Argument: Conflict is the main cause of food insecurity in Eastern Equatoria
A total of 77% of arguments agreed with the statement, 19% disagreed, and 4% of responses were neutral. See Figure 25.

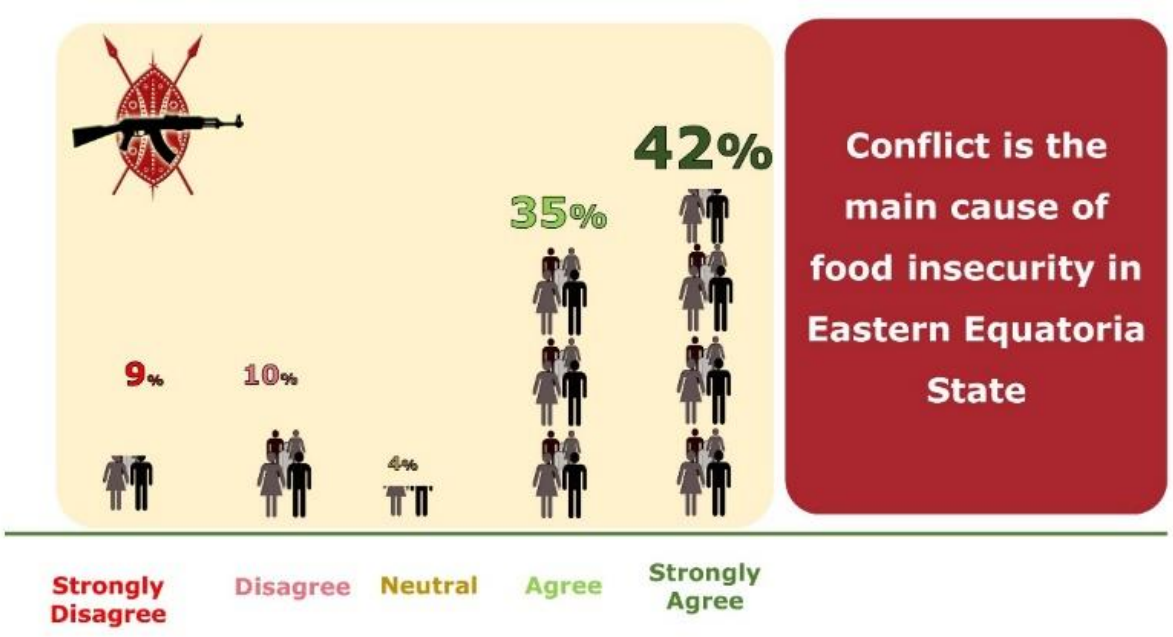


Figure 25 *Cause-effect relationship, conflict-food insecurity statement 1*

In agreement
In total, 77% of the arguments voiced by dialogue participants agreed that conflict is the main cause of food insecurity in EE (35% agreed, and 42% strongly agreed).

The impact of conflict on agricultural production is significant. People fear being attacked, harmed and killed. This fear creates a sense of insecurity which limits the amount of land that can be cultivated which, in turn, limits the amount of food that can be produced. Conflict between farmers and cattle herders can create disputes and fear amongst people.

Conflict also creates displacement, with those displaced not able to cultivate their own land. Displacement also induces local labour shortages in the places of origin, reducing agricultural production. Conflict and the resulting insecurity also disrupts supply routes to conflict-affected areas, which limits agricultural production. This, in turn, reduces the availability of food in local markets, increasing the price of food and making it unaffordable for many.

Cattle raiding and rustling leads to the loss of livestock, which is a major source of food, both meat and milk. Land disputes and land grabbing also limit agricultural production, as people are not able to access their fields.

Some dialogue participants stated that conflict diverts funds away from developing agricultural production. Instead, resources are directed towards conflict resolution and humanitarian aid. This further limits the

ability of farmers to increase their agricultural production. One argument mentions that humanitarians discourage people from cultivating more, as they are focused on providing relief aid rather than promoting self-sufficiency.

In disagreement
A total of 19% of voiced arguments disagreed that conflict is the main cause of food insecurity in the state (11% disagreed and 9% strongly disagreed).

Food insecurity is a complex issue that arises from various factors. According to some dialogue participants, climate change resulting in unpredictable weather patterns, droughts, floods, and fires has a more significant impact on agricultural production and outputs in the state than conflict.

Other arguments highlighted poor quality seeds and the use of basic tools as the major cause of low food production. They argued that investing in better seed quality and modern tools could improve food production and reduce food insecurity in the region. The lack of appropriate machinery to process agricultural produce and appropriate storage facilities was also argued to be a more important cause of food insecurity than conflict; investing in modern farming technologies and storage facilities could significantly improve food production and reduce food insecurity.

There were a few arguments that mentioned the lack of willingness of people to produce rather than depend on relief aid: farmers should take the initiative to produce more food and not rely on external support.

Neutral
A total of 4% of the voiced arguments were neutral, mentioning for example, that floods, droughts and fires are more important causes for food insecurity, as well as a lack of modern farming tools and techniques.

Argument: Food and nutrition insecurity is the main cause of conflict in Eastern Equatoria
A total of 58% of arguments agreed with the statement, 32% disagreed and 10% of responses were neutral. See Figure 26.

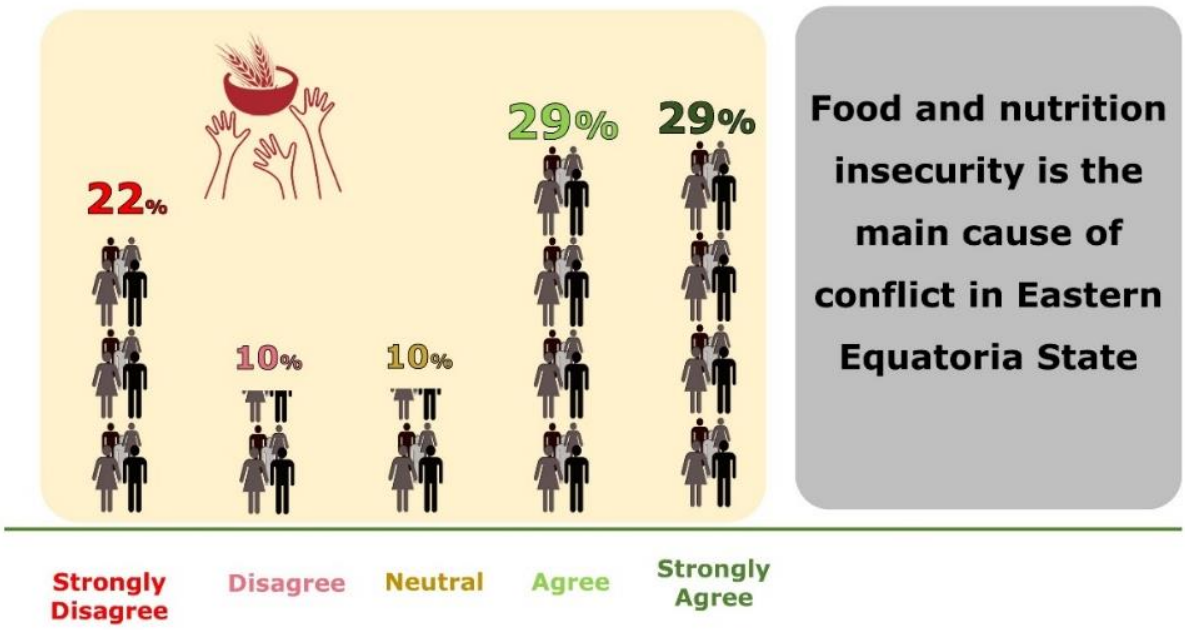


Figure 26 *Cause-effect relationship, conflict-food insecurity statement 2*

In agreement
A total of 58% of arguments voiced by dialogue participants were in agreement with the statement that food and nutrition insecurity is the main cause of conflict in EE (29% agreed and 29% strongly agreed).

Arguments included that food insecurity and hunger affects behaviour which makes conflict more likely as people's livelihoods are deeply affected, causing them to compete for resources (particularly food-producing land), and tempted to participate in cattle raiding, which leads to conflict and people feeling insecure. Food insecurity and poverty create a sense of desperation in people, leading to some engaging in criminal activity, including road ambushes, robbery, and cattle raiding. The lack of employment opportunities further increases the risk of food insecurity and conflict, deepening poverty and hunger, resulting in increased suffering and deaths and further fueling the cycle of conflict.

Food and nutrition insecurity is seen as a significant contributing factor to conflict in Eastern Equatoria, undermining the social fabric of communities creating space and opportunity for conflict. In some cases the lack of food contributes to gender-based violence at the household/family level.

In disagreement
A total of 32% of arguments voiced by dialogue participants were in disagreement with the statement that food and nutrition insecurity is the main cause of conflict in EE (10% agreed and 22% strongly disagreed).

Responses highlight that there are other more significant causes of conflict than food insecurity such as political rivalry, cattle theft, disputes over accessing natural resources, and disputes over land. Ultimately the responses state that the primary cause of conflict in the state is control over resources, which can cause disputes among different groups. Conflict arises when people and groups see each other as having incompatible goals.

Causes of conflict vary considerably; food insecurity does not necessarily lead to conflict, as most communities in Eastern Equatoria have various sources of food in their locality. Also, in large areas people farm without significant conflict.

Other statements highlighted that food insecurity can be a cause of conflict but is not the primary one, rather poor governance, a lack of access to natural resources, and ethnic rivalries are the main drivers of conflict. Furthermore, conflict can often result from a breakdown in relationships between people and groups. Improving governance and resource management could help reduce conflict in the region, as well as providing better access to natural resources for all groups. This, in turn, could help reduce food and nutrition insecurity, as farmers would have better access to land, water, and other resources needed to produce food.

Neutral
Those neutral on the statement mentioned various reasons. Food insecurity may not result in violence as households may look for other means of survival. Food insecurity can contribute to cattle raids; however raiding may still take place irrespective of food insecurity as people may be seeking high-quality animals or looking to head cattle for marriage. Political rivalry, land disputes, and accessing natural resources are some of the causes of conflict that may not be related to food insecurity.

11.3.3 Key findings

Combining the responses to both statements, and analysing these, provides an interesting insight into the complex and interwoven relationship between conflict and food insecurity

The majority of arguments by the dialogue participants highlighted that conflict is the primary cause of food insecurity in EE (55%), and a still very significant 35% of statements underlined that food insecurity is the main cause of conflict. A few arguments (10% in total) stated other factors highlighting the complex interrelationship between conflict and food insecurity and the need for comprehensive solutions. See Figure 27.

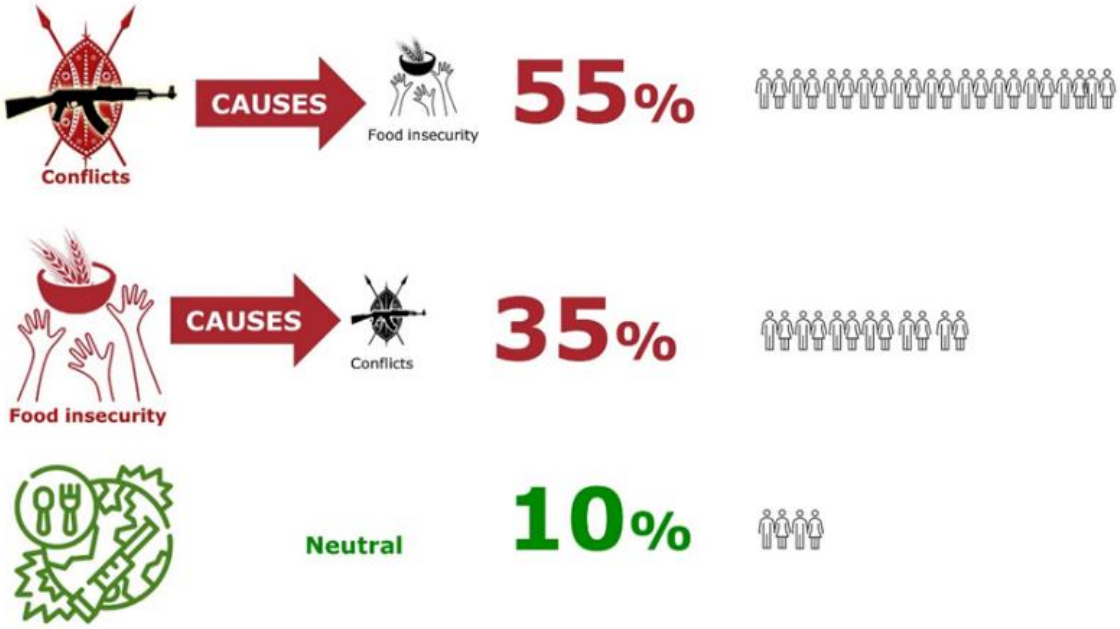


Figure 27 *The cause-effect relationship between conflict-food insecurity in Eastern Equatoria state*

In total 55% of arguments listed by the dialogue participants supported the idea that conflicts are at the root of food and nutrition insecurity, highlighting a range of factors affecting how conflict disrupts food systems, in particular food production and distribution systems.

In total 35% of arguments saw food security as the main cause of conflict, the rationale being that food insecurity creates poverty and frustration/anger, leading to theft and robbery, and increased competition over productive resources resulting in conflict.

10% of the arguments centred around poor governance which results in conflict, food insecurity or both; highlighting discrimination, corruption and political rivalry and unequal access to natural resources and services supporting production.

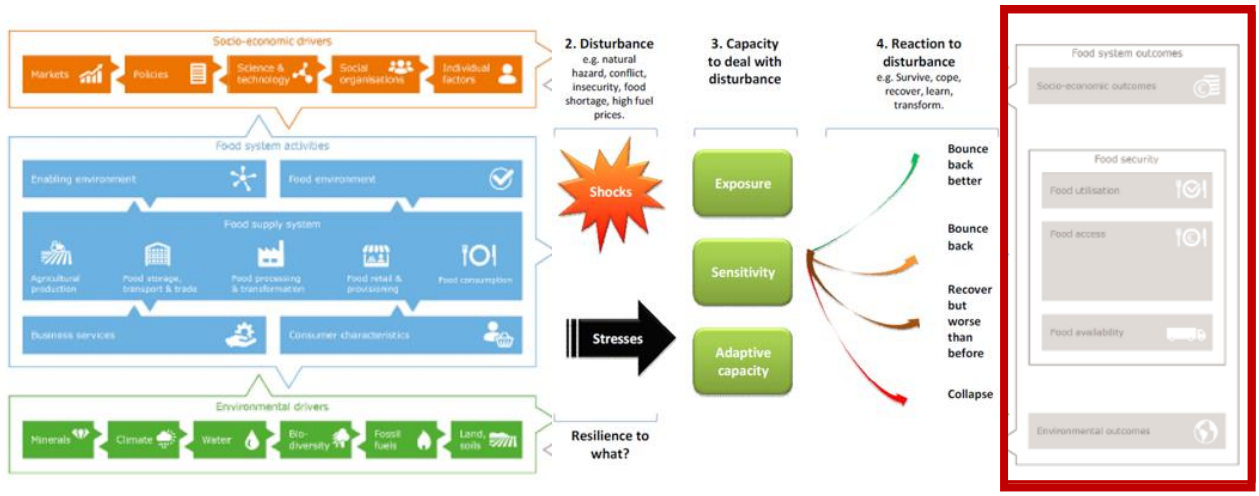
11.3.4 Conclusions

There is a need for a multifaceted approach that involves various stakeholders. Government has a critical role to play in providing security and creating an enabling environment for food production, processing, and distribution. This can be achieved by providing farmers with the necessary support (such as agricultural inputs, access to credit, and extension services) to improve their productivity and profitability.

