



FNS-REPRO Sensemaking workshop report South Sudan

Report of a sensemaking workshop held on 22-23 July 2022 with FNS-REPRO and key partners and stakeholders

Kusters, C.S.L., Boerema, E., Jube, J., Kenyi, M.R., Nyombe, M., Kapinga, N., Kivuva, N., Joosten, K., Chapman, C.



WAGENINGEN
UNIVERSITY & RESEARCH

FNS-REPRO Sensemaking workshop report South Sudan

Report of a sensemaking workshop held on 22-23 July 2022 with FNS-REPRO and key partners and stakeholders

Kusters, C.S.L. (1), Boerema, E.(1), Jube, J.(2), Kenyi, M.R. (2), Nyombe, M. (3), Kapinga, N. (3), Kivuva, N.(3), Joosten, K.(3), Chapman, C. (1)

1 Wageningen Centre for Development Innovation (WCDI), Wageningen University and Research (WUR)

2 University of Juba

3 Food and Agriculture Organisation (FAO)

This project is funded by the Dutch Ministry of Foreign Affairs, International Green Growth Department

Wageningen Centre for Development Innovation
Wageningen, November 2022

Report WCDI-22-223

Kusters, C.S.L., Boerema, E., Jube, J., Kenyi, M.R., Nyombe, M., Kapinga, N., Kivuva, N., Joosten, K., Chapman, C., 2022. *FNS-REPRO Sensemaking workshop report South Sudan; Report of a sensemaking workshop held on 22-23 July 2022 with FNS-REPRO and key partners and stakeholders*. Wageningen Centre for Development Innovation, Wageningen University & Research. Report WCDI-22-223. Wageningen.

This report provides insights and lessons generated from different (internal and external) sources and critically reflected upon during a sensemaking workshop in South-Sudan in June 2022. This workshop is part of a series of sensemaking workshops, that aim to support evidence-based and adaptive programming for the Food and Nutrition Security Resilience Program (FNS-REPRO) in Somaliland, Sudan and South Sudan. This program aims to contribute to food and nutrition security and resilient livelihoods in protracted crises, by paying attention to natural resource management (NRM), value chain development (fodder in Somaliland, gum Arabic in Sudan, and seed in South Sudan), and production and consumption of nutritious food. Key partners in the program are FAO and WUR.

Keywords: conflict, FAO, food security, food system resilience, Natural Resource Management (NRM), nutrition, theory of change (ToC), resilience, seeds, seed system, South-Sudan, value chain (VC), WUR.

This report can be downloaded for free at <https://doi.org/10.18174/579197> or at www.wur.eu/cdi (under publications).



© 2022 Wageningen Centre for Development Innovation, part of the Stichting Wageningen Research. P.O. Box 88, 6700 AB Wageningen, The Netherlands. T + 31 (0)317 48 68 00, E info.cdi@wur.nl, www.wur.eu/cdi.



The Wageningen Centre for Development Innovation uses a Creative Commons Attribution 4.0 (Netherlands) licence for its reports.

The user may copy, distribute and transmit the work and create derivative works. Third-party material that has been used in the work and to which intellectual property rights apply may not be used without prior permission of the third party concerned. The user must specify the name as stated by the author or licence holder of the work, but not in such a way as to give the impression that the work of the user or the way in which the work has been used are being endorsed. The user may not use this work for commercial purposes.

The Wageningen Centre for Development Innovation accepts no liability for any damage arising from the use of the results of this research or the application of the recommendations.

Report WCDI-22-223

Photo cover: Eelke Boerema

Contents

_Toc119591209	Acknowledgements	5
	List of abbreviations and acronyms	7
1	Executive summary	9
1.1	Impact by shocks and stressors and mitigation measures	9
1.2	Key findings of the Rapid Value Chain (RVCA) Assessments	10
1.2.1	Key challenges prior to FNS-REPRO interventions	10
1.2.2	Key opportunities prior to FNS-REPRO interventions	10
1.2.3	Key challenges during FNS-REPRO interventions	10
1.2.4	Key opportunities during FNS-REPRO interventions	10
1.2.5	Key changes during FNS-REPRO interventions	10
1.2.6	Key services by other actors along the VC	10
1.2.7	Factors influencing seed VC	11
1.3	Key topics for discussion in South Sudan	11
1.3.1	Improve uptake of newly introduced varieties	11
1.3.2	Improve seed security & market linkages across the seed system (including private sector engagement)	11
1.3.3	Improve output 3 on nutrition	13
1.3.4	Improve MEAL & evidence	13
2	Introduction	14
2.1	Introduction to FNS-REPRO	14
2.2	Introduction to evidence-based and adaptive programming	14
2.3	Background to the South-Sudan sensemaking event	15
3	Day 1 – key concepts, context, Theory of Change & FNS-REPRO progress update	16
3.1	Key concepts	16
3.1.1	Food systems framework	16
3.1.2	Resilient food systems	18
3.2	Key issues – high levels of food insecurity due to impact of flooding, drought, conflict and macro-economic challenges	18
3.3	The Theory of Change (ToC) for FNS-REPRO in South Sudan	21
3.4	MEAL update	25
3.4.1	FNS-REPRO progress update per output	25
4	Day 2 – Rapid Value Chain assessment; stories of change; key discussion topics	28
4.1	Rapid Value Chain Assessments (RVCA)	28
4.1.1	Purpose of the rapid value chain assessments	28
4.1.2	The scope of this assessment	28
4.1.3	Methodology	28
4.1.4	Key findings of the Rapid Value Chain Assessments for Torit and Magwi	29
4.1.5	Key findings of the Rapid Value Chain Assessments for Yambio and Nzara	30
4.2	Stories of change	33
4.3	Key issues for discussion and suggestions for improvement	34
4.3.1	Improve uptake of newly introduced varieties	34
4.3.2	Improve seed security & market linkages across the seed system (including private sector engagement)	35
4.3.3	Improve output 3 on nutrition	39
4.3.4	Improve MEAL & evidence	40
	References	43
	Appendix 1 Workshop participants	44