Civil society can also play a significant role in creating awareness and advocacy on issues related to food security and conflict resolution. This can be achieved through community mobilisation, education, and training on peaceful conflict resolution and alternative livelihoods.

FAO and knowledge institutes (such as the University of Juba and Wageningen University and Research) can support these efforts by conducting action research on the cause-effect relationship between conflict and food insecurity to inform policy and practice; providing technical assistance and capacity building to relevant stakeholders; and developing innovative solutions for food production, processing, and distribution that contribute to social cohesion, local stability and peace.

12 Food system outcomes



According to van Berkum's (2018) food system framework, there are three different types of food system outcomes to be distinguished:

- Outcomes relating to food security
- Socio-economic outcomes
- Environmental outcomes.

The following sections outline the food system outcomes of Eastern Equatoria State.

12.1 FNS outcomes

This section provides an insight into the food and nutrition security outcomes of people in EES. It starts with an overview of the acute food insecurity situation of the whole of South Sudan. Then it focuses on the most recent county-level analysis of the EES region. Therefore conclusions on FNS status are based on sources from both state and regional level.

12.1.1 Overview of FNS outcomes

Acute food insecurity
According to the most recent integrated phase classification (IPC) analysis, some 6.6 million people, amounting to more than half of the entire population, are currently experiencing high levels of acute food insecurity in South Sudan, classified as being in IPC 3 or higher. 2.2 million people are experiencing worse conditions in Emergency (IPC 4) and an estimated 61,000 people are in Catastrophe (IPC 5) (IPC, 2022).

Eastern Equatoria State was not considered one of the most food insecure states in the current analysis (October - November 2022).

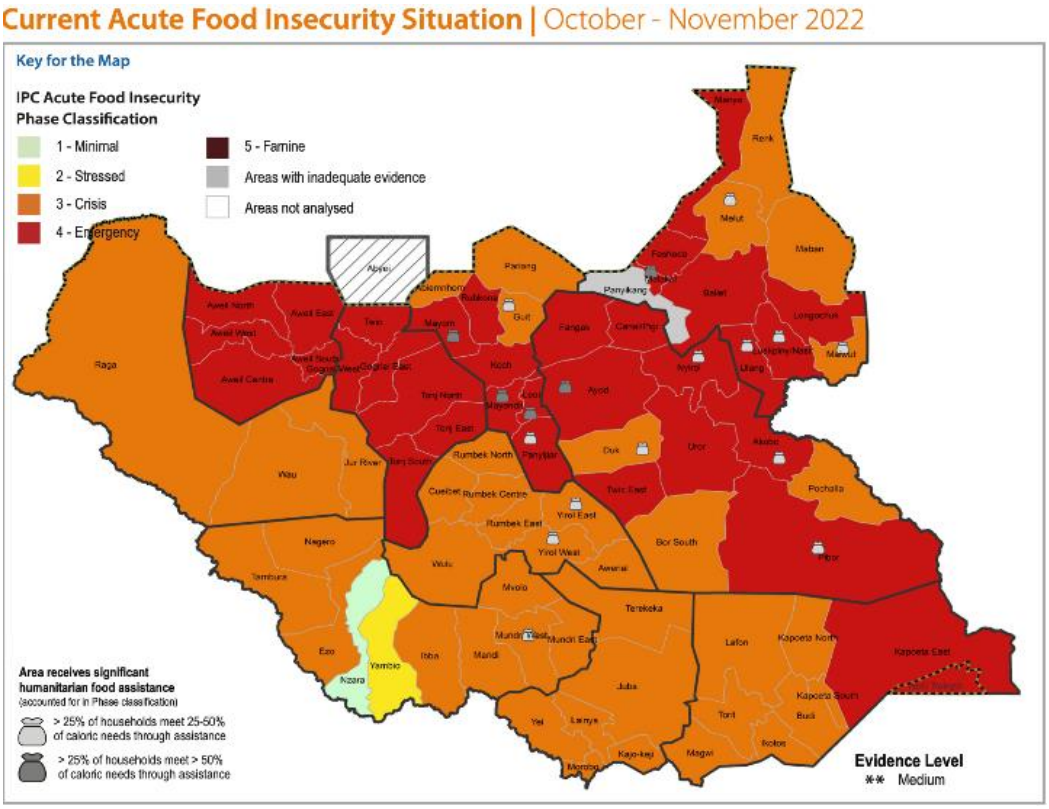


Figure 28 *The current acute food insecurity situation in South Sudan, November 2022 (IPC, 2022)*

In EES, a total of 476.000 people or 43% of the population are currently considered to be in IPC 3+ (30% IPC 3, 13% IPC 4). The remaining 57% of the population are currently in IPC 1 or 2.

Of the 8 counties, Magwi County has the lowest share of people in IPC 3+ (20%). Budi County and Kapoeta East have the highest share of people in IPC 3+ (both 55%) and Kapoeta East is considered as IPC 4 with more than 20% of the population being considered in an emergency situation.

Name	Area Phase	Total # (pp)	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5		P3+	
			#	%	#	%	#	%	#	%	#	%	#	%
Eastern Equatoria Group		1,127,486	252,000	22%	400,000	35%	333,000	30%	143,000	13%	0	0%	476,000	43%
↳ Budi	3	104,986	10,498	10%	36,745	35%	41,994	40%	15,747	15%	0	0%	57,741	55%
↳ Ikotos	3	107,047	21,409	20%	32,114	30%	37,466	35%	16,057	15%	0	0%	53,523	50%
↳ Kapoeta East	4	169,978	16,997	10%	59,492	35%	59,492	35%	33,995	20%	0	0%	93,487	55%
↳ Kapoeta North	3	157,435	31,487	20%	47,230	30%	55,102	35%	23,615	15%	0	0%	78,717	50%
↳ Kapoeta South	3	102,427	20,485	20%	35,849	35%	35,849	35%	10,242	10%	0	0%	46,091	45%
↳ Lafon	3	157,151	39,287	25%	47,145	30%	47,145	30%	23,572	15%	0	0%	70,717	45%
↳ Magwi	3	265,366	92,878	35%	119,414	45%	39,804	15%	13,268	5%	0	0%	53,072	20%
↳ Torit	3	63,096	18,928	30%	22,083	35%	15,774	25%	6,309	10%	0	0%	22,083	35%

Figure 29 *EES IPC by county (IPC, 2022)*

These FNS outcomes, as measured by the IPC, are a direct result of drivers and shocks and stressors impacting food systems. The key drivers of current food insecurity, according to the IPC, are climatic shocks, conflict and insecurity, low production, and (macro-) economic stressors. This is well aligned with observations and data collected during the FoSReD-PaD workshops in EES.

However, without downplaying the severity of the situation faced by a large segment of the South Sudanese population, the dialogue participants who were familiar with the realities of food and nutrition insecurity expressed some skepticism about these IPC figures.

Some dialogue participants mentioned that there appeared to be a tendency to inflate the severity of the situation in some areas to attract humanitarian assistance.

In the IPC projections, it is projected that the percentage of people in IPC 3+ will slightly increase throughout Eastern Equatoria (IPC, 2022).

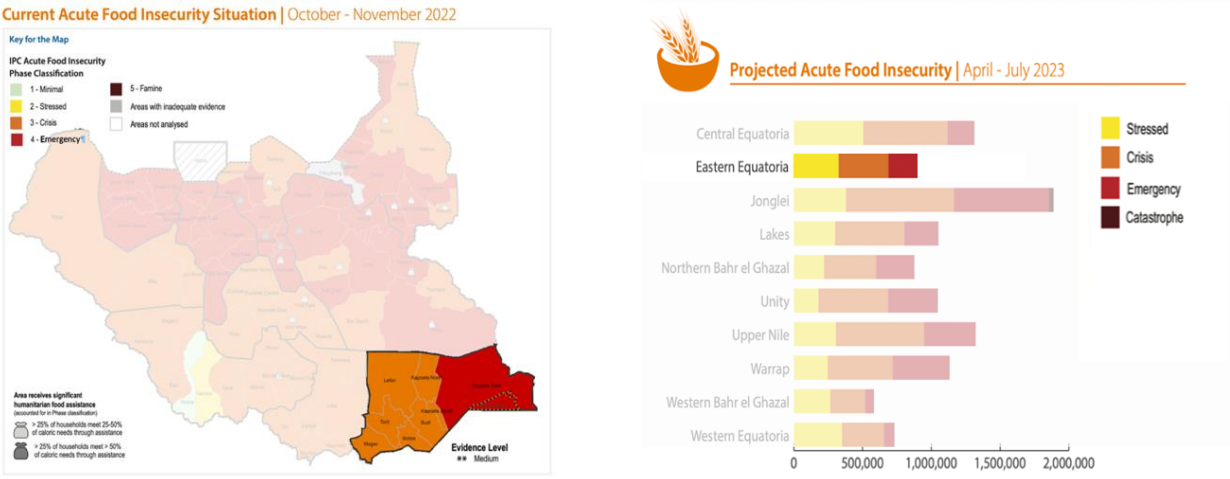


Figure 30 *The current and projected acute food insecurity situation in EES, November 2022 (IPC, 2022)*

Acute malnutrition

Between July 2022 and June 2023, an estimated 1.4 million children under five are expected to suffer from acute malnutrition in South Sudan, based on analysis and estimations of the IPC. Currently, 4 out of 8 counties of EES are classified as in 'alert', with another 4 classified as 'serious'. A deterioration of the situation during the post-harvest season is expected, with 4 counties expected to be classified as 'serious' and 4 expected to be classified as 'critical'.

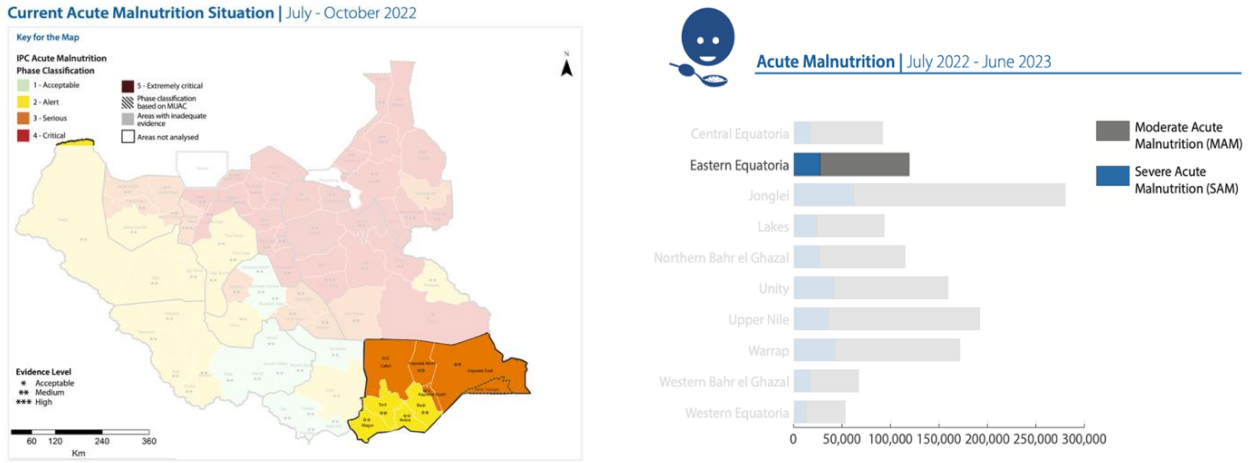


Figure 31 *The current acute malnutrition situation in EES, November 2022 (IPC, 2022)*

12.1.2 Environmental and socio-economic FS outcomes

Environmental outcomes refer to the impact of a food system on natural resources and the biophysical drivers of the food system (van Berkum, et al., 2018). The socio-economic outcomes of the food system involve 'incomes and living conditions of farmers' families and other actors in the food system, as well as the employment and wealth that these activities generate. They also involve the social, political and human capital generated by these activities' (van Berkum, et al., 2018).

For the reason of simplicity, we refer to the environmental and socio-economic food system outcomes as socio-ecological food system outcomes. The below paragraphs highlight some of these socio-ecological food system outcomes in EES.

As a result of deforestation, overgrazing and bush fires, soil erosion in South Sudan is increasingly becoming a problem. Consequently rivers, lakes, dams, and irrigation canals are silting up, reducing the supply of water for drinking and irrigation. Soil quality is also declining, which negatively affects agricultural productivity (Ministry of Environment South Sudan, 2016).

The USAID commissioned the report 'Resilience Profile – Torit'. This recognises additional human activities in Torit which disrupt ecosystems, threatens food security, human health and livelihoods. Some mining, lumber, toxic dumping and fishing chemicals affect Torit, but bush-burning, charcoal-burning and over-grazing are rampant. 'The community has resorted to charcoal burning business to raise money to buy food. People go and burn the bushes to get charcoal to bring to the market...the trees are important for rain formation, but all the gangs of cattle raiders are focused on tree cutting to sell to tobacco traders in the areas of Jongole and Turkana.' (USAID, 2019a)

Part III: Pathways for food systems resilience in Eastern Equatoria State

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The third part of this report describes the Food Systems Resilience Hub (Chapter 13) and the pathways to achieve the vision and the mission as set by the participants in the Dialogue (Chapter 14).

All participants in the Dialogue unanimously agreed to establishing the Hub which will act as a neutral and independent body to facilitate the State-level Multi-Stakeholder Partnership on Food Systems Resilience. Based on the vision and mission set by the participants in the dialogue, nine pathways were identified. For each of the pathways an initial set of key strategic actions and activities were identified; these were validated and approved by all dialogue participants. The pathways are dynamic in that the main actions and activities identified could change over the course of time in order to stay relevant to changing situations as required for operating in volatile and dynamic contexts.

Together the pathways comprise a road map for the transformation of Eastern Equatoria's food systems to achieve the common vision; that *'the peoples of Eastern Equatoria State produce and access sufficient nutritious and culturally accepted food over time and space, in the face of man-made and/or natural shocks and stressors and live in peace and harmony with each other and with nature.'*

Part III of the report contains the following chapters:
13. The The Food Systems Resilience Hub
14. Pathways definition

13 The Food Systems Resilience Hub

This chapter introduces the State-level FSR Hub, the establishment of which was unanimously agreed to by all participants and parties participating in the dialogue.

In essence the Hub acts as a neutral and independent body to facilitate the State-level Multi-Stakeholder Partnership on Food Systems Resilience. The Hub's core functions are to:

- Initiate and promote the building of food systems resilience.
- Develop pathways by exploring the space and opportunity to build food systems resilience.
- Develop action plans and facilitate collaborative/concerted implementation.
- Facilitate a culture of learning which includes evidence-based adaptive programming, documentation of good practice and the development of policy recommendations.

13.1 Creation of the State-level Food Systems Resilience Hub

A key outcome of the Food Systems Resilience Dialogue in EE has been the creation of the Food Systems Resilience Hub. The FSR Hub is in essence a multi-stakeholder partnership involving people and institutions in developing food systems resilience in EE.

Key characteristics of the FSR Hub are:
- Stakeholders share a common interest and desire to develop resilient food systems.
- Stakeholders represent all who have an influence on, or are affected by, food systems transformation.
- Building food systems resilience works across different sectors and scales to address the root causes of poor food systems performance and deliver on opportunities for improved performance.
- A dynamic process and timeframe.
- The fostering of learning and capacity building.
- A balance of top-down and bottom-up approaches, with a focus on promoting bottom-up community owned and driven approaches.
- The enabling of transformative and institutional change.

The dialogue participants unanimously agreed to establish the FSR Hub.

A steering committee (SC) will include a representative of a local University. State ministers recommended the inclusion of the Director General of the Ministry of Gender, Children and Social Welfare (MoGCSW); another important member is a representative of the EE State Peace Committee and/or the Ministry of Peacebuilding.

13.2 The key functions of the Food Systems Resilience Hub

To facilitate the transformation of the State's food systems, in line with the national priorities set by the National Food Systems Dialogue, the State Government has established a Food Systems Resilience (FSR) Hub. The FSR Hub is in essence a multi-stakeholder partnership bringing together people and institutions dedicated to developing food systems resilience in EE. The Hub acts as a neutral and independent body and will therefore be facilitated with support from the University of Juba and, if required, Wageningen University.

The FSR Hub oversees four main interrelated functions.[31]

1. **Initiating and promoting FSR:** engage stakeholders in situational Food Systems Dialogue; build stakeholder support and trust; establish a steering body (the FSR Hub); establish its scope and mandate in support of the Partnership for Recovery and Resilience. This has been done – see part 2 of this report.
2. **Developing shared FSR vision and pathways:** deepen understanding and trust amongst stakeholders to build FSR; identify key issues and opportunities for building FSR; develop a shared vison for the future; co-create pathways to achieve the vision; agree on strategies for change; identify strategic actions, activities and responsibilities, and communicate findings and outcomes to relevant actors. This has been done – see part 3 of this report.
3. **Setting/deciding action plans and guiding/supporting implementation:** develop detailed action plans; encourage current interventions to contribute to building FSR; seek/lobby for additional resources and support for action plans; develop capacities for action; oversee implementation; maintain stakeholder commitment. This and function 4 are the next steps.
4. **Facilitating evidence-based adaptive programming and learning**: create a learning culture and environment; define criteria and indicators to measure progress; develop and implement a (reflective) monitoring mechanism; review progress and impact and generate lessons (good practice and emerging policy recommendations); use lessons for improvement.

13.3 The FSR Hub: the action plan based on the pathways

The FSR Hub will play a key role in the development of a state-level FSR action plan with the ultimate vision to build food systems resilience in EE State.

Further discussions will take place between key multi-sectoral stakeholders already engaged through the Area Reference Group (ARG) under the PfRR to formulate the plan that will encompass short-medium-long term interventions. A dedicated local University will be identified which can assist in facilitating this process, with the support of the University of Juba, and if required Wageningen University.

The action plan will be crafted based on the nine pathways identified and validated by the dialogue participants. The nine pathways and their main actions and activities can be found in chapter 14.

[31] Inspired by the MSP Guide: https://mspguide.org/

14 Pathways definition

14.1 Introduction to the pathways

The Food Systems Resilience Dialogue and Pathway Development (FoSReD-PaD) facilitated by the Partnership for Peace, Recovery and Rehabilitation is a Multi-Stakeholder Partnership comprising the Eastern Equatoria State Government, UN agencies, NGOs, private sector and representatives of the Eastern Equatoria's peoples. The FoSReD-PaD was facilitated by a team from the University of Juba with the support of Wageningen University.

Vision and Mission

The vision is:

> The peoples of Eastern Equatoria State produce and access sufficient nutritious and culturally accepted food over time and space, in the face of man-made and/or natural shocks and stressors and live in peace and harmony with each other and with nature.

The mission is:

> Building resilient food systems in Eastern Equatoria State.

Pathways towards achieving the vision of food systems resilience

The food systems resilience dialogue in Eastern Equatoria State, involving around 76 key actors and stakeholders, co-created/envisaged a total of nine pathways. Together the pathways comprise a road map for the transformation of Eastern Equatoria's food systems to become more resilient and better serve the needs of smallholder farmers/agri-pastoralists and herders across the State.

The pathways are grounded in, and contribute to:

- The key priority dimensions for building food systems resilience as identified by South Sudan's National Food Systems Dialogues (2021).
- South Sudan's Comprehensive Agricultural Master Plan – CAMP.[32]
- The Eastern Equatoria State Development Plan 2022-24.

The pathways address critical challenges related to

- Governance (policy, principled approaches).
- Coordination.
- Public and private sector performance and programming (including key operations and services in food system development).
- Capacity building.

The pathways take a principled approach:

- Strengthen localisation and humanitarian-development-peace nexus programming.
- Encourage and facilitate community-driven initiatives.
- Ensure that building food systems resilience is inclusive and that all, in particular women and youth, can participate in and benefit equitably from food systems resilience.
- Seeing youth as opportunity in food systems transformation.
- Seek constructive engagement of local experts and expertise, thereby strengthening a local knowledge/research infrastructure.

Each pathway reflects the deliberations during the dialogue, and describe:

- The challenges.
- The ambitions.

[32] https://openknowledge.worldbank.org/bitstream/handle/10986/37951/cc1048en.pdf?sequence=1

- The interventions (numbered), their actions, and achievable activities that were identified through the dialogue.
- The key actors/stakeholders involved.

The proposed pathways are outlined in the sections below.

14.2 The nine pathways

Pathways at a glance:

I. Strengthen food systems resilience governance

1. Strengthen FSR governance at EE State level to create ownership and develop a regulatory framework / set of principles to guide the development of FSR as required to deliver upon the four national food systems priority areas (South Sudan's Food Systems Dialogue – see pathways 4-7).
2. Promote coordination and information-sharing (digital inclusion), and catalyse partnerships in developing FSR.
3. Guide and support the transformation from humanitarian assistance to developing FSR.

IIa. Develop food systems resilience – address strategic challenges

4. Strengthen the resilience of food systems in the face of human-made and natural shocks (ensuring food security for all reducing the need for humanitarian assistance).
5. Build food systems resilience that contribute to social cohesion and peace - develop food systems for peace.
6. Build food systems resilience that maintains/develops natural resources, and produce a variety of food for delivering healthy diets.
7. Develop inclusive value chains and agri-businesses maximising employment for youth.

IIb. Develop a resilient seed sector

8. Promote integrated seed systems development in Eastern Equatoria State as foundational to healthy food systems performance.

III. Learning, capacity building, and evidence-based programming

9. Facilitate learning, build capacities of public and private institutions, and encourage evidence-based programming for effective food systems transformation.

Please note the following:

- In the boxes below, the transformational levers are mentioned: they were created as part of South Sudan's National Food Systems Dialogue and its initiatives.
- Proposed actions and activities in the state-level Food Systems Dialogues and pathway development were aligned with the transformational levers that had been created by the national Food Systems Dialogue, to ensure alignment and consistency.

14.3 I. Strengthen food systems resilience (FSR) governance

Pathway 1
Strengthen FSR governance at EES to create ownership and develop a regulatory framework / principles to guide the development of FSR as required to deliver upon the four national food systems priority areas (pathways 4 to 7).

The challenges

Challenges identified during the dialogue:

- Lack of co-ordination between National and State Government.
- Inadequate co-ordination between line ministries and other humanitarian/development/peace partners.

- Inter and intra communal conflicts in EES which might hamper FSR governance and programming.
- Lack of skills and expertise amongst government staff and partners to strengthen FSR governance.
- Lack of early warning systems and anticipatory action.
- Lack of appropriate policies on guiding FSR.
- Limited financial resources by the government to support FSR governance.
- Lack of capacity building on modern technology or phased introduction of improved technologies.
- Transport and co-ordination networks across the State are poor, hindering effective FSR work across the State.
- Avoid corruption that could potentially undermine the government's food systems resilience efforts.
- NGOs act in competition with each other to access funding rather than co-operating in the public domain.

The ambitions

Ambitions identified through the dialogue:

- To increase the political interest and will to strengthen FSR governance.
- For agencies to work and collaborate/co-ordinate towards common goal building FSR (rather than acting in competition with each other to access funding).
- For the Government, with support of key partners, to assume leadership in building food systems resilience.
- To have effective and accountable governance towards building FSR (demonstrating impact).
- To involve academia and national/local experts in FSR governance and programming.
- For FSR governance to create strong incentives to establish functional training and research zonal stations.
- For FSR governance frameworks and principles to provide a solid foundation for peace building and reconciliation.
- To strengthen co-ordination between the State Government and its line ministries in building food systems resilience.
- To support and strengthen Government institutions in policy development and implementation.
- To establish early warning systems, including provisions for anticipatory action.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

1. Develop a **better understanding on FSR**, both as concept and as actionable approach, amongst key stakeholders/actors, and develop **a common principled approach to building/developing FSR in EES.**
   - Develop and deliver a FSR training to key stakeholders and actors.
     - ➢ The University of Juba to develop and deliver an (online) training short training/course on food systems resilience (by adapting a JRM-DRMFSR course, and/or development of MOOC/SPOC as part of the FNS-REPRO programme)
   - Develop, agree upon and adopt a set of principled approaches that guide developing FSR.
     - ➢ The University of Juba and WUR-WCDI to facilitate a consultative process and publish recommendations accordingly.

2. Clarify the **role of key stakeholders and actors in EES** in developing food systems resilience.
   - Develop clear roles of key actors (State Government, local Universities, NGOs, private sector, civil society) in building food systems resilience.
     - ➢ The University of Juba to facilitate a consultative process and publish recommendations accordingly.
     - ➢ Allocate capacities to regulation bodies to monitor and enforce rules.

3. Produce a **land use management map / plan (including hazard/risk mapping)** to guide and inform decision-making by EE State Government to achieve the potential of South Sudan's food systems transformation priorities (aligned with the Comprehensive Agricultural Master Plan).
   - Land use management plan including key infrastructure (roads and markets); population centres (cities, towns and urban centres); natural resources; identification of areas that are exposed to natural shocks (like floods and droughts) and stressors (like climate change); man-made shocks (like conflict related displacement); and stressors (like longer-term return strategies).
     - ➢ Government of South Sudan, FAO, WUR-WCDI.

- Based on the land use management map /plan, identify key opportunities to prioritise investment in infrastructure (notably roads and markets) and agricultural development to unlock the economic potential of the State (including export of agricultural commodities to Uganda and Kenya once the new road is established).
  - Develop a yield gap atlas for EES by FAO, the University of Juba and WUR-WCDI.
- The land use management map/plan should account for urban-rural food systems development and how these food systems interconnect with outlaying rural areas improving food and nutrition security in those areas.
  - FAO, the University of Juba and International Equatorial University/Torit, with support of WUR, will scope possibilities for development of land use management plans.
  - Create better understanding of the urban food consumption needs, trends and supply gaps to develop peri urban value chains accordingly.

4. **Develop policy directions and operational approaches to contribute to the realisation of the four national Food Systems Dialogue priority areas.** That is to develop evidence-based food systems that: 1) are resilient to man-made natural shocks/stressors; 2) contribute to social cohesion and peace; 3) produce healthier diets and improved NRM; 4) develop value chains that are inclusive and generate meaningful youth employment.
   - Develop pathways for each of these key food systems domains (see developing food systems resilience below).
     - Initiate a consultative and interactive process to identify, develop, and MEAL pathway development, and organise consultative meetings twice a year (see also establishment FSR Hub under point 2).
     - Ensure that existing and new government and NGO project budgets are used effectively and are accountable (minimising corruption) to beneficiary groups.

5. Government to ensure that **national and international public & private investments in agriculture are 'responsible'**, and in line with the interest of communities in Eastern Equatoria.
   - State Government, working with partners, and in line with national legislation, to develop a set of principles to guiding responsible agricultural investment.
     - The University of Juba could, with support from WUR-WCDI, work on this.

6. Ensure current government and donor financing is aimed at building FSR.
   - EES government and its partnerships to advocate for funding that supports building food systems resilience.

Key actors involved

Actors identified through the dialogue:

- State Government
- Humanitarian, development and peace actors (UN agencies and international / national NGOs present in EES)
- Private sector actors
- Community leaders
- Youth and women, and people with special needs.

Pathway 2
Promote coordination, information sharing (digital inclusion), and catalyse partnerships in developing FSR.

The challenges

Key challenges identified through the dialogue:

- Communication and information sharing between key actors and stakeholders is generally poor; needs dedicated attention to improve for FSR work to be co-ordinated and effective.
- Lack of commitment/ability by government to effectively deliver co-ordination.
- Lack of funding to make co-ordination, info sharing and fostering partnerships possible.
- Poor physical infrastructure and communication making dialogues/meetings expensive and challenging (in particular for those not located in Torit).

The ambitions

Key ambitions identified through the dialogue:

- To establish a platform at state level that can bring together a wide range of key actors/stakeholders interested in and dedicated towards building resilient food systems in Eastern Equatoria State.
- To make co-ordination meetings involving relevant authorities stronger and more effective.
- To set up a digital platform to increase access to relevant information (for example by setting up places with good internet access at County level).
- To identify and secure the funds required to make co-ordination and information-sharing possible.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

1. **Establish a Food Systems Resilience Hub in Eastern Equatoria State in Torit**. The FSR Hub provides an independent and neutral platform that brings together a wide range of key actors/stakeholders interested in and dedicated towards building resilient food systems in Eastern Equatoria State; the FSR Hub will raise awareness about the importance of FSR, provide training, facilitate learning, co-ordinate and facilitate joint or collaborative action, document good practice, and develop policy briefs advocating for building FSR.
   - The University of Juba is to work with a relevant actor/institute in Torit to establish and support the FSR Hub, organising two FSR Hub dialogues per year.
   - Develop/facilitate training by South Sudanese knowledge and training institutions, if required with the support of international research and training institutions, on topic areas that are key to building food systems resilience.
     - Design and deliver practical training courses by EE State-level training and research institutes (International Equatorial University/Torit University?), with the support of the University of Juba. At their request, WUR-WCDI will consider support.
   - Facilitate learning, exchange of information, documenting good practice, and development of policy briefs.
     - Provide a course/workshop on food systems resilience, facilitated by the University of Juba with local partner institutions/agencies.
     - Use the twice-yearly FSR Hub to generate/validate good practice and policy recommendations.

2. Establish a **Food Systems Resilience Portal** as a digital platform/gateway to share food systems resilience related policies, food systems regulatory provisions and requirements, information on on-going food systems programmes and their focus areas, and other FSR-related information.
   - The FSR Portal will be housed at the FSR Hub, supported/facilitated by the University of Juba (with support by WUR-WCDI).
     - Relevant parties will make relevant resources, reports, training materials etc. available.

3. Establish a **FSR training and resource centre** that develops and delivers training/info/resources packages to address critical challenges/gaps to building food systems resilience.
   - Establish a FSR training and resource centre in Torit with support and guidance by the University of Juba (which is currently establishing its own FSR resource and training centre).
     - The EES State Government and its partners (including the Partnership for Peace, Recovery and Resilience, UNMISS and the University of Juba) are to discuss the establishment of the training and resource centre.