Table of figures

Figure 1	Conceptual framework of food systems for diets and nutrition	16
Figure 2	Sustainable Food System Framework Source: Adapted from HLPE 12, 2017.	17
Figure 3	Roles and spaces for youth engagement and employment in food systems Source: Elaborated by authors based on HLPE 2017, 2020a.	17
Figure 4	Projected acute food insecurity April - July 2022 for South-Sudan	19
Figure 5	Key issues affecting people in target areas & drivers of acute food insecurity	20
Figure 6	Revised Theory of Change for FNS-REPRO in South-Sudan.....	24
Figure 7	Overview of group discussion on improving uptake of newly introduced varieties	35
Figure 8	Overview of group discussion on improving seed security & market linkages across the seed system (including private sector engagement)	38
Figure 9	Trends in food prices in South Sudan.....	39
Figure 10	Overview of group discussion on improving output 3 on nutrition.....	40
Figure 11	Suggestions for improving MEAL.....	42

Table of tables

Table 1	Time line for VC events and related events, interventions, actors and factors - South Sudan – seed VC/sector since early 2020. Gitikiri Village/Boma –Yambio Payam, Yambio Country, Sasa Village, Atiamako Boma, Nzara Payam, Nzara County, Western Equatoria State.	31
----------------	--	----

Acknowledgements

On behalf of the FNS-REPRO Learning Agenda team from Wageningen Centre for Development Innovation, we would like to express our sincere gratitude for the partnership with the FAO South-Sudan and FAO Resilience Team Eastern-Africa, as well as our programming partners based in the respective target states of FNS-REPRO in South-Sudan. This partnership enables all of us to successfully conduct our annual evidence-based and adaptive programming cycle, which in turn enables FNS-REPRO to adapt to emerging issues, trends and takes into account lessons learned from its implementation towards its final annual programming cycle. This provides insights and lessons for conducting evidence-based and adaptive cycles in contexts of protracted crises.

Specifically we would like to thank our colleagues Koen Joosten and Nathan Kivuva from the FAO Resilience Team Eastern Africa, with whom we closely coordinate and work together to implement evidence-based and adaptive programming across the FNS-REPRO countries.

Furthermore, we would like to thank our colleagues from FAO South-Sudan for their support in preparation of the sensemaking workshop and their input and reflections during the workshop so as to improve the FNS-REPRO in South-Sudan: Maurice Nyombe, Natalie Kapinga, Joseph Okidi, Morris Tabiano, Danvers Omolo and Felix Dzvurumi.

A special thanks goes out to our partners from Juba University, Julia Jube, Michael Roberto Kenyi and Tony Ngalamu, who have been very instrumental in generating important evidence which fed the workshop and this report.

Also thanks to Charles Chapman, who has as a consultant supported our team across the evidence-based and adaptive programming in 2021 and 2022, and contributed to the event and this report.

Finally, we thank the FNS-REPRO implementing partners who participated in the data collection as well as in the sensemaking workshop, and the communities and key stakeholders in Torit and Yambio that have participated in the rapid value chain assessments and the stories of change. Without everyone mentioned here it would not have been possible.

Cecile Kusters and Eelke Boerema

List of abbreviations and acronyms

ATWG	Agriculture Technical Working Group
BDS	Business Development Service
CFSAM	Crop and Food Security Assessment Mission
EES	Eastern Equatoria State
EGS	Early Generation Seed
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FCL	Foundation Caritas Luxembourg
FEWSNET	The Famine Early Warning Systems Network
FNS	Food and Nutrition Security
FNS-REPRO	Food and Nutrition Security Resilience Program (by FAO & WUR)
FSNMS	Food Security and Nutrition Monitoring System
GBV	Gender-Based Violence
GAP	Good Agricultural Practices
GASS	Global Aim South-Sudan
HDP	Humanitarian-Development-Peace
IP	Implementing Partner
IPC	Integrated Food Security Phase Classification ¹
JS	Jonglei State
LAFP	Learning Agenda Focal Point
LOA	Letter of Agreement
MAFS	Ministry of Agriculture and Food Security of South-Sudan
MEAL	Monitoring, Evaluation, Accountability and Learning
MT	Metric Tonne
NBGS	Northern Bahr el Ghazal State
NGO	Non-Governmental Organization
NRM	Natural Resource Management
NR	Natural Resources
QDS	Quality Declared Seed
RIMA	Resilience Index Measurement and Analysis
RTEA	Resilience Team for Eastern Africa of FAO
RVCA	Rapid Value Chain Assessment
SOP	Standard Operating Procedures
SQCB	Seed Quality Control Board
SS	South Sudan
STASS	Seed Trade Association of South Sudan
ToC	Theory of Change
UNS	Unity State (or Western Upper Nile)
VC	Value chain
VRC	Variety Release Committee
WBGS	Western Bahr el Ghazal State
WCDI	Wageningen Centre for Development Innovation, Wageningen University & Research
WES	Western Equatoria State
WFP	World Food Programme
WUR	Wageningen University & Research