4. Strengthen and promote **longer-term N-S-S partnerships on FSR** between local, national, regional and international universities and research centres.
   - The University of Juba plays a key role in North-South-South (N-S-S), currently involving the following: **N**-S-S Wageningen University; VHL University of Applied Sciences; N-**S**-S University of Juba; the Institute for DRM and Food Security Studies, Bahir Dar University, Ethiopia and Nugaal & Sanaag & Buruo, Somaliland; N-S-**S** the University of WBeG, the RC University of WBeG and the International Equatorial University/Torit University in Eastern Equatoria.
     - Advocate and lobby for strengthening N-S-S partnerships linking research and knowledge institutes at local (EE State), national, regional and international level.

Key actors involved

Key strategic actors identified through the dialogue:

- Government (State ministries of EES) and donors (in particular EU, USAID and EKN)
- Government partners (in particular UNMISS, WFP, FAO and UNHCR)
- Telecoms
- Research and knowledge institutions.

Pathway 3

Guide and support the transformation from humanitarian assistance to developing FSR.

The challenges

Key challenges identified through the dialogue:

- The mindset and attitude of organisations and communities that have become accustomed to provision of humanitarian assistance.
- Dependency syndrome by people and aid organisations as a result of humanitarian assistance being normalised.
- Lack of participatory planning processes and project formulation which are often not in the public domain.
- Lack of will, ideas and 'power' to transform humanitarian assistance to developing FSR.
- Lack of commonly accepted principled approaches to guide transformation of humanitarian assistance.
- Insecurity and conflicts are likely to limit FSR work or erode gains in building FSR.
- Value chains that could a play critical role in developing FSR are weakly developed.
- Poor infrastructure and market linkages form barriers towards building FSR.

The ambitions

Key ambition identified through the dialogue:

- To create a shared vison amongst key actors on the need and opportunity to transform humanitarian assistance into building FSR.
- To have principled approaches on the transformation of humanitarian assistance developed and committed to by key actors.
- Communities enabled to increase food production (consumption) and food access (marketing).
- Communities to diversify their crops, animal breeds and livelihoods.
- Communities to building up their resource base.
- Communities to have better access to markets (including through road construction).
- Communities to have developed functional food value chain systems.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue:**

1. Create awareness and commitment amongst organisations/communities to **transition out of humanitarian assistance to building FSR.**
   - Facilitate a learning journey involving key actors on transforming humanitarian assistance to building FSR.
     - The University of Juba, as part of the FSR Hub, to facilitate a learning journey on how the transformation of humanitarian assistance could be used to catalyse building FSR.
     - Agencies to include learning journeys in their interventions and programmes enabling them to contribute to lessons learned and good practice / policy recommendations.
   - Engage with relevant clusters (under UNOCHA) to ensure validity-checking and buy-in.
     - For the University of Juba, as part of the FSR Hub, to facilitate ensure linkage with the UNOCHA cluster system including the food and livelihood cluster.
     - Create linkages among the State Government, development partners, Torit University and Magwi College of Agribusiness.

2. Facilitate a consultative process to develop a set of guiding principles for humanitarian assistance to catalysing FSR (in line with the localisation agenda & HDP-nexus programming).
   - Promote and facilitate the localisation agenda and the humanitarian-development-peace nexus, to fight EES food crises.
     - Facilitate a learning journey on the localisation agenda and HDP nexus programming to transform the aid architecture.
   - Create an enabling environment for developing FSR (by documenting good practices, drafting policy recommendations and developing/implementing principled approaches to guide transformation humanitarian assistance into building FSR).
     - Support local authorities to disseminate policies and good practice to develop FSR.
   - Develop a road map to move away from humanitarian assistance toward development programming.
     - Government to take leadership and consider provision of subsidies and incentives based on market opportunities.
     - Government to take leadership on regulation including enforced sustainability principles in project work.

3. Increase data literacy/analytics/foresight to support local programming and decision making.
   - Design and deliver a practical course on data literacy to build capacities to better use data for practical programming to local context.
   - Deliver/adapt data 'from insight to foresight' by IPC/Zero Hunger Lab/WUR Decentralise data analytics and foresight enabling in line with localisation agenda to improve on state-level planning and programming.
     - For example, by piloting data analytics and foresight by the ICP – Zero Hunger Lab / WUR-WCDI.

4. Facilitate and support a **central role for education/training/research institutions and South Sudanese and HoA experts** in the transformation of humanitarian assistance, and simultaneously strengthen the capacity of these education/training/research institutions.
   - Facilitate an evidence-based learning and capacity building agenda to transition humanitarian assistance into FSR programming, by local education/training/research institutions.

Key actors involved

Key actors identified through the dialogue:

- The State Government, in particular the State Ministries of Agriculture, Animal Resources, Cooperatives, Finance, Commerce, Gender, Culture, Local government, and Peace building, and the State Ministry of Roads and Bridges.
- Humanitarian, development and peace actors (such as FAO, WFP, UNDP, UNMISS, AVSI, CARE CRS, ARW, GASS, CARITAS SWISSE and WHITAKER).
- Academic and knowledge institutions, in particular Torit University, Torit Vocational Training Centre, Magwi Agri-Business College, and national institutions in support of these.
- Community: in particular cooperative societies, the farmers' union and the pastoralist union.
- Donors, in particular USAID, EU, AfDB, DIFID, DANISH, SIDA, NORAD, GIZ, EKN and CIDA.
- Private sector, in particular the Chamber Of Commerce, Afroganics, Felixton and MASCO.
- Civil society organisations, in particular SSRCS, women's union, youth union and others.

14.4 IIa. Developing food systems resilience – addressing the strategic challenges

Pathway 4

Strengthen the resilience of food systems in the face of human-made and natural shocks

The Challenges

Key actors identified the following key challenges through the dialogue:

- Poor safety and insecurity resulting in displacement (in parts of Eastern Equatoria State).
- Long dry spells causing drought impact crop/livestock production and wildfires burning out of control.

- Flooding disrupting agricultural production and causing displacement.
- Crop pest and animal diseases.
- An absence of concerted efforts/approaches to strengthen food systems in the face of these shocks and stressors.

The Ambitions

Key actors identified the following key ambitions through the dialogue:

- For Eastern Equatoria's State food systems to be more resilient in the face of recurrent shocks and stressors with government, agencies and local communities better able to anticipate and mitigate the potential impact of these shocks and stressors and respond and recover from these shocks and stressors, thus reducing the potential of these hazards in the near future.
- To mobilise resources and form farming groups/cooperatives across communities.
- To involve youth in positive agro-pastoral activities.

A. First transformative lever – FSR governance and institutional strengthening

Box 4 *The first transformative lever to strengthen resilience of food systems: FSR governance and institutional strengthening.*

First transformative lever of the National Food Systems Dialogue: strengthen resilience of food systems - FSR governance and institutional strengthening

i. Commit to the revitalised Transitional Government of National Unity (R-TGoNU) to restore and consolidate peace, security and stability. This is a pre-requisite.
ii. Governance mechanism for food systems and food security and nutrition (co-ordination of institutions and mutual accountability).
iii. Develop macro-economic management and efficient trade and taxation policies.
iv. Develop the political will to allocate the necessary financial and human resources to implement the Comprehensive Agriculture Master Plan (CAMP).
v. Reduce the over-reliance of South Sudan on food importations, while developing the surveillance capacity to ensure food quality and safety.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

1. Create better awareness and understanding amongst key actors/stakeholders on how **man-made and natural shocks/stressors impact on food systems** and develop appropriate anticipatory action (mitigation/reduction and early warning/readiness) and action (response and recovery).
   - Document and make available through the FSR Hub the impact of shocks/stressors on EE State food systems and response by relevant actors/stakeholders and local communities.
     - The University of Juba to consider employing two JRM thesis students to document the impact of shocks and stressors and make results available to the FSR Hub.
     - Develop coordination with all agricultural institutions in EES.
   - Develop and deliver a course on **Landscape Resilience** strengthening the links between land use map / plan and building 'resilient landscapes' involving key actors and stakeholders.
     - A course already designed by the Global Landscape Forum could be delivered by them and/or by the University of Juba, with support of NUFFIC/REPRO.
     - The State Government, with support from University of Juba, WUR/CDI and partners, should map flood-prone areas along the Kidepo and Hinati rivers.
     - The State Government, with support from University of Juba, WUR/CDI and partners, should map the drought-affected areas (mainly in Greater Kapoeta).
     - The State Government, with support from University of Juba, WUR/CDI and partners, should study and design peace building and social cohesion interventions to minimise communal conflict, raiding and unfriendly utilisation of natural resources in EES.

2. As part of the land use management map / plan (pathway 1) **visualise key hazards and risks geographically and describe key food systems' components and interactions.**
   - Identify areas that are exposed to natural shocks (like floods and droughts) and stressors (like climate change), and man-made shocks (like conflict related displacement) and stressors (like longer-term return strategies).
     - Government of South Sudan, FAO, WUR-WCDI.
     - Together with identified partners there is need to map, evaluate and recommend improved risk management in at-risk cropping and livestock systems.
   - Examine and identify key geographic areas were cropping and livestock systems interact.
     - Examine how livestock and cropping systems interact, and how these fit into landscape-level management with other components, such as soils, trees, fuels, fibres, fruits, and food and fodder.
     - In addition, understand how these relate to resource access and management regimes relating to land tenure, governance, and plural legal systems (see also 5 transformational lever 2 'land tenure').
   - The land use management map/plan should account for urban-rural food systems development and how these food systems interconnect with outlaying rural areas improving food and nutrition security in those areas.
     - The University of Juba and the University of Eastern Equatoria/Torit, with support of FAO and WUR, will scope possibilities for development of land use management plans.

3. Establish a cost-effective and affordable **early warning system** including provisions for anticipatory action (mitigation/reduction and early warning/readiness).
   - The State Government to liaise with Central Government and relevant international/national actors (including the University of Juba) to pursue and align with current initiatives in this domain.
     - The University of Juba to consider providing technical advice.
     - International/local actors to identify key local staff to participate in the Joint Regional Masters Disaster Risk Management and Food Systems Resilience at the University of Juba.

4. Develop a **drought/flood/forced displacement risk mitigation and response plan** (see pathway 1).
   - Identify the likelihood of major shocks/stressors affecting significant numbers of people in EES and develop appropriate risk mitigation and response plan.
     - The respective State Government Ministries to work with international and national partners (including the University of Juba) in the development of relevant risk mitigation and response plans.

5. Develop **courses addressing critical gaps in developing FSR.**
   - Identify as part of the FSR Hub the critical challenges in building FSR in EES and seek the support of international/national actors to develop and deliver actionable courses (see also pathway 9).

B. Second transformative lever – enhancing communities' food production

Box 5 *The second transformative lever to strengthen resilience of food systems: enhancing communities' food production*

Second transformative lever of the National Food Systems Dialogue: strengthen the resilience of food systems – enhancing communities' food production

i. Develop and support community-based organisations: pastoral field schools (PFS), community animal health workers (CAHWs), farmer field schools (FFS), and business field schools (BFS) - effective in the absence of formal extension services and poor infrastructure.
ii. Development, propagation and adoption of climate-resilient technologies and investment.
iii. Develop community seed production as a means to develop self-reliance and avoid the current dependency on donations/imports with extremely variable quality and questionable adaptation to local conditions.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue:**

1. Develop and promote community-based institutions that allow **programming/interventions that reflect local needs and preferences building upon, and strengthen, local capacities.**
   - Develop a common curriculum on community-based disaster risk management to facilitate and support community-driven initiatives.
     - ➢ The University of Juba and other research/knowledge institutions (in consultation and agreement with the National Ministry for Disaster Management and Humanitarian Affairs) to develop and promote through NGOs/CBOs a curriculum on CMDRM.

2. Develop appropriate training and resource packages that support **production of nutritious foods** fitting EES's agro-ecologies and cultural preferences.
   - Develop overview of food profiles and design of community-led/driven interventions to maintain or improve on the resilience of food systems characterised by farming, agro-forestry and silvo-pastoral systems.
     - ➢ The University of Juba and other research/knowledge institutions (in consultation and agreement with the Ministry of Humanitarian Affairs and Disaster Management), with support of international/local organisations, to develop and disseminate food profiles and interventions in support of these.
   - Account for context specific indigenous knowledge to build resilience of food systems through adaptation to local agro-ecologies and conservation of bio-diversity.
     - ➢ Local knowledge institutions, with support of The University of Juba, to undertake studies to document indigenous knowledge and practices that can play an important role to strengthen the resilience of local food systems.

3. Identify and **develop scaling strategies to increase crop production** having potential to 1) reduce the food gap and to 2) contribute to healthier diets.
   - The EES Ministry of Agriculture and Food Security, in partnership with international/national organisations, to identify most promising crops and their scaling strategies.
     - ➢ The University of Juba, with the support of other research and knowledge institutions, to facilitate these scoping and validations studies.

With regard to seed production and building a resilient seed sector in EE State, including community seed production and establishing local seed businesses, see pathway 8.

C. Third transformative lever – facilitating storage and transportation of food products

Box 6 *The third transformative lever to strengthen resilience of food systems: develop transportation infrastructure*

Third transformative lever of the National Food Systems Dialogue: strengthen resilience of food systems - facilitating storage and transportation of food products

i. Invest in road infrastructure.
ii. Develop policies to enable trade and transportation of domestic food from excess areas to deficit areas
iii. Invest in storage to reduce the costs as well as losses of agricultural produce, particularly perishables.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue:**

1. Strengthen **rural-urban food systems** moving beyond direct production-marketing.
   - Better understand urban-rural food systems dynamics and grasp opportunities to strengthen these food systems.
     - ➢ Government, with support of FAO/WFP and the University of Juba to study rural-urban dynamics and develop an action plan to strengthen these systems.

2. Develop strategy/principled approach for **post-harvest management** in particular local storage to reduce post-harvest losses.
   - Set examples of improved storage facilities across a range of options (from household to state level) that are affordable and do-able by the different actors.
     - Relevant Government, UN agencies and the University of Juba to consider a study aimed at proof of concept of the 1 billion UN initiative on post-harvest reduction.

3. **Invest in road infrastructure** (domestic food from food surplus to deficit areas).
   - Decisions on investing in road infrastructure should also be informed by the decisions that have been made about the development of value chains and agribusiness, including the generation of revenue for road and market maintenance. This is because most value chains can be developed more easily when a good road infrastructure is in place.

4. Develop **market infrastructure** (to link demand and supply of domestic food).
   - Through government plans and consultations with relevant UN organisations, NGOs and local communities.

5. D**evelop strategies to narrow the food gap with footprint actors** (in particular FAO and WFP) and NGOs in EES.
   - Explore the potential of concepts such as P4P modality (to reduce yield gap in EES) and the creation of a State- based grain reserve (in support of relief assistance).
     - Negotiate with established actors such as WFP and FAO for local traders to make use of institutionalised storage capacity to bulk emergency food supplies and/or market grain crops.
     - WFP to look into potential P4P strategies as an integral part of the humanitarian-development agenda as a way to use humanitarian procurement to stimulate production, then transition to sustainable value chains.

Key actors involved

The following key actors were identified through the dialogue:

- Government
- UN agencies (WFP, FAO, UNHCR and IOM in particular), NGOs and CSOs
- Private sector
- Community.

Pathway 5

Build food systems resilience that contributes to social cohesion and peace: develop food systems for peace.