¹ <https://www.ipcinfo.org/ipcinfo-website/ipc-overview-and-classification-system/en/>

1 Executive summary

On 22 and 23 June 2022, the annual programme sensemaking event was conducted in Juba, South-Sudan. The event was organized and facilitated by WUR, in partnership with FAO South-Sudan, FAO RTEA and FNS-REPRO programme partners. This event is part of the FNS-REPRO's evidence-based and adaptive programming cycle. The aim of the sensemaking event is to reflect on all information generated under FNS-REPRO in South-Sudan, identifying key challenges, issues and gaps that need to be addressed in order to achieve the intended impacts. Critical reflection with key stakeholders was facilitated on the key findings from the various studies and publications, and what gaps could be identified in the different outputs and approaches of the FNS-REPRO programme outputs. This then led to suggestions to improve the programme. The sensemaking event, focusing on the 'why' and the 'what' of FNS-REPRO, was organized back-to-back with FAO's annual review and planning meeting on 24th June which focused on reviewing not only what has been achieved so far but also on how suggested improvements could be integrated in the next and final (2022-2023) annual plan. The planning meeting also culminated into a brief report with action points to be addressed for the final annual plan.

The sensemaking workshop has successfully generated additional insights on how to sharpen specific activities under the three main outputs of the programme, being: 1) improved management of and access to natural resources, 2) improved income opportunities along selected (seed) value chains and, 3) nutrition sensitive livelihoods support. Furthermore key challenges were identified to which suggestions to address those have been formulated, including the uptake of newly released seed / crop varieties; seed security & market linkages; improving the nutrition and healthy diets component of FNS-REPRO; and generating evidence for MEAL and learning.

Below an overview of key findings and suggestions for improvement is provided, as input to the final annual plan for FNS-REPRO in South-Sudan. The full description of the provided suggestions for improvement and the summary of key findings from existing evidence it was based on, is presented in this report.

1.1 Impact by shocks and stressors and mitigation measures

The programme identified key issues and trends (recurring) that are still affecting implementation of activities. These include; rampant flooding in Jonglei and Northern Bahr el Ghazal states, prolonged drought in Eastern Equatoria State, inter-communal conflicts in Western Equatoria state, Northern Bahr el Ghazal, Western Bahr el Ghazal, Upper Nile State and Jonglei State and conflicts between pastoralists and farmers in Western Equatoria State and Eastern Equatoria State. In general, these scenarios contributed to wider displacement of farming communities, loss of livestock and livelihoods, and increased tension on scarce resources. In addition, widespread floods and limited access led to late distribution of agricultural inputs in the affected areas. Concerted efforts were made to address/reduce the negative effects of these shocks and stressors as indicated below;

- Conflict sensitive programming – conflict monitoring, resolution and capacity development;
- Early warning systems (EWS) for conflict mitigation;
- Food Security Information System;
- Encouraging youth and women participation with enhanced opportunities for income generation;
- Enhanced engagement with private seed sector in creating local seed demand and improved distribution network.

1.2 Key findings of the Rapid Value Chain (RVCA) Assessments

Below the combined findings from the RVCAs in the different communities (Torit, Magwi, Yambio and Nzara) are described.

1.2.1 Key challenges prior to FNS-REPRO interventions

Challenges observed in researched communities included: low quality and late distribution of seeds by others not involved in FNS-REPRO; inadequate foundation seed production; poor agricultural and post-harvest handling practices; low yields; late/erratic rainfall; lack of market information system; displacement due to insecurity & political unrest; poor policy regulation and enforcement – lack of seed policy, seed production strategies, legislation and enforcement, informal and formal business environment; Covid-19.

1.2.2 Key opportunities prior to FNS-REPRO interventions

Observed opportunities prior to FNS-REPRO interventions included: enough arable and fertile land for production; farmer cooperation; labour; presence of UN agencies and NGOs.

1.2.3 Key challenges during FNS-REPRO interventions

During FNS-REPRO challenges observed included: lack of adequate farming tools; opening up new lands; inadequate types, quantity, quality and timeliness of delivery of agricultural inputs; lack of processing machines /equipment; lack of storage facilities and poor storage practices; lack of involvement of seed farmers in identification of crop seeds and their types and varieties; marketing seeds produced due to transportation challenges (time, cost, vicinity) and limited market for seeds produced; lack of financial support; absence of research; poor policy regulation and enforcement; communal conflict and displacement.

1.2.4 Key opportunities during FNS-REPRO interventions

Observed opportunities in selected areas during FNS-REPRO interventions included: training on GAP and seed production by FNS-REPRO; enough arable and fertile land for production; farmer cooperation; farming tools in demo farm; less flooding due to construction of Juba-Torit road; enhanced capacity of IPs; having a marketing committee; presence of cooperatives reduced costs; seed sharing in communities if seed distribution by NGOs is late; labour; presence of UN agencies and NGOs; market linkages.

1.2.5 Key changes during FNS-REPRO interventions

Observed changes during FNS-REPRO mainly relate to FNS-REPRO interventions, in particular the demo farms included: GAP capacity development, improved yields, storage facility and ability to sell produce from demonstration farms; water pump for vegetable demo farm; regular seeds distribution to seed producers under FNS-REPRO. Also: improved security situation; people returned to their homes and started farming; farmers received training on post-harvest handling; lockdown was lifted and goods started getting in the market; farmers could afford packaging material, improved packaging of seeds.

1.2.6 Key services by other actors along the VC

Observed key services in researched areas relate to services provided by FNS-REPRO and IPs included: providing seeds, farming tools, bulking bags, post-harvest tools; training in GAP and post-harvest techniques. The NRM committees support production and marketing: advise farmers on crops production and encourage organic farming techniques; monitor farming activities and allocated land; decide on marketing activities and prices. Grains mostly maize were procured by WFP under SAMS project.

1.2.7 Factors influencing seed VC

Respondents mentioned various external and internal factors that influence the seed VC (from production to marketing and enabling environment): drought; locust; insecurity which hinders movement; price fluctuations; lack of foundation seeds; lack of farm machinery (e.g. tractor, water pump for irrigation); lack of continuous training and support in GAP; late distribution of seeds to general farmers by NGOs; inadequate linkages between seed producers, general farmers and suppliers/traders; lack of transport to the market & poor roads during rainy season; no policy regulation of markets done by the government; Covid-19.

1.3 Key topics for discussion in South Sudan

During the sensemaking workshop in South Sudan the following key topics for discussion were included: improving uptake of newly introduced varieties; seed security & market linkages across the seed system (including private sector engagement); improving output 3 on nutrition; and improving MEAL & evidence. These are further summarized below.

1.3.1 Improve uptake of newly introduced varieties

People tend to stick to the crops and varieties they are culturally used to. This sometimes prohibits integration of new and/or traditional (varieties that were lost) crop varieties with the particular aim to diversify diets for healthier diets. During the sensemaking event, this issue was discussed and the main discussion points are presented here:

- a. **'See it to believe it'**. Here the role of demo farms is important in exposing farmers to new varieties and technologies.
- b. **Local appropriateness**. This related to ensuring that new varieties are culturally and agro-ecologically appropriate.
- c. **Sensitization and communication**. This is linked to demo plots and outreach where it's important to highlight the importance and added benefits of economically, nutritionally and environmentally beneficial crop varieties.
- d. **Bottom-up and participatory approach**. Taking farmers along every step of the process of developing and introducing new varieties can ensure ownership and successful introduction of new varieties.
- e. **Collaborative management of demo plots**. Lead farmers, supported by extension workers, need to manage and 'own' the demo plot so as to produce and demonstrate new technologies and varieties to local people.
- f. **Capacity building and training** on production, handling, harvesting etc is needed to enhance adoption of new varieties.
- g. **Lead farmers** need to be identified and trained and can use the produced from the seeds received as an incentive.
- h. **'Push versus pull'**. It is important to identify the pulling factors that exists, i.e. incentives of people to improve their livelihoods and focus on these, rather than pushing certain ideas and interventions to people that they may not necessarily accept.

1.3.2 Improve seed security & market linkages across the seed system (including private sector engagement)

There is need to improve seed security and strengthen market linkages across the seed system. Suggestions for improvement are described below in the following sections: preproduction, production of quality seed, post-harvest value creation and marketing, and the enabling environment.

Preproduction

Preproduction includes agro-inputs like foundation seed, agro-finance but there are also aspects of variety development (research) by breeders which is important for the development of foundation seed. Below suggestions are given for improvement.

- Improve the variety selection process, criteria and awareness to increase uptake of new varieties. This can be done by:
 - *Engaging farmers in the process of selection and testing.*
 - *Undertaking variety research on location.*
 - *Including farmer relevant selection criteria.*
 - *Enhancing awareness raising on the new varieties.*
- Speed up variety release: this includes using relevant varieties that are released from neighbouring countries as these need only 1 season of production/testing in South Sudan to be released. It also includes harmonization of variety release across countries.
- Improve production of and access to foundation seed:
This can be done by:
 - *Enhancing financial resources of breeders.*
 - *Improving linking foundation seed production to demand by:*
 - *Engaging with the private sector in a PPP.*
 - *Engaging institutions to help pay in advance for foundation seed.*
 - *Engaging with cooperatives to produce foundation seed.*
 - *Engaging government, through the seed quality control board (SQCB), in quality assurance of foundation seed production and the training of foundation seed producers.*
 - *Setting up an (information) system for requests for foundation seed.*

Seed/QDS production

This includes improving agricultural practices, yield etc but also seed quality control and training. This can be done by:

- Ensuring a marketing plan for sustainable QDS production, including a role for the SQCB and the private sector:
 - This includes the 4 P's (*product, price, place, promotion*) of marketing of quality seed.
 - *Legalize QDS and engage the private sector to support quality control by SQCB.*
- Develop a long-term strategy for quality assurance.
- Work on the sustainability and capacity of the SQCB.
- Develop Standard Operating Procedures (SOP) manual for production of QDS.
- Harmonize seed guides across NGOs.
- Link up with East West Seed Foundation², particularly in relation to (seeds for) vegetable production.

Post-harvest value creation and marketing relations & sales

Post-harvest value creation includes seed treatment, packaging, aggregation, storage, seed value addition whilst marketing relations & sales includes also seed market information. This can be done by:

- Ensuring a seed price that is competitive and also affordable for farmers:
 - *Ensuring quality seed, importance of locality.*
 - *Ensuring competitive but affordable seed price.*
- Focus on local seed production and developing the local seed market.

Enabling environment

The main suggestion was to organise a follow up discussion to inform the national seed policy.

² <https://www.eastwestseedfoundation.ph/>

1.3.3 Improve output 3 on nutrition

The third component of the FNS-REPRO relates to nutrition. Both production as well as consumption of nutrient-dense foods needs to be increased. Suggestions to do this are provided below.