The challenges

The following key challenges were identified through the dialogue:

- Conflicts between farmers and herders.
- Food insecurity and its potential to contribute to conflict.
- Poor understanding on cause-effect relationship between conflict and food insecurity; and therefore lack of smart/strategic programming.
- Conflicts that result in constrained access to farmland and/or grazing areas.
- Land disputes.
- Poor road connectivity which isolates some communities.

The ambitions

The following ambitions were identified through the dialogue:

- To implement peace agreements.
- To establish inter-communal dialogues, especially in areas where food systems interact (in part livestock and cropping systems).
- To develop awareness and practical action to developing food systems in such ways that it contributes to social cohesion and peace.
- To develop and use evidence-based land use policies that contributes to social cohesion and peace.

Box 7 *The transformative levers to enhance food systems: food systems and peace*

Transformative levers, National Food Systems Dialogue: food systems and peace

A. Develop **community-based peace-building mechanisms**, allowing evidence-based dialogue and peacebuilding and negotiated community development programming for peaceful coexistence among communities through equitable access to natural resources.
B. Build capacity for enhanced **land tenure security**.
C. Protect and invest in human capital, particularly women and youth and social cohesion through **community-driven development interventions.**

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

A. First transformative lever – peace architecture and Food Systems for Peace

1. EES government and its partners to institutionalise the State's **peace architecture as foundational to food systems transformation**.
   - The government to take leadership and work with relevant local partners to document, on the basis of good practice, the different elements that make up the State's peace architecture including the role by traditional/indigenous leaders.
     - ➢ Develop and disseminate a EES position paper and principled approach to further strengthening the State's peace architecture (see also the EES 2022-24 development plan).

2. Develop **Food Systems for Peace (FS4P)** by creating a common foundation amongst key actors/stakeholders (including government) on conflict sensitivity, conflict transformation and peacebuilding and develop principles and practices to develop FS4P.
   - The University of Juba (in part the Institute for Peace, Development, Security and Strategic Studies), in co-ordination with the Conflict Sensitivity Resource Facility, to develop and deliver a course on FS4P.
     - ➢ PfRR and the University of Juba to deliver the FS4P workshop as part of the FSR Hub portfolio.

3. Strengthen the EES's peace architecture through application the **localisation agenda and humanitarian-development-peace nexus programming.**
   - The government to take ownership and responsibility to develop a policy/principled approach putting to practice the localisation agenda and programming along the humanitarian-development-peace nexus.
     - ➢ PfRR and the University of Juba to take the lead in working with government and local actors to develop a principled approach in respect of the localisation agenda and nexus programming.

4. EE State Government and its partners to strengthen urban and rural communities **access to the rule of law and justice** to act as an antidote to impunity.

B. Second transformative lever – enhance land tenure security

1. Enhance land tenure security by developing / making more explicit indigenous land use rights in EES's land rights, policies, and frameworks.
   - Undertake a study on land rights and indigenous land use mapping across EES to inform EES's land rights, policies, and frameworks.
     - ➢ The University of Juba and the EES Line Ministry, in consultation with UNMISS and national authorities, to undertake such a study (including workshops validating key findings and implications for land tenure, rights, and security).
   - Ensure evidence-based land use policy that contributes to social cohesion, peace and territorial integrity.

2. Increase understanding on interaction of livestock and cropping systems and how traditionally/current law land rights and tenure are being managed.
   - Derive programming principles to promote interdependency/synergy along traditional 'conflict lines'.
     - The University of Juba and the respective EES Line Ministry, in consultation with UNMISS and national authorities, to undertake such a study (including workshops validating key findings and implications for land tenure, rights, and security).

C. Third transformative lever – developing food systems for peace

1. Deepen understanding of conflicts in impact on EES's food systems, to devise **strategies to avoid/minimise impact of conflicts on food systems.**
   - As integral part of the Food Systems for Peace workshop, deepen and validate understanding on conflicts; the Government to disseminate findings.
     - The University of Juba and respective EES Line Ministries, in consultation with UNMISS and national authorities, to undertake such a workshop.

2. Facilitate **community-driven initiatives to developing food systems for peace.**
   - Respect and support community-led initiatives that seek (additional) investments that promote synergies/complementary & interdependency and reduce potential competing claims over critical resources to sustain livelihoods (farming/agro-pastoral/silvo-pastoral food systems).
     - The relevant EES line ministries, its partners and peace committees, to facilitate such initiatives upon request by the Ministry of Peacebuilding.

3. Engage/**dialogue with parties in areas where livestock and cropping systems** interact with potential for conflict.
   - Where appropriate, invest in seed systems for forage / fodder and protein rich feed to improve livestock feed and livestock productivity.
     - Work with agri-pastoralists on restoration/improvement rangeland management and water resources.
     - Work with farmers on production of protein-rich fodder crops in areas having livestock migration.

4. Develop food systems in such ways that it will contribute to producing and making food available in sufficient quantities at favourable market prices (making food more affordable) and **develop the potential for food to bring people together and contribute to cohesion when access is sought**.
   - EES Chamber of Commerce should champion this together with other key actors.

Key actors involved

The following key actors were identified through the dialogue:

- Both National and State Government (Ministry of Agriculture; Ministry of Animal Resources; Ministry of Local Government; Ministry of Peacebuilding; Ministry of Culture, Youth and Sports; and Ministry of Trade).
- Lawyers, judges, chiefs, local authorities.
- Peace Committee, EE State.
- UN agencies (in particular FAO, WFP, UNHCR, UNDP and international partners), NGOs (in particular Caritas, CRS and AVSI).
- Communities (farmers and herders).

Pathway 6

Build food systems resilience that maintains/develops natural resources and produce a variety of foods for delivering healthy diets.

The challenges

The following challenges were identified through the dialogue:

- Poor management of natural resources.
- Lack of policies on NRM or active dissemination thereof.
- Low to non-existing research capacity on NRM and healthy foods at state level.
- Cultural taboos and/or poor awareness on healthy foods by citizens of EES State.

- Poor agricultural infrastructure, inadequate extension services and farmer organisation/co-operatives.
- Poor safeguarding of food safety and quality on imported goods.

The ambitions

The following ambitions were identified through the dialogue:

- To promote the sustainable management of natural resources/ecosystem so that the EES State peoples are able to produce and access healthy foods.
- To develop and disseminate relevant policies, legislation and action points.
- To strengthen social organisations to increase agricultural production and crop diversity in line with peoples' cultural preference.
- To have viable value chains / agri-business that produce variety of food.

Box 8 *The transformative levers to enhance food systems: sustainable use and maintenance of natural resources, and healthier diets*

Transformative levers, National Food Systems Dialogue: sustainable use and maintenance of natural resources, and healthier diets

A. Strengthen **farmer organisations and cooperatives**.
B. Support **responsible public and private investment** that respects the environment and enhances governance and equity in accessing productive natural resources.
C. Enhance the **awareness and knowledge related to nutrition and healthy diets** by promoting nutrition-sensitive agriculture and value chains, promoting food diversification, awareness-raising regarding healthy diets, and promoting sustainable consumption patterns, including behaviour change communication.
D. Enhance the **nutrition of infants and children**.
E. Develop **animal value chains**.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

A. First transformative lever – food diversification through farmer/herder/women's/youth organisations and co-operatives.

1. **Inventorise the current crop portfolio** in EES across the main agro-ecological settings.
   - Undertake assessments and disseminate findings.
     - The University of Juba has been undertaking seed systems assessments on basis of current crop portfolio, on basis of which seed catalogues (including indigenous vegetables) can be developed.
     - Establish agricultural research centres (using FFS and PFS as a foundation) across EES agro-ecological zones.

2. Develop a principled approach to support **food diversification** through CBOs and co-operatives.
   - Document and disseminate good practice and (emerging) policy recommendations to support food diversification by CBOs and co-operatives.
     - The relevant line ministry, with international/local partners, to undertake field-based study to document and disseminate findings.
     - The University of Juba to undertake - with a student from their Joint Regional Master programme on Disaster Risk Management and Food Systems Resilience (JRM-DRMFSR) - a study into the nutrition gap and cost of diet currently consumed by different people groups in EE State, and to provide findings and recommendations accordingly.

3. Aim for **increased food production and supply** by working with farmers, agri-pastoralists and herders, in ways that promote sustainable use and management of natural resources.

4. Establish **a training and demonstration Trainer of Trainers (ToT) centre** (training instructors, lead farmers and youth), including demonstration plots in selected areas, through the University of Juba/Yei CTC with a focus on training lead farmers and youth.
   - Construct/upgrade a physical training centre with appropriate training grounds to provide innovate training and extension methods.
     - Request EWSKF to set up a practical training and learning plot on vegetable production.
     - Set up agro-base incubation hubs for skilled youth and agribusiness centres to support value addition.
     - Develop support to school feeding schemes by linking with demonstration plots, including nutrition awareness training.

B. Second transformative lever – support responsible public and private investment

1. Government to ensure that **national and international public and private investments in agriculture are 'responsible',** and in line with the interest of communities in Eastern Equatoria.
   - State Government, working with partners, and in line with national legislation, to develop a set of principles to guide responsible agricultural investment.
     - The University of Juba could, with support from WUR-WCDI, work on this.

2. Guide/help agribusiness and financial intermediaries **to make investment decisions that increase the resilience of food systems.**
   - State Government and partners to develop methodology and design/deliver training to ensure investments contribute to building food systems resilience.
     - The University of Juba could, with support from WUR-WCDI work on this.

3. **Ensure food safety and quality standards**, in part for imported foods.
   - The National Government and partners (in particular WFP) to develop food safety and quality standards and ensure its implementation.
     - The National Government and WFP to take the lead in development of food safety and quality standards.

C. Third transformative lever - awareness and knowledge related to nutrition and healthy diets

1. Raise awareness and design comprehensive approach to **develop food systems for healthier diets**.
   - Develop and deliver courses that contribute to awareness and guide action for improved diets.
     - The University of Juba have offered to deliver the course **Making Horticulture Work for Healthier Diets and Income Generation**.
     - Develop guiding principles to ensure that food systems interventions focus on, or at least includes, the nutritive aspect of the system.

2. **Diversify crop production** for healthier diets.
   - For MAFS and partners to document existing and potential nutrition-dense food crops (including vegetables) and indigenous wild forest foods (IWFFs).
     - For MAFS and partners to promote the crop diversity that best fits the local agro-ecology and local crop preferences.

3. **Introduce and promote new crops / crop varieties** that have the potential to contribute to healthy diets.
   - Introduction of cowpea as a strategic and nutrition-dense food crop in areas characterised by chronic/acute food insecurity.
     - MAFS and partners to work with cowpea breeders of the University of Juba to introduce and promote cultivation of cowpeas.

D. Fourth transformative lever - enhance the nutrition of infants and children.

1. Enhance awareness and knowledge related **to healthy diets and nutrition for infants and children.**
   - Develop and apply guidelines to nutrition education programmes.
     - UNICEF and FAO to develop materials to sensitise pregnant/lactating mothers, and mothers with small children, about the importance of nutrition and to offer practical training/starter kits to produce healthier foods.

E. Fifth transformative lever: develop animal value chains.

1. Aim for increased food production and supply by working with livestock producers to develop economic value of livestock.
   - Raise awareness about commercial potential of livestock amongst youth and progressive livestock producers/keepers.
   - Develop comprehensive approach to support development of animal value chains.
     - Improve access to natural resources in particular water and pasture, identify and demarcate grazing routes, rehabilitate/improve pasture and rangelands, introduce improved fodder species (such as Sudan and Napier grass) in pilot locations, and promote the production and storage of fodder (including establishment of fodder banks).

Key actors involved

The following key actors were identified through the dialogue:

- Line Ministries (Ministry of Cooperatives and Rural Development; Ministry of Agriculture, Environment and Forestry; and the Ministry of Animal Resources, Fisheries and Tourism).
- UN agencies (UNICEF) and NGOs such as AVSI, DORCAS-ZOA and CORDAID.
- Magwi Agribusiness College.
- Civil society.
- Private sector.
- Farmers associations.

Pathway 7
Develop inclusive value chains and agri-businesses that maximise youth employment.

The challenges

The following key challenges were identified through the dialogue:

- Lack of appropriate policy and strategies.
- Poor road infrastructure and communication networks.
- Poorly functioning markets and poor market information systems on demand and supply.
- Lack of access to capital for value chain / agri-business development.
- Lack of or inadequate agricultural inputs (like tools and high-quality seeds).
- Lack of exposure among target groups on (potential of) modern farming techniques.
- Lack of decision-making power (and access to resources) by youth and women; gender as well as inter-generational household power dynamics.
- Youth are seen as having a negative attitude to involve in agricultural value chain development and agri business activities/enterprises.
- High illiteracy rates among women and youth groups hinders participation in value chain / agri-business development.

The ambitions

The following ambitions were identified through the dialogue:

- For the Government, with support of key actors, to take the lead to develop a vision and policy to support development of value chains and establish agri-business incubation hubs.
- For the Government and partners to provide skills training through adult education and TVETs.
- For the Government and partners to make strategic investments in road and communication infrastructure.
- To improve market linkages linking supply with demand, that supports small agri-business and value chain development, adding value over different stages of the chain.

- To change mindsets through sensitisation and job creation/facilitation in value chain / agribusiness development.
- To develop visions and strategies (including inter-generational power relations) to see youth as an opportunity in small agribusiness and value chain development.
- To revive the old national schemes within the State (like timber and tea), to ensure their good management and governance.

Box 9 *The transformative levers to enhance food systems: value chains /agribusinesses and maximising youth employment*

Transformative levers, National Food Systems Dialogue: value chains /agri-businesses and maximising youth employment

A. Promote **small business development** to cater for emerging markets in urban areas.
B. Enhance **access to finance** for small/medium businesses.
C. Promote **value chain development** that is inclusive and maximises youth employment (this lever is added as part of the State-level Food Systems Dialogue).

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

A. First transformative level – innovative financial institutions/mechanisms

1. Enhance **access to financial resources**
   - Promote innovative financial institutions and mechanisms, both community-owned and community-driven (like Village Savings and Loan Associations), as well as private sector/market based.
     - ➢ Undertake a study to map good practice and policy recommendations on strengthening community and private sector-based financial institutions.
     - ➢ Link agribusiness to financial institutions.
     - ➢ Conduct training need assessment.
   - Evaluate and **strengthen performance of co-operatives and producer associations** (including access to land and credit by youth / women).
     - ➢ Undertake a study to map good practice and policy recommendations on strengthening and promoting co-operatives.

B. Second transformative level - small-medium business/enterprises

1. Promote **small business development**
   - Support food systems entrepreneurs to cater for emerging markets in urban areas and to strengthen urban-rural food systems.
     - ➢ Train entrepreneurs in business development, food safety, and good agricultural practice.
     - ➢ Train entrepreneurs in the VSLA concept and group dynamics.

C. Third transformative level – inclusive value chain development (maximising youth involvement)

1. Identify and develop **strategic value chains** in an inclusive manner, maximising youth employment.
   - Identify and develop strategic value chains that have the potential to narrow the current food gap (such as maize or sorghum).
   - Identify and develop strategic value chains that have the potential to contribute to better nutrition through healthier diets (such as cowpea).
   - Identify and develop agroforestry/silvo-pastoral value chains (partly to counter climate change) to ensure resilient landscapes by developing economic incentives (explore options in particular shea, gum, and honey).

2. Access seed money to develop **models of inclusive value chain development that maximise youth employment** that can serve as 'investment vehicles' (including policy/BoStandard elements).
   - Interest potential donors/partners in funding the development of selected value chain options.

3. **Develop the ToT network in value chain identification and development** at universities/training centres.
   - Via Yei CTC / the University of Juba, develop FARE training/resource packages, and produce certified FARE ToT trainers at local universities/training centres in EE.

4. Create a **challenge/development fund** for the community-driven/private sector incubating start-ups in value chain development and agri-business.

5. Encourage (peer) **exchange visits, knowledge sharing, and learning.**

Key actors involved

The following key actors were identified through the dialogue:

- Women and youth leaders.
- Community leaders.
- Development partners: UN Agencies (in particular FAO, WFP and UNDP) and NGOs (in particular AVSI and GASS).
- Government institutions (Ministry of Animal Resources, Fisheries and Tourism; Ministry of Cooperatives and Rural Development; Ministry of Agricultural, Forestry and Environment; Ministry of Trade and Industry; and SSNVS).
- Landlords.
- Consumer associations.
- Private sector.
- Financial institutions.

14.5 IIb. Develop a resilient seed sector

Pathway 8
Develop a resilient seed sector in Eastern Equatoria State

The challenges

The National Seed Systems Dialogue identified the following:

- Seed systems are not resilient. The focus by the international community is on formal seed systems and intermediate seed systems (in particular seed relief); most farmers (around 85%) depend on the informal seed sector (such as farmer-saved seed, social seed networks and local seed markets), while there is however little to no interest/investment in such systems.
- Overall, actors in the seed sector often do not have the required knowledge and expertise as seed is seen as part of food security. Therefore, awareness-raising on seed systems is crucial, including assessment reports that provide insights on seed systems performance and programming options to strengthen the resilience of seed systems depending on local context and foresight.

The following key challenges were identified as part of the Eastern Equatoria State-level Food Systems Dialogue:

- Absence of a seed policy framework to guide and promote seed sector development.
- Inadequate expertise to carry out research and crop breeding.
- Poor land governance system.
- Weather extremes and climate change require seed to promote drought/flood-proof crop varieties and introduction of new crops.
- Lack of access to credit to invest in and develop the seed sector.
- Inadequate equipment/machinery for cost-effective seed production and development of viable seed value chains.
- Poor infrastructural development in the State (roads, storage facilities and labs).

- Economic shocks impacting the seed systems.
- Conflict and insecurity in parts of EES makes seed sector development challenging.

The ambitions

The following ambitions were identified as part of the State-level Food Systems Dialogue:

- To establish a resilient integrated seed sector in support of a sustainable food system, producing a variety of healthy foods.
- To develop a more resilient seed sector in Eastern Equatoria, to improve timely access to seed varieties/classes needed and wanted by farmers for affordable prices.
- Seed system development should focus on main staple crops, vegetables (including indigenous vegetables), and fodder and forage for livestock.
- To establish a resilient seed sector, established with the capacity to produce high quality seeds for local, national and regional markets.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

1. Contribute to and benefit from the **national seed policy and seed regulatory framework**.
   - Ensure that through a multi-stakeholder dialogue process South Sudan's seed policy is relevant to and guides development of resilient seed sector in EES.
   - Validate seed law, regulations and guidelines as relevant to the development of a resilient seed sector in EES, including harmonisation with regional seed policies to enable cross-border seed flows.
   - Develop guidelines and principled approaches by seed sector actors/practitioners on key issues, in anticipation of the review of South Sudan's seed policy and law (currently South Sudan does not have an enacted seed policy and law).
     - This has already been done as part of the seed systems resilience assessments in EES by the University of Juba with EES actors.
   - Establish/strengthen appropriate bodies in EES to implement the seed regulatory framework (the State Seed Council, State Seed Authority, State Seed Variety Release Committee, and the State Seed Quality Control Board).

2. Strengthen **seed sector coordination, information sharing (digital inclusion), and partnerships.**
   - Establish the EES Seed Hub (International Equatorial University in Torit, with support of the University of Juba) and link it with the National Seed Hub (University of Juba).
   - Set up the ESS Seed Portal and link it with the National Seed Portal.
   - Explore interest in partnership key seed actors to work on seed systems development.
     - Develop a seed catalogue (including indigenous crops).
     - Develop a seed distribution calendar (University of Juba).

3. Support the **transition from seed relief to seed sector development.**
   - Undertake seed systems assessment and pathway development as the basis for development of strategy to build resilient seed systems in Torit, Magwi and Ikotos Counties.
   - Specify the role of seed relief programming in becoming instrumental and catalytic for seed sector transformation.
     - Develop a set of principles for *doing no harm* in seed distributions based on the ISSD-Africa seed emergency response toolkit; and for building seed systems resilience in volatile areas impacted by shocks and stressors, based on localised seed systems assessments and resilience pathways (FNS-REPRO).[33]
     - The University of Juba to work with WUR on this as part of the REPRO programme.

4. Strengthen **farmer-based seed systems**
   - Develop the professional capacity of local seed producers (individual lead farmers, community-based seed schemes and local seed businesses) in the area of quality seed production and marketing, organisational development, and building strategic linkages with seed service providers for the timely delivery of inputs and services.

[33] https://issdafrica.org/2022/06/28/new-practical-guide-seed-systems-in-conflict-affected-areas-a-context-analysis-tool/

- Broaden local seed producers' crop/variety portfolio with locally-preferred and climate-resilient crops and varieties, potentially through links with community seed banks.
- Facilitate participatory plant breeding and participatory variety selection to support farmers' access to locally adapted and preferred crop diversity.

5. Support the development of the **private seed sector.**
   - Improve the procedures for seed certification by STASS-MAFS.
     - For REPRO and IFDC to take the lead.
   - Take measures to reduce the relatively high cost of local quality seed production.
     - Government to promote access to credit through the private-public financing of the seed sector.
   - Design processes for transition of seed relief to support of seed business.

6. Establish a **decentralised seed quality assurance system.**
   - Introduce Quality Declared Seed certification for community based/LSB seed classes.
   - Establish decentralised seed labs meeting ISO standards in two counties.
   - Strengthen Seed Quality Control Boards at State and county levels.

7. Establish a State **gene bank linked to community seed banks** and the national gene bank.
   - Establish a gene bank at a specified location with support of the University of Juba.
   - Link the state-level gene bank with the national gene bank for the storage and exchange of germ plasm.
   - Link the state-level gene bank with at least two local community seed banks for collection and exchange of germplasm / conservation of popular land races in areas with high risk of loss of germ plasm.

8. Strengthen **crop breeding** and introduction to **new varieties.**
   - Build the capacity of ARD, the University of Juba, and Yei CTC in participatory plant breeding and participatory variety selection.
   - Support private seed companies with an interest in establishing their own crop breeding programmes.
     - Pilot the production of improved cow pea seed varieties and develop dissemination strategies.

9. Establish **public-private partnerships in foundation seed production.**
   - Engage with MAFS and other national seed actors to see if this is a good opportunity and realistic endeavour.

10. **Capacity building of key government departments and public institutes.**
    - Provide access to training on seed systems development and transformation.
      - To be provided by the University of Juba and WUR-WCDI (short courses).
    - Enhance the research capability of the agricultural staff in EES and its university through access to studies, training, exposure visits and by actively involving staff in seed programming.
    - Make available a short course catalogue (including scholarships).
    - Promote training to young professionals in seed breeding and production.

Key actors involved

- MAFS.
- Policy makers.
- Ministry of Agriculture.
- Research institutions.
- Farmers, farmer organisations and associations.
- Financial institutions.
- Relevant line ministries, including the Chamber of Commerce.

14.6 III. Learning, capacity building and evidence-based programming

Pathway 9. Facilitate learning, build capacities of public and private institutions, and encourage evidence-based programming for effective food systems transformation.

The challenges

The following key challenges were identified through the dialogue:

- Limited opportunities to learning on FSR; limited knowledge/experience on FSR.
- The low capacity of education in the State to build the relevant knowledge and skills of staff.
- The lack of coordination amongst learning institutions, NGOs and CSOs.
- The lack of training centres and research centres at state level for capacity building.
- Inadequate resources made available by central government for programming by EES.
- No culture on evidence-based programming.

The ambitions

The following ambitions were identified through the dialogue:

- To develop a conducive environment, with opportunities for learning and putting learning into practice.
- To establish a training and research centre.
- To capacitate public and private institutions to support the building of FSR and vibrant and dynamic communities.
- To establish evidence-based programming as the norm to build FSR and support community-driven initiatives.
- The community to produce a variety of foods and to market them to neighbouring states and countries.
- For FSR governance to create strong incentives to establish functional training and research zonal stations.

Interventions (numbered), **actions** (bullet points) and **achievable activities** (arrows) **identified through the dialogue**:

A. Learning

DRM and Food Systems Resilience Training and Resource Centre (universities)

1. Establishment of a **FSR Training and Resource Centre** in a central location in Torit.
   - UNMISS or other actors to consider constructing a Food Systems Resilience Training & Resource Centre (FSR-TRC) in Torit – including good internet access.
   - FSR Training and Resource Centre to develop practical training and demo site.
     - Invite East West Seed to start demonstrations and outreach on vegetable production.

2. Capacity building and technical training
   - Provide short trainer-of-trainer (ToT) courses that address critical gaps to building food systems resilience offering practical and actionable approaches/solutions.
     - The University of Juba with support of WUR to deliver short ToTs on FSR:
       a. *Food systems resilience* (how to build food systems resilience in protracted food crisis situations).
       b. *Reducing climate vulnerability in fragile areas* (how to adapt to climate change and weather variability in fragile and food insecure areas).
       c. *Food systems for peace* (explores the cause-effect relationships between conflict and food insecurity and how to develop food systems that contribute to social cohesion and peace).
       d. *Landscape resilience* (employs a landscape approach to build food systems resilience).
       e. *Making agriculture work for healthier diets.*
   - Provide short ToT courses that address critical gaps in building seed systems resilience, offering practical and actionable approaches/solutions.
     - The University of Juba with support of WUR to deliver short ToTs on seed systems resilience:
       a. Climate change, seed systems and community seed banks'.
       b. Establishing community seed banks (using field-based training materials).

3. The University of Juba and Yei CTC to **develop competence-based ToT courses** in close consultation with and support from research/training institutes and the NGO sector in EES.
   - The WUR REPRO/NUFFIC programme will train staff of The University of Juba and Yei CTC, with trainers to be employed by EES.
   - The University of Juba, with the assistance of JRM students and the support of WUR-WCDI/VHL, to develop training for the Ministry of Humanitarian Affairs on community-based disaster risk management.

4. The University of Juba, together with International Equatorial University/Torit?, to build capacity in the field of **DRM and food systems resilience.**
   - Scholarships to be funded by interested agencies for selected students and junior University staff to participate in Joint Regional Masters Disaster Risk Management and Food Systems Resilience in Juba.
   - Provide scholarships for selected staff/organisations to participate in the joint regional masters' degree in Disaster Risk Management and Food Systems Resilience.

5. Encourage a culture of exchange / field visitations that facilitates joint learning, documenting good practice and the development of policy recommendations.

Vocational / business skill training

1. Establish/strengthen technical and vocational education and training (TVET) including practical training grounds.
   - TVETs focusing on knowledge/training/resource packages that can be decentralised into FFSs and APFSs.
     - Government, FAO, NGOs and local universities and training centres to develop a longer-term vision for FFS and APFS, including the development of practical training grounds.

B Capacity building and career path development

1. Make available a list of training, studies and courses that build key knowledge and skills to develop FSR; lobby donors and programmes to avail scholarships.
   - Develop with partners in EES scholarship opportunities.

2. Develop critical human resources for universities, training centres and private sector.
   - Develop competence-based market-driven curricula to produce graduates in demand by the market / sector / FSR development.
   - Develop career trajectories for students who have graduated from local universities / training centres / FSR Training & Resource Centre.

3. Offer career trajectories for students and junior staff of institutions by offering internships/thesis research/action research opportunities in programmes that contribute to building resilience, especially I/NGOs and UN agencies including WFP and FAO.

C. Evidence-based programming

1. Encourage evidence-based programming.
   - Develop and deliver a course on evidence-based programming and develop good practice and programming principles.

Key actors involved

The following key actors were identified:

- Government, in particular the ministries of agriculture, forestry and animal resources.
- Knowledge institutions, in particular with support from the University of Juba.
- Private sector.
- Development partners (UNMISS, FAO, UNDP and WFP).

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Appendix 1 List of participants in Torit/EE State Food Systems Dialogue

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4	Dr. Margaret Itto	f	Afroganics. LMD	Executive Director
5	Wani Kute Joseph	m	SMCYS	D/G
6	Loruk Peter	m	WFP	PPO
7	Pedro Dos Santos	m	UNFAO	HOFO
8	Arop Daniel	m	NBS	Coordinator
9	Ejido Okanyi	m	SMI	D/G
10	Grace Kornelio	f	Marketer	Afroganics
11	Mohammed Ahamed	m	UoK	LAFP-FNS REPRO
12	Ongoro Cyprian Dario	m	Plan International	Field Monitor
13	Dee Santos Athian	m	MEAL-O	Tear Fund
14	Kuot Adian G	M	Academia	The University of Juba
15	Otenge Jildo Apollo	m	Acted	SNFI
16	Oketayot Samuel Oocra	m	SMTI	Asis. Engineer
17	Moi Agwe Dollar	m	Data Magt. Officer	UNHCR
18	Maduok Akot	m	WFP	HoP
19	Adedomia Franco	m	SMCRD	D/G
20	Romano Oguma	m	TCCU	Chairman
21	Pelgrine Oyeta Chivilich	m	AVSI	Agric. Ex.O
22	Tobias Okello	m	Welthungerhilfe	D/HoF/ projects
23	Ongoro Cyprian Dario	m	Plan International	Field Monitor
24	Davidica Ikai	f	EEWA	C/Person
25	Santo Otong Banya	m	SMOGC&SW	DAF
26	Gerrit-Jan van Uffelen	m	Wageningen University	Senior Advisor for FSR
27	David Nowuioa	m	Welthungerhilfe	Head of projects
28	Tisian Tafeng A	m	Torit County	C/Director
29	Iga William Seveny	m	Care Int.	FSL officer
30	Taban Paride Lokan	m	Youth Union	SG
31	Julius Kaut	m	WCDI/ TIU	Consultant
32	John Odongi	m	SRRC	Director
33	Androga Dominic	m	GA	Extension Officer
34	Aburish James	m	Peace Building	Director
35	Ayuen Michael Kuol	m	UNDP	Economist
36	Jackson	m	Wpeon	logistic
37	Toby Natali	m	Logire Cop	Secretary
38	Gina Ceaser Idya	f	WFP	Pro. Assistant
39	Tito Awando	m	TL	UNMISS-PTR
40	Lokiden Samuel	m	Caritas Susie	Project officer
41	Mark Okongo	m	Caritas Susie	FSL PM
42	Hon. Khadija Oement	f	RRC	Deputy Chair
43	Lopeta Philemon Lokai	m	TMC	H/W/D/Mayor
44	Koma John Sylvestor	m	SMAF&E	Agronomist
45	Hon. Agustine Akuma	m	SRRC	Chairperson
46	Romeo Oginga	m	SMAFE	Ag. D/G
47	Nainwang Stephen	m	EIU-HOD	HOD
48	Stephen Ihude	m	SMTI	D/G
49	John Ohure Teeks	m	SMLG	Ag/D/G
50	Gond Toby	m	Caritas Susie	Project officer
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S/No	Name	Sex	Institution	Title
52	Moses Opolot	m	AFH	HoFo
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55	Kitta John Khorito	m	SCI	Pro. Officer
56	Taban James	m	Afroganics	Agronomy
57	Tony Ngalamu	m	UJ	Consultant
58	Guari Johntana	m	UNFAO	EAP&H
59	Maha Sadik	f	UJ	Researcher
60	Lily Hidita N	f	Chamber. C	Chairperson
61	Joseph Oyet	m	SSRC	EP&R. Officer
62	Hon. Placid Komakech	m	SMOAF&E	Minister
63	Hon. Patrick Otting	m	SMI&T	Minister
64	Hon. Morris Kaunda	m	SMCR&D	Minister
65	Hon.Angelo Geri	m	SMARF&T	Minister
66	Hon. Marko Lokidor	m	SMPB	Minister
67	Hon. Luka Charles	m	SMHLP&U	Minister
68	Hon. Siama Nartisio	f	State	Advisor
69	Wilfred Kibioota	m	FCL	Programme Coordinator
70	Peter Andrea Samuel	m	UNFAO	VCS
71	Albino Silvester	m	UNFAO	FWA
72	Lokalle Eliya	m	Radio FM	Presenter
73	David Kasmiro	m	UNFAO	Driver
74	Joy Sigali Johnlong	f	UNFAO	SEA
75	Christine San John	f	UNFAO	G-S
76	Samson Jacob Daniel	m	UNFAO	FEA