Increase production of nutrient-dense foods

In order to better target and design interventions for nutrient-dense food production, the following can be done:

- Undertake *baseline/assessment* of locally grown nutrient-dense crops per FNS-REPRO areas and across the year.
- *Promote* new integrated practices (i.e. poultry, kitchen gardens) in currently supported FNS-REPRO groups.
- Support *demonstration plots* with locally grown nutrition-dense crops.

Increase consumption of nutrient-dense foods

In order to better target and design interventions for nutrient-dense food consumption, the following can be done:

- *Baseline/assessment* of the current typical diets and consumption patterns for each FNS-REPRO areas and across the year.
- South Sudan *cooking book* with local dishes and customs, which also profiles / assesses the nutritional value of these dishes.
- *Supporting better foodstuff sharing between communities* and organize “*nutrient-dense food fairs*”.
- *Awareness campaign* on the importance of healthy diets, for crops that are actually available locally.
- *Nutrition champions* within communities, in particular women.

Note: RTEA will also support this nutrition component by engaging a nutrition consultant.

1.3.4 Improve MEAL & evidence

There are a range of issues in relation to MEAL and evidence that need to be improved:

- Collection of detailed and disaggregated data at groups level
- Monitoring tools and data collection at outcome/impact level
- Data verification
- Documentation of key lessons learnt
- Tracking influencing factors e.g. drought, flooding, insecurity
- Beneficiary Feedback mechanism
- South Sudan (SS) programme dashboard
- Strengthening other monitoring mechanisms
- Information sharing
- Linkages with higher learning institutions.

These issues require actions by the SS MEAL team and the program manager with input from RTEA MEAL and WUR.

2 Introduction

2.1 Introduction to FNS-REPRO

The Netherlands-funded Food and Nutrition Security Resilience Programme (hereinafter: FNS-REPRO) is the first programme in Eastern Africa specifically designed to foster peace and food security at scale, through a livelihood and resilience-based approach, in some of the least stable regions, where interventions are normally of humanitarian programming nature exclusively³. Its design allows FAO and partners to set examples of building food system resilience in protracted crises. The four-year programme (2019-2023) is implemented in South-Sudan, Sudan and Somaliland. FNS-REPRO adopted a food system resilience approach and focusses on strengthening strategic value chains at country level. In South-Sudan, the focus is on strengthening the resilience of the seed system in selected regions⁴.

2.2 Introduction to evidence-based and adaptive programming

One of the FNS-REPRO key principles is flexible and adaptive programming. This means that the programme can change over time to increase fit with day-to-day and longer-term realities faced by communities on the ground. Given the complex and protracted crisis context of the programme's target areas, there is a need to be able to identify emerging issues and adapt to changes and negative impacts that affect beneficiaries and the FNS-REPRO outcome and objectives. This makes FNS-REPRO more effective, efficient, and relevant for its beneficiaries.

With the above in mind, FAO and its project partner Wageningen University & Research (WUR), designed the programme-specific adaptive programming cycle. The cycle is facilitated by the organization of sensemaking events (critical reflection on information generated along the course of the programme – organized by WUR) and annual review & planning meetings (strategic programme management based on sensemaking events to inform the next FNS-REPRO's annual plan – by FAO country offices), taking place in June and July every year. In addition to this, mid-year sensemaking events are organised by WUR in February to focus on key issues in the context that call for program adaptation.

Information and knowledge generated by FNS-REPRO (RIMA's, context analyses, food system resilience assessments, learning journeys in Communities of Practice (CoPs), special studies, learning events) and review of other relevant literature review and publications (e.g. IPC info) are reflected upon during the sense-making events and critical insights generated thereby will feed directly into the review & planning meeting, informing the next annual plan.

In June 2022, the adaptive programming meetings were held for the third time. All three events took place face-to-face, for the first time, in their respective country capitals Hargeisa, Juba and Khartoum, as COVID-19 travel restrictions had been lifted.

Somaliland

- 5-6 June: Sensemaking event
- 7 June: Annual Review & Planning meeting

³ To read more about FNS-REPRO, visit the following web pages: <https://fns-repro.com/what-is-fns-repro/> and <https://www.wur.nl/en/research-results/research-institutes/centre-for-development-innovation/show-cdi/fns-repro-building-food-system-resilience-in-protracted-crises.htm>

⁴ To read more about FNS-REPRO in South-Sudan, visit the following webpage: <https://fns-repro.com/what-is-fns-repro/south-sudan/>

South-Sudan

- 22-23 June: Sensemaking event
- 24 June: Annual Review & Planning meeting

Sudan

- 28-29 June: Sensemaking event
- 30 June: Annual Review & Planning meeting

The suggestions for improvement for each country program, as generated during the sensemaking event organised and facilitated by WUR, are provided in this report. These suggestions have been validated during the subsequent annual review and planning meeting organised by the FAO country teams.

2.3 Background to the South-Sudan sensemaking event

On 22 and 23 June 2022, the annual programme sensemaking event was conducted in Juba, South-Sudan. The event was organized and facilitated by WUR, in partnership with FAO South-Sudan, FAO RTEA and FNS-REPRO programme partners. This event is part of the FNS-REPRO's evidence-based and adaptive programming cycle. The aim of the sensemaking event is to reflect on all information generated under FNS-REPRO in South-Sudan, identifying key challenges, issues and gaps that need to be addressed in order to achieve the intended impacts. Critical reflection with key stakeholders was facilitated on the key findings from the various studies and publications, and what gaps could be identified in the different outputs and approaches of the FNS-REPRO programme outputs. This then led to suggestions to improve the programme. The sensemaking event, focusing on the 'why' and the 'what' of FNS-REPRO, was organized back-to-back with FAO's annual review and planning meeting on 24th June which focused on reviewing not only what has been achieved so far but also on how suggested improvements could be integrated in the next and final (2022-2023) annual plan. The planning meeting also culminated into a brief report with action points to be addressed for the final annual plan.