Appendix 2 Torit/EE Food Systems Dialogue schedule

Day	Topics	Format and tools
1 (Nov 8th)	Introduction – explaining food systems resilience assessments; how it fits the Food Systems Dialogue in South Sudan; what a system approach can bring above and beyond humanitarian 'sector approaches'; importance of localisation and nexus agenda.	Presentation Statement polls Roundtable discussion
2 (Nov 9th)	Food system description and analysis Food systems drivers	Presentation Roundtable discussions on food production-transport-storage-transformation-consumption (past, current, future trends, problems and opportunities)
3 (Nov 10th)	Food system drivers Food system value chains	Drivers prioritisation Drivers group exercises (challenge, actions) Value chains ranking Value chains group exercises (mapping, institutions, drivers-trends-issues- opportunities, future scenarios, inclusion)
4 (Nov 11st)	Food system description and analysis Food system boundaries definition Impacts, shocks and stressors on the food system	Presentation Food system mapping Roundtable discussions on food production-transport-storage-transformation-consumption (past, current, future trends, problems and opportunities)
5 (Nov 12nd)	Visit and reflection on current food system interventions	Projects' visit
6 (Nov 13th)	Food system pathways discussion	Focus Group Discussions
7 (Nov 14th)	Food system and conflict	Food system and conflict statements Food conflict types of identification Conflict trees (causes, triggers, effects) Conflict timeline Conflict impact and resilience capacities – group discussion
8 (Nov 15th)	Food system pathways definition	Group discussions – enrichment of 0 draft

Appendix 3 Resource and training packages on building food systems resilience

The University of Juba (The University of Juba), in particular its School of Natural Resources and Environmental Studies, plays a key role in the development of a range of knowledge/resource/training packages designed to address critical challenges to building more resilient food systems.

The University of Juba forms part of a North-South-South partnership in which a number of universities and training centres work together in the design and delivery of these services. These initiatives are supported by the Dutch government through the NUFFIC Orange Knowledge Programme and the Food and Nutrition Security RESilience PROgramme (FNS-REPRO).

The resource and training packages on building food systems resilience were developed In close cooperation with the Wageningen Centre for Development Innovation, Van Hall Larenstein University of Applied Science, Wageningen Plant Research, East West Seed Knowledge Foundation, Zero Hunger Lab of Tilburg University, Alliance Bioversity International – CIAT, Bahir Dar University and Hargeisa University.

A short overview of the main packages is provided below.

Joint Regional Master's Programme and Professional Short Courses
The Joint Regional Master's Programme on Disaster Risk Management and Food Systems Resilience is a joint collaborative effort by knowledge and education institutes in South Sudan, Ethiopia, Somaliland and the Netherlands. In South Sudan the University of Juba is the key partner in its design and delivery with currently over 30 students.

Implementation of JRM at Juba University, South Sudan

The key content of the programme consists of the following modules:

Joint Regional Master's DRM-FSR	
Module 1	Disaster risk management
Module 2	Building resilient livelihoods and food system in protracted crisis contexts
Module 3	Sustainable development and governance
Module 4	Research methods and tools
Module 5	Research applications / thesis

There are a number of aligned short courses, aimed at mid-career professionals, that together with the Joint Regional Master's Programme offer integrated learning pathways to support the development of resilient food systems.

The short courses for mid-career professionals:

1. **Reducing climate vulnerability in fragile areas**
   This course focuses on the role of a changing climate in food security in areas of protracted crises.
2. **Landscape resilience**
   This course takes a landscape perspective on food security, acknowledging that a resilient landscape embeds resilient food systems in the first place.
3. **Food system resilience**
   This course focuses more specifically on food systems and how they perform and produce outcomes towards the vision of a food-secure future.
4. **Making agriculture work for healthier diets**
   This course looks more at the nutritional side of food security, looking at making agriculture work not only for increased income but also for healthier diets.

Making Horticulture Work for Healthier Diets And Income Generation

A regional online course on making horticulture work for healthier diets, which links policy makers with practitioners.
This online course introduces the importance of healthier diets, analyses its current status (particularly in protracted crisis contexts) and its contexts; identifies gaps; and explores opportunities to promote healthier diets by developing context-specific pathways. Design of evidence-based monitoring and evaluation systems is part of the course. Course participants will assess the need for policy advocacy and design tailor-made strategies. Course participants will apply concepts and approaches learnt from peers through discussions, group work and presentations.

The course runs for 8 weeks online, with a study load of eight hours per week and a break in between. The course targets professionals working with UN/NGOs, private sector and government.

Practical nutrition training
This training, developed as part of the Nutrition and Income Generation Intervention (NIGI), provides practical, hands-on experience to improve diets through horticulture. Topics include the importance of nutrition for health; the roles various food groups play in supporting overall health and wellbeing; and how to prepare nutritious foods, linking the preparation of foods to what is grown in nutrition-sensitive home gardens. The training is linked to home gardens in which trainees who were previously involved in the NIGI project show how to grow a variety of nutrient-dense foods. The activities of the 2022 growing season will also be filmed to support those who are only able to participate in the training online.

Project Site of Nutrition Training

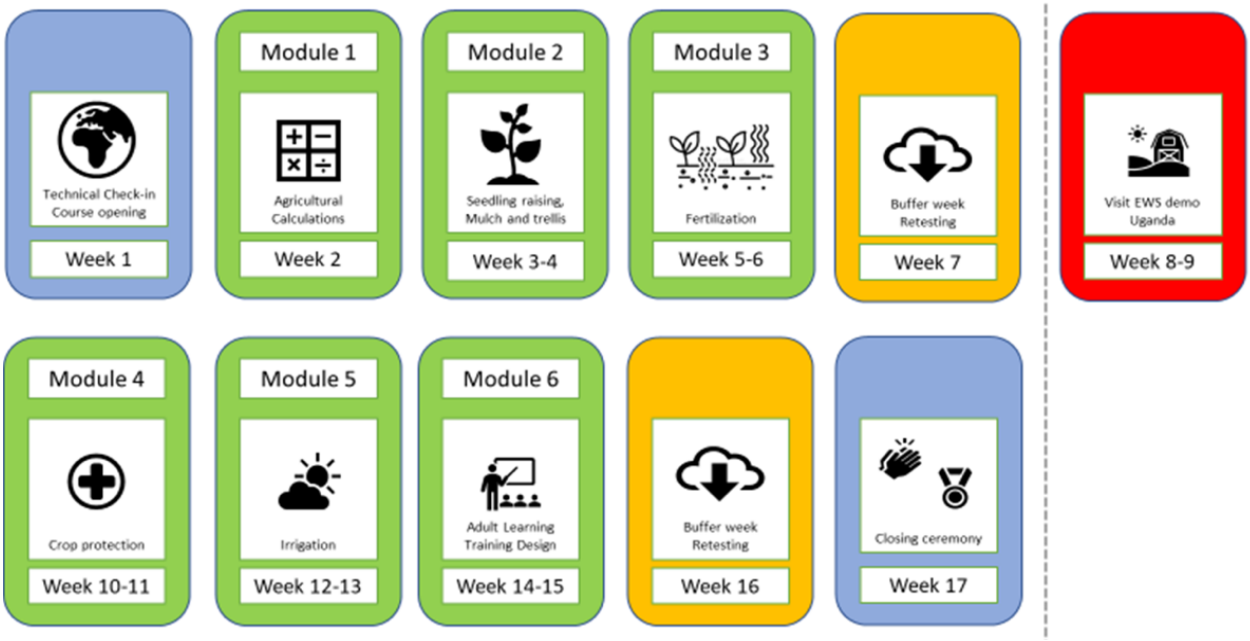
Practical, hands-on horticulture training at demonstration plots

This training provides a highly practical and hands-on on approach to knowledge and skill development through a combination of online and on-site training. The training covers the following topics: agricultural calculations, raising seedlings, mulching, trellising, crop production, fertilisation, irrigation, adult training, and design.

This course is linked with practical work on the ground at demonstration plots in Uganda (for in-course follow-up courses, there will be training demonstration plots established in South Sudan itself). Some of the work is done as virtual field tours due to Covid-19. To support the in-country activities, a team from South Sudan has been trained by East West Seed Knowledge Foundation.

Participants of Horticulture Training at Project Site

Climate Change, Seed Systems and Community Seed Banks
Two foundation courses cover the following key topic areas:



Horticulture Training Outline

- Key features of protracted crisis situations relevant to food and seed systems and the situation in the Horn of Africa
- Seed systems resilience assessments in protracted crisis situations
- Participatory crop improvement for resilient seed systems in protracted crisis
- Seed quality assurance and quality seed production
- Managing a community seed bank in a protracted crisis situation
- Promoting an enabling policy environment
- Practical application of knowledge: for instance, developing proposals to establish a community seed banks; producing quality seed; developing curricula; and integrating key course learnings in ongoing projects.

The foundation courses are linked with the development of specialised in-country courses and real-life practical work, including the establishment of community seed banks, introduction of decentralised seed testing capacities, and the production of improved seeds. In Three farmers' handbooks on the development and management of community seed banks (*Establishing a community seed bank;*[34] *Technical issues,*[35] and *Management, networking, policies and a final checklist)*[36] were developed in Arabic, Bari, Dinka, Ndogo, Nuer and Azhandi.

Online training on data literacy to build capacities to utilise data for practical programming
The goal of this online training is to provide participants with the knowledge and skills to understand the basics of data analysis and dietary optimisation and how data can be used for evidence-based programming to narrow the nutrient gap in local contexts. In addition, through assignments, participants will be made more aware of how these skills can be applied within their local context to improve food and nutrition security programming.

This course consists of the key modules:
- Module 1: introduction and descriptive analytics
- Module 2: diagnostic analytics
- Module 3: predictive analytics
- Module 4: prescriptive analytics.

[34] https://hdl.handle.net/10568/92000
[35] https://hdl.handle.net/10568/92001
[36] https://hdl.handle.net/10568/92002

Appendix 4 Dialogue participants' perspectives on the four key strategic challenges to transform EE's food systems

1. Food systems in Eastern Equatoria are resilient to human-made and natural shocks/stressors (ensuring FSN)

Strongly Disagree 18% all statements	Disagree 40% of statements	Neutral 8% of statements	Agree 24% of statements	Strongly Agree 11% of statements
Resilience will collapse in face of conflict and disaster such as major droughts and floods.	**Unstable livelihood systems results in low production and access to food for the majority of households in EE.**	**Security situation drives the lack of resilience of food systems.**	2 **In face of natural shocks local food systems are able to continue functioning.**	Food systems continue to deliver in face of shocks and stressors impacting the food systems.
Climate change results in droughts and floods undermining resilience of food systems.	Ability to produce food is not resilient, food production is problematic requiring massive humanitarian assistance.	Rainfall has become erratic affecting crop and livestock production.	Even in situations where cattle keepers occupy farmland and create conflict (such as in Magwi), farmers continue to produce.	Farmers have strong will and attitude to keep producing in face of the any challenges.
There is no deliberate strategy within EE to develop resilience of food systems	We strongly depend on food to be imported, in particular from Uganda and Kenya.	The traditional means of production has not been strengthened making people reliant on local methods	With conditions becoming peaceful food systems will be strong and resilient.	There is abundant land very suitable for cultivation.
Cattle moves at will of herders creating conflict and undermining food systems - no effective policy.	**Consumption of food and food diversity is highly affected by the seasons significantly impacting nutrition's status of women and children.**		2 **People have strong coping mechanisms and despite challenges continue to produce food.**	**Good policies and good leadership will make food systems stronger and more resilient.**
Inappropriate selection of beneficiaries to increase resilience of food systems	Support to farmers and herders to improve food production is poor.		Land is good in EES and people are hard working; farmers produce for themselves and sell to local markets.	
Recovery after shocks is problematic as there are no fall back options.	**Food systems are prone to both natural and human shocks in particular droughts, floods, insecurity, communal conflict and disputes over land ownership.**		In some areas food is being produced in abundance and being sold into neighbouring states such as Central Equatoria.	
Poor attitude towards new techniques and approaches in farming	Food systems have been eroded and are the problem itself.		There is livestock in abundance; animals from Kapoeta provide for meat in Juba.	
	People in EES are vulnerable to shocks - it will take time to build resilience of food systems.			
	There is no deliberate policy in place to drive programmes that enhance food systems in the State.			
	Human made shocks, conflict in particular has resulted in destruction of livelihoods and displacement seriously compromising farming.			
	Ongoing cattle raiding drives insecurity and instability undermining food systems resulting in poor food			
	Man-made shocks seriously affects farming activities, in particular insecurity, land disputes and bush burning.			
	Man-made shocks deteriorate the situation - they are not seriously addressed.			
	Natural shocks routinely destroys crops: droughts and flood (as a result of climate change)			
	Climate change effects crop production of smallholder farmers while no investment in mechanised farmer in high potential areas with good rains.			