As the evidence-based and adaptive programming cycle in 2021 took a comprehensive approach to understand progress, key challenges, issues, gaps and trends across all the components of the programme, the 2022 cycle took a more detailed approach to assess remaining key issues and trends and suggest pathways to address these. It also looked more closely into what was happening on the ground, by sharing more detailed MEAL information, but also findings from a rapid seed value chain assessment and stories of change. Moreover, the event in June built upon the February 2022 mid-year sensemaking event which had a predominant focus on understanding key shocks and stressors and suggesting crises-modifiers to mitigate its negative effects. In South-Sudan, the main focus was on the upsurge of violence and insecurity between farmers and pastoralists in some areas, as well as flooding of the Nile along flood prone areas.

This report provides a summary of the key findings as well as suggestions for improvement for the FNS-REPRO program in South-Sudan. The report follows the structure of the event itself, being the following components: introduction to key concepts, a brief context update focussing on emerging issues and trends, the revised Theory of Change for FNS-REPRO in South-Sudan, a FNS-REPRO (MEAL) progress update for the 2021-2022 annual programming cycle, key findings of the rapid seed value chain assessment and stories of change, key issues for discussion and finally key suggestions for the final annual plan.

A separate report on the annual review and planning meeting, building on the key findings and suggestions generated in the sensemaking event in July, is developed by the FAO FNS-REPRO team in South-Sudan.

3 Day 1 – key concepts, context, Theory of Change & FNS-REPRO progress update

3.1 Key concepts

During the sensemaking workshop a brief introduction was given to key concepts, especially in relation to food systems and food systems resilience, which is at the heart of FNS-REPRO. Some of this was also shared in the sensemaking event in July 2021 but shared again this time to refresh ourselves and as new participants have joined the workshop.

3.1.1 Food systems framework

The concept of food systems has been stressed during the recent UN Food Systems Summit ([UNFSS](#)) in 2021. There are many concepts and frameworks that can help to understand food systems. For example the one developed by the High Level Panel of Experts (HLPE) on Food Security and Nutrition⁵. This framework puts particular emphasis on the aspect of **(healthier) diets**.

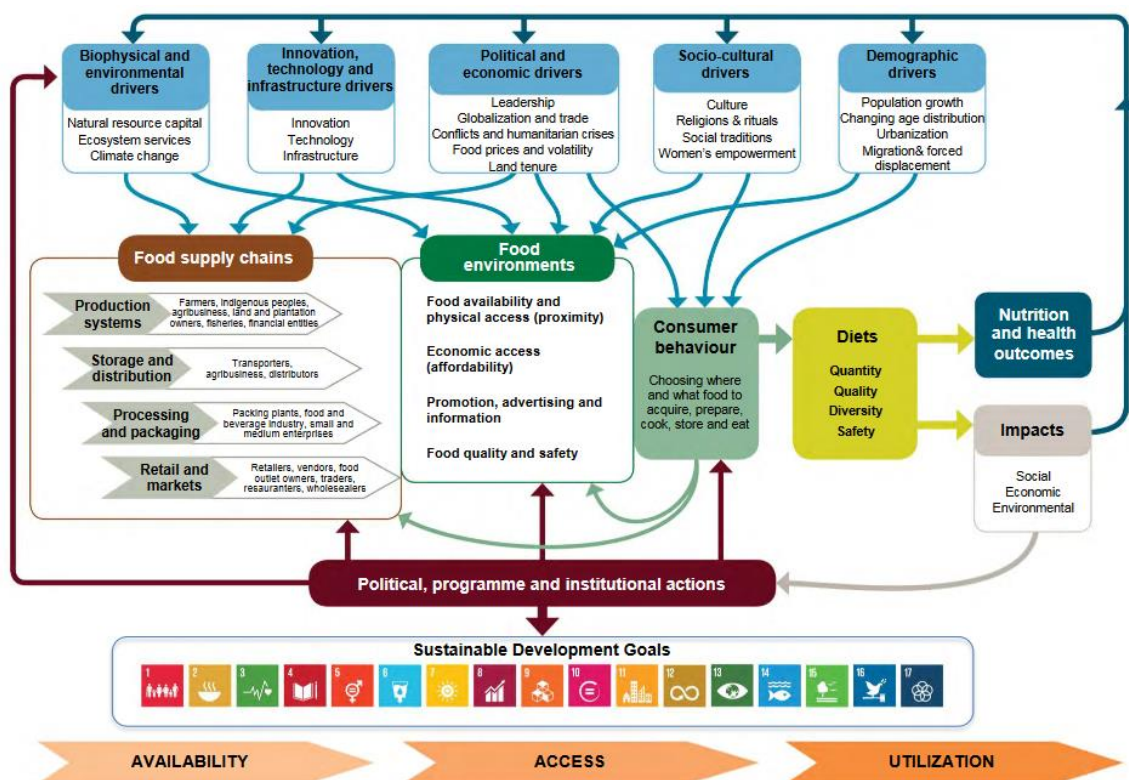


Figure 1 Conceptual framework of food systems for diets and nutrition

This framework has been adapted in the latest HLPE report #15 (see the figure below). Here the emphasis is on **sustainable food systems**. "According to FAO (2018a), food systems are sustainable when they "deliver 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." When food systems embody these qualities in an integrated, holistic way, they are more likely to support the realization of the right to food and to meet the goals of the 2030 Agenda, especially SDG 2." (HLPE, 2020).