2. Food systems in Eastern Equatoria contribute to social cohesion and peace within and across different ethnic groups.

Strongly Disagree 10% all statements	Disagree 23% of statements	Neutral 5% of statements	Agree 39% of statements	Strongly Agree 23% of statements
2 **Food systems have become a key source of conflict in most parts of EE and are in particular caused by cattle herders.**	**Communities are fighting over land and there are serious conflicts between farmers and herders.**	**Crop production groups have a strong bond, work together and undertake exchange visits; livestock production creates enemies like intrusion into farmland and destruction of crops, and cattle raiding.**	Food systems contributes to social cohesion because when there is food there is peace.	2 Communities come together, work in groups and cooperate with each other.
Cattle keeping is strongly linked to/drives inter-communal conflicts.	EE State is prone to cattle raiding, revenge killing, and the occupation of land.	People have their own preference: some prefer to work on their own some of them in groups.	**When people share food amongst each other it brings happiness because everybody is equally satisfied.**	Communities are key actors in food systems: they come together, interact and create strong bonds.
Agencies that deal with food insecurity focus on particular places leaving other places with no food hence causing hatred and food insecurity.	Communities are not stable because of conflicts and there is raiding of cattle.		Sharing and borrowing food across amongst communities is common.	**Production of food encourages togetherness particularly through communal work across villages and communities.**
	The majority of communities within EE face food related conflicts.		A satisfied person (having enough to eat) is always happy: that is a sign of peace.	Some communities engage in groupwork to produce food for the vulnerable such as widows and disabled people.
	There is no food systems in place (that interlinkage across different 'systems'.		Across local borders (such as different food systems) communities are involved in marketing and trade which contributes to building cohesion and peace.	As key actors communities are not on their ow: they are interdependent on each other.
	Trade is limited and therefore cannot create bondage: there is a strong reliance on subsistence farming.		**Sharing and sale of products from the one place to the other brings interaction: this contributes to peaceful living of communities across EE.**	During shocks communities exchange goods and food and will even provide food as a gift.
	We live with extremes where some have plenty and others are lacking.		Trading amongst and across people groups creates connections between buyers and sellers.	Communities in EE State always share their crops: especially so their particular crops that they exchange as they have developed a 'taste' for it.
	The amount of food and diversity I need to feed my family has never been sufficient.		Trading amongst communities contributes to social cohesion.	**People try to maintain peaceful relationships as they know their food systems depend on each other.**
	There is no security - some people have note even seen sweet potatoes in their live.		2 It bring people together to work on producing food as a collective / communal cultivation.	
			Food production is done in groups and that helps social cohesion within and between communities.	
			Different people in communities such as youth, women, men and the elderly are involved in the food production process hence contribute to social cohesion and peace.	
			Farmers and herders, in general, respect each other when it comes to food systems activities: animals are reared far from the farms.	
			Youth participate in sports all over the state for peace and social cohesion.	
			In areas were food is enough it attracts the return of IDPs (easing potential tensions elsewhere).	

4. Agribusiness and value chains in Eastern Equatoria are inclusive and generate employment for youth and women.

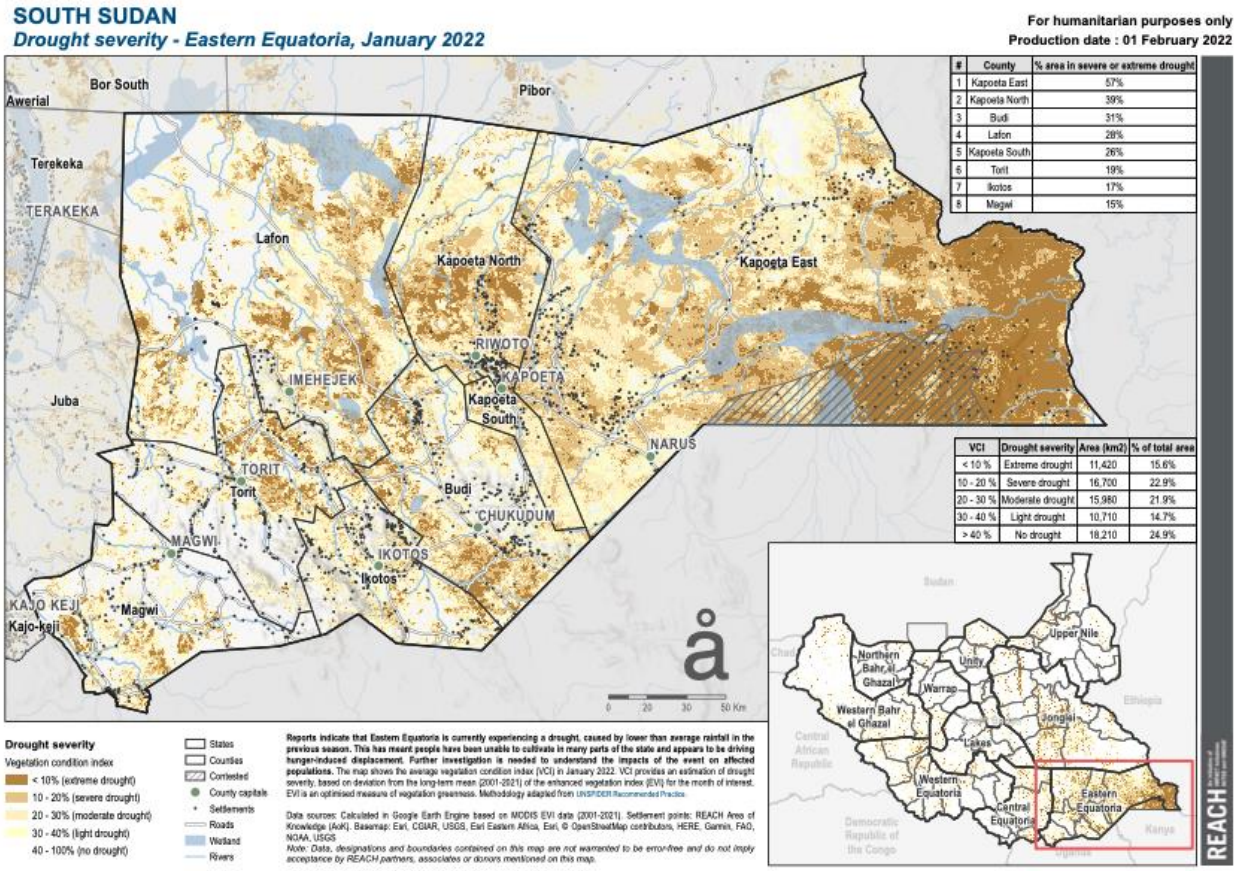
Strongly Disagree 24% all statements	Disagree 43% of statements	Neutral 11% of statements	Agree 22% of statements	Strongly Agree 0% of statements
2 The state reports high levels of unemployment, in part amongst youth (up to 90% is unemployed).	2 **Production beyond self-subsistence is very limited and therefore value chains and small businesses development is slow.**	**Food systems are not well developed to generate significant employment for youth and women.**	Food systems cover all stages of food production including transportation and marketing - this creates employment for both youth and women.	
Youth are involved in casual labour.	At present food systems are not well development and therefore value chains do not create sufficient employment and business opportunities.	Food systems provide opportunities for petty business, in particular for women.	**Most youth and women are now engaged in production, processing, storage and marketing of agricultural produce - this generates income and increases standard of living.**	
2 Youth is not involved in value chains nor agri-business.	Most producers are subsistence farmers and forget about value chain addition to increase value for markets.	**About half of the women are not involved in job opportunities as they are preoccupied with tending their (small) children.**	Women are participating actively in food value chains - selling vegetables, grain, paste while youth are becoming involved in producing vegetables.	
Youth is not much involved in employment generated by food production.	Value addition is low and therefore does not offer good job opportunities.	**Youth suffer and their live is deteriorating because of frustration and trauma of war.**	Value chains are inclusive and do generate employment for youth and women.	
There is no incentive for youth in agriculture.	Not all areas produce food or cultivation.		Most youth are involved in value chain activities or self created employment.	
People don't regard farming as a business.	2 **No significant commercial farming in EES and employment opportunities, due to lack of investors.**		Small business development such as grinding mills generate employment.	
Most of the youth and women are idle within their homes, hence they do not participate fully in the food system - this is due to laziness.	**Farmer producer groups and cooperatives do not have the capacity / resources to employ youth.**		Small business development creates employment opportunities.	
	Farmer co-operatives are few and therefore limited capacity to absorb youth and women in employment.		Value added in food system can create employment opportunities for youth.	
	Both women and youth face issues of employment in EES and therefore inclusion of them faces challenges.			
	2 There is many youth without jobs and therefore no engagement.			
	No significant employment for youth because of the poor insecurity, poor and insecure roads (robberies) and cattle rustling - all triggered by unemployment.			
	Agriculture is not considered as employment by youth.			
	The youth is not given a serious chance; they are being used by politicians for their own games.			
	No significant employment for youth because of the poor insecurity, poor and insecure roads (robberies) and cattle rustling - all triggered by unemployment.			
	Agriculture is not considered as employment by youth.			

Appendix 5 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.
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.

Source: FAO and the World Bank (2022)

Appendix 6 Drought severity in Eastern Equatoria



#	County	% area in severe or extreme drought
1	Kapoeta East	57%
2	Kapoeta North	39%
3	Budi	31%
4	Lafon	28%
5	Kapoeta South	26%
6	Torit	19%
7	Ikotos	17%
8	Magwi	15%

VCI	Drought severity	Area (km2)	% of total area
< 10 %	Extreme drought	11,420	15.6%
10 - 20 %	Severe drought	16,700	22.9%
20 - 30 %	Moderate drought	15,980	21.9%
30 - 40 %	Light drought	10,710	14.7%
> 40 %	No drought	18,210	24.9%

Source: REACH, 2022

Appendix 7 Dialogue participants' perspectives on the cause-effect relationship between conflict and food insecurity

Conflict is the main cause of food insecurity in Eastern Equatoria (in total 57 responses/arguments).

Strongly Disagree 9% all statements	Disagree 10% of statements	Neutral 4% of statements	Agree 35% of statements	Strongly Agree 42% of statements
Climate change resulting in unpredictable weather patterns and erratic rainfall are the main cause of food insecurity.	2 **Impact of climate change (drought, floods and fire) is a more important cause of food insecurity (as compared to food security).**	There are other sources of insecurity creating food insecurity: floods, droughts and fires.	4 **When there is insecurity few people, in particular women will go to farm lands in areas seen as insecure fearing harm.**	**The State has good soils and climate for agricultural production: conflict erodes the capacity to cultivate and produce.**
Conflict reduces agricultural production and output; but conflict is often localised.	Poor quality seed and use of basic tools is a major cause for low food production.	Lack of improved technology and cultural beliefs (such as not borrowing capital) limit agricultural production.	2 People fear being attacked and killed and therefore (far away) farms are small.	6 **Because of fear of insecurity (as a result of conflict) people have limited access to their fields reducing agricultural production.**
With or without conflict production can take place.	Lack of appropriate tools, machinery and storage facilities is a more important cause of food insecurity (as compared to conflict).		Most men will not involve much in farming resulting in farms being small; men will focus on patrolling and protecting the fields once cultivated.	**Conflict displaces people into areas less favourable for agriculture.**
It is the willing ness of people to produce and not to depend on relief aid.	**For some lack of production provides an opportunity to introduce modern technology and better seeds increasing food production.**		**Conflict can create displacement and lack of agricultural labour.**	2 People are scared to go to their (far away) fields because of fear for unknown gunmen
People have become lazy and this is the main cause of food insecurity.	**A major cause of food insecurity are high food prices in the market.**		Some migrate from the village (leaving their gardens) to the towns	People fear to participate in agriculture in rural areas because of fear for revenge killings.
			Displacement of farmers because of conflict and insecurity reduces agricultural production.	Women, when working on their (far away) fields are vulnerable to GBV.
			Conflict is the main cause of food insecurity: in particular conflict between farmers and herders.	3 **There are conflicts between the main livelihood systems , that is between farmers and cattle herders/pastoralists.**
			Cattle raiding brings a lot of conflict, it is mostly young people involved in this.	Cattle raiding causes serious conflict between different groups.
			Cattle rustling leads to loss of livestock and a source of food; meat and milk.	There is conflict over land boundaries limiting agricultural productions.
			Disputes and conflict over land brings disagreement and fear amongst people.	Conflict over resource ownership limits agricultural production.
			Land grabbing is becoming an issue.	**There is conflict between those that have and those that have not.**
			Land disputes and revenge killings create fear and insecurity limiting access to land.	Conflict leads to insecurity like abuse and killing along the roads making farming and transporting produce difficult.
			Conflict breaks the food system	There is political conflict with hampers development of food systems and thus production.
			Communities, because of insecurity and fear, do not have a change to develop their food systems fully.	Politicians play out differences creating conflict and fear which reduces agricultural production.
			Conflict disrupts supply routes to conflict affected areas (limiting agricultural production)	**Farmer and herder communities have little access and communication it each other leading to fear of insecurity and reduced production.**
			Conflict diverts funds away from developing agricultural production.	**Humanitarians make people not to cultivate more.**
			Conflict diverts funds away from developing agricultural production.	

Food and nutrition insecurity is the main cause of conflict in Eastern Equatoria (in total 41 responses)

Strongly Disagree 22% all statements	Disagree 10% of statements	Neutral 10% of statements	Agree 29% of statements	Strongly Agree 29% of statements
Food insecurity can be a cause of conflict but is not the main one.	**One can see from the IPC readings that in areas of high food insecurity (e.g. in IPC3 areas 'food crisis') conflict is normally not the result.**	When a household face food insecurity it should and normally will not resort to using violence as this creates conflict (making the situation worse)	Food insecurity results in erosion of 'cooperativeness' and social cohesion in the community	**Food insecurity erodes the social fabric of communities providing space for conflict.**
3 **There are other more important causes for conflict other than food insecurity: political rivalry, cattle theft, disputes over accessing natural resources and disputes over land.**	Conflict is everywhere in South Sudan and causes of conflict vary considerably.	Food insecurity can attribute to cattle raids; however, even when there is food security raiding will continue to take place to get high quality animals or head cattle for marriage.	3 People who have a serious lack of food can resort to robberies and ambushes to acquire food.	**A shortage of food breeds conflict through hunger.**
The main cause of conflict in the State is control over resources causing disputes.	In times of food insecurity cattle raiding will be a main cause for serious conflict.	Some conflicts are politically motivated and do not relate to food insecurity.	Lack of food in communities results in stealing and robbing.	**The hungry person has no choice but to use force to survive; stealing, robberies and ambushes.**
Conflict is caused by a breakdown of relationships between people and groups having incompatible goals.	Most communities in EES have other sources of food in their locality: food insecurity does not need to lead to conflict.		2 **Food insecurity in particular when people have migrated into neighbouring areas, deepens poverty and hunger resulting in increased suffering and deaths, can increase robberies and conflict.**	Ambushes along the roads and killing are caused by hunger.
Every community in EE can develop the potential to produce without causing conflict.			**Food insecurity creates increased competition for available resources to survive.**	Food insecurity and poverty creates criminals doing robbery and road ambushes.
We normally farm in EE without any conflict.			Food insecurity drives cattle raiding which causes conflict.	Deep food insecurity can make people steal food from others.
We get no/very few reports that food insecurity is causing (serious) conflict.			Food insecurity creates conflict over access to land (to produce food).	2 Food insecurity encourages people to participate in cattle raiding to ensure food security creating conflict by seriously affecting peoples' livelihoods.
			Lack of employment or ability to produce food contributes to some youth becoming involved robbing, cattle raiding and overall violence including rape of women.	Food insecurity makes people to compete for natural resources to sustain their livelihoods which create a source of conflict
			Lack of food in communities results in gender based violence at the household/family level.	Food insecurity and lack of employment for youth (so as to provide for food and other basics) can create a threat.
				Food insecurity weakens livelihood activities and can cause displacement raising prospect of conflict.
				Food insecurity and hunger cause conflict which, people know, by itself will come with a high cost for households and communities.

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Report WCDI-23-242

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To explore the potential of nature to improve the quality of life

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Report WCDI-23-242

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