⁵ See [HLPE report 12](#): <https://www.fao.org/3/i7846e/i7846e.pdf>

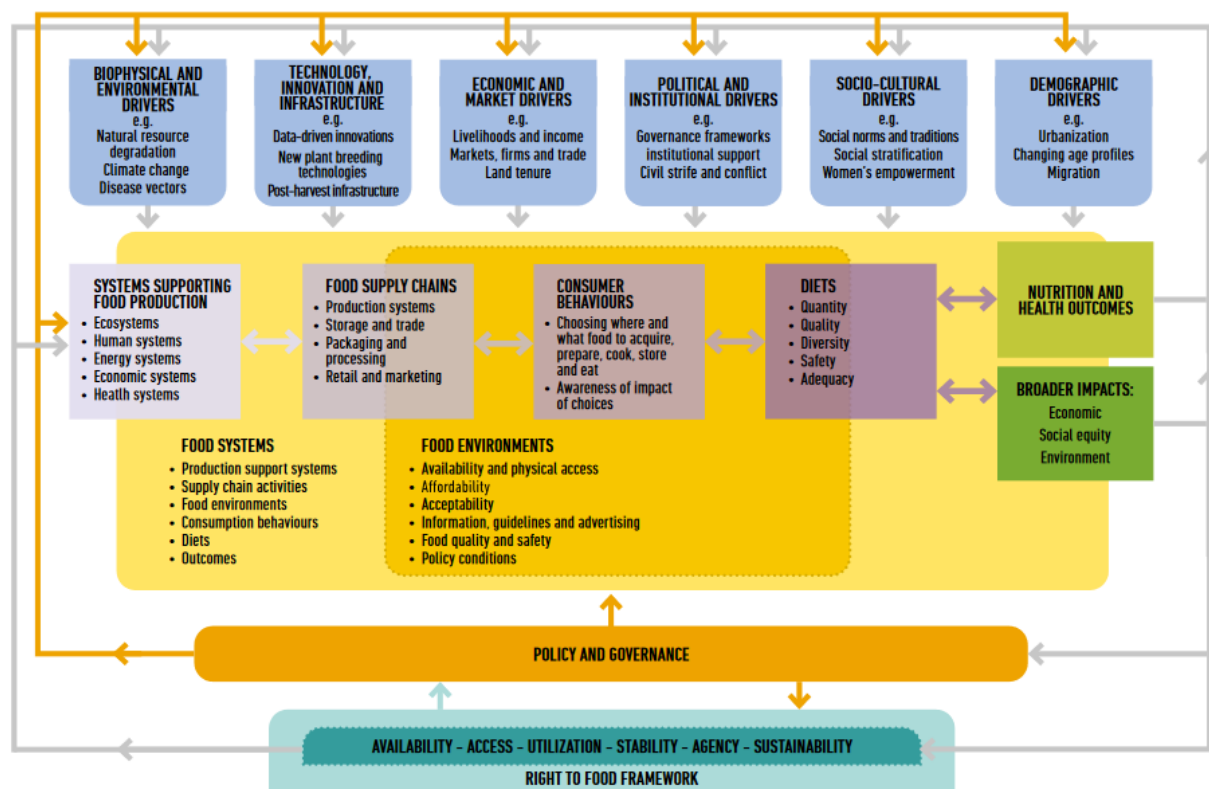


Figure 2 Sustainable Food System Framework
Source: Adapted from HLPE 12, 2017.

The latest HLPE report (2021) positions **youth as agents of change** in a sustainable food systems framework (Wittman et al., 2021).

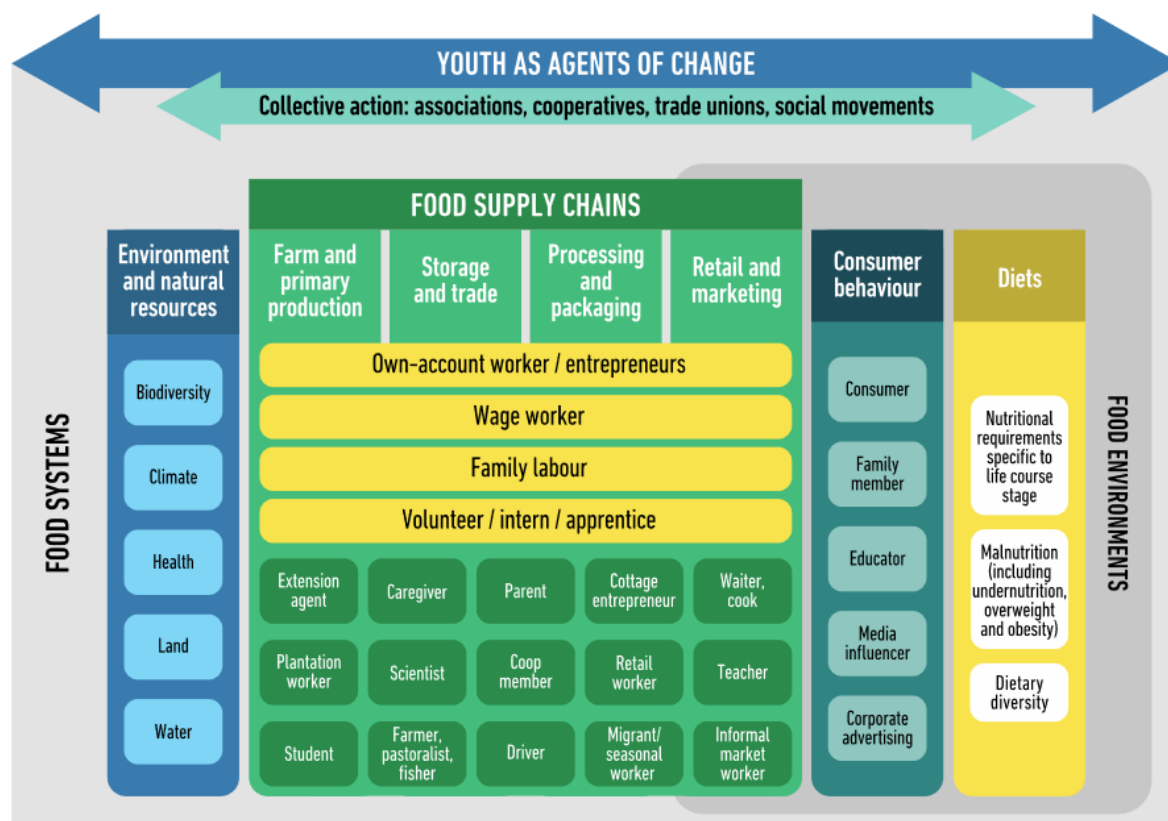


Figure 3 Roles and spaces for youth engagement and employment in food systems
Source: Elaborated by authors based on HLPE 2017, 2020a.

3.1.2 Resilient food systems

Drawing on the UN Common Guidance on Helping Build Resilient Societies, **agrifood systems' resilience** can be defined as "the capacity over time of agrifood systems, in the face of any disruption, to sustainably ensure availability of and access to sufficient, safe and nutritious food for all, and sustain the livelihoods of agrifood systems' actors". The authors indicate that "agrifood systems have three main components: (i) primary production; (ii) food distribution, linking production to consumption through food supply chains and transport networks; and (iii) household consumption, including intra-household food distribution. Key actors are: primary producers; those providing input supply, post-harvest, storage, transport and food processing services; food distributors, wholesalers and retailers; and households and individuals as final consumers." In terms of resilient food systems the authors indicate that "Truly resilient agrifood systems must have a robust capacity to prevent, anticipate, absorb, adapt and transform in the face of any disruption, with the functional goal of ensuring food security and nutrition for all and decent livelihoods and incomes for agrifood systems' actors. Such resilience addresses all dimensions of food security, but focuses specifically on stability of access and sustainability, which ensure food security in both the short and the long term. Another dimension of food security – agency – is deeply connected to human rights, including the right to food, and underscores the need for inclusiveness in systems." (FAO, 2021)

They furthermore indicate that "*Shocks have immediate impact, while stresses gradually undermine systems' coping capacity*". In particular the **role of climate change** is important: "Compared to other economic sectors, agriculture is disproportionately exposed and vulnerable to adverse natural hazards, especially those climate related. Climate change drives short-term shocks, such as extreme weather events, and generates slow-onset stresses, such as higher temperatures and loss of biodiversity. Shocks have immediate impact, while stresses are slow processes that gradually undermine the capacity of systems to cope with change and which render them more vulnerable. Agrifood systems' components and actors are exposed to shocks and stresses of various types and intensity and, because components are interlinked, disruption in any of them can spread quickly throughout systems. The same shock or stress may have different impacts on different systems' components and actors. Among producers, shocks are most likely to affect the livelihoods of low-income, small-scale operators; among food consumers, the poorest will be the most affected by rising food prices." (FAO, 2021)

The authors also indicate that building resilience is **more than risk management**. "Risk management strategies that reduce exposure and vulnerability to a known, specific shock – such as drought preparedness – help build agrifood systems' resilience. However, the COVID-19 crisis has shown that some shocks are unpredictable in terms of timing and extent. Agrifood systems must have the capacity to continue functioning in the presence of shocks that are not foreseeable. Building resilience is, therefore, more than risk management: resilient agrifood systems are a strategic component of the world's response to ongoing and future challenges." (FAO, 2021)

3.2 Key issues – high levels of food insecurity due to impact of flooding, drought, conflict and macro-economic challenges

According to the Integrated Food Security Phase Classification (IPC) information that was published on April 9 2022, "Food insecurity levels will remain elevated due to the impact of severe flooding and drought on livelihoods, conflict, and persistent macroeconomic challenges." About one third (63%=7.74M) of the population is projected to be facing high levels of food insecurity (IPC Phase 3 or above) in the period April-July 2022 (lean season), which is worse than in the period February-March 2022 (6.83M = 55%). Some 1,34M children under five are likely to suffer from acute malnutrition over the course of 2022. Some of the program areas are in states where more than 50% of the population was facing crisis (IPC 3) or worse, such as for example in Jonglei state (72.4%) and in Bahr el Ghazal (56.8%). Particular attention is needed for locations "that are characterized by chronic vulnerabilities that have been exacerbated by shocks such as severe flooding, droughts, sub-national and localized violence, and the effects of the ongoing macro-economic crisis, among others." These are also issues that have been discussed in previous FNS-REPRO sensemaking workshops, including the mid-year sensemaking event in February 2022 and the annual sensemaking event in June 2021.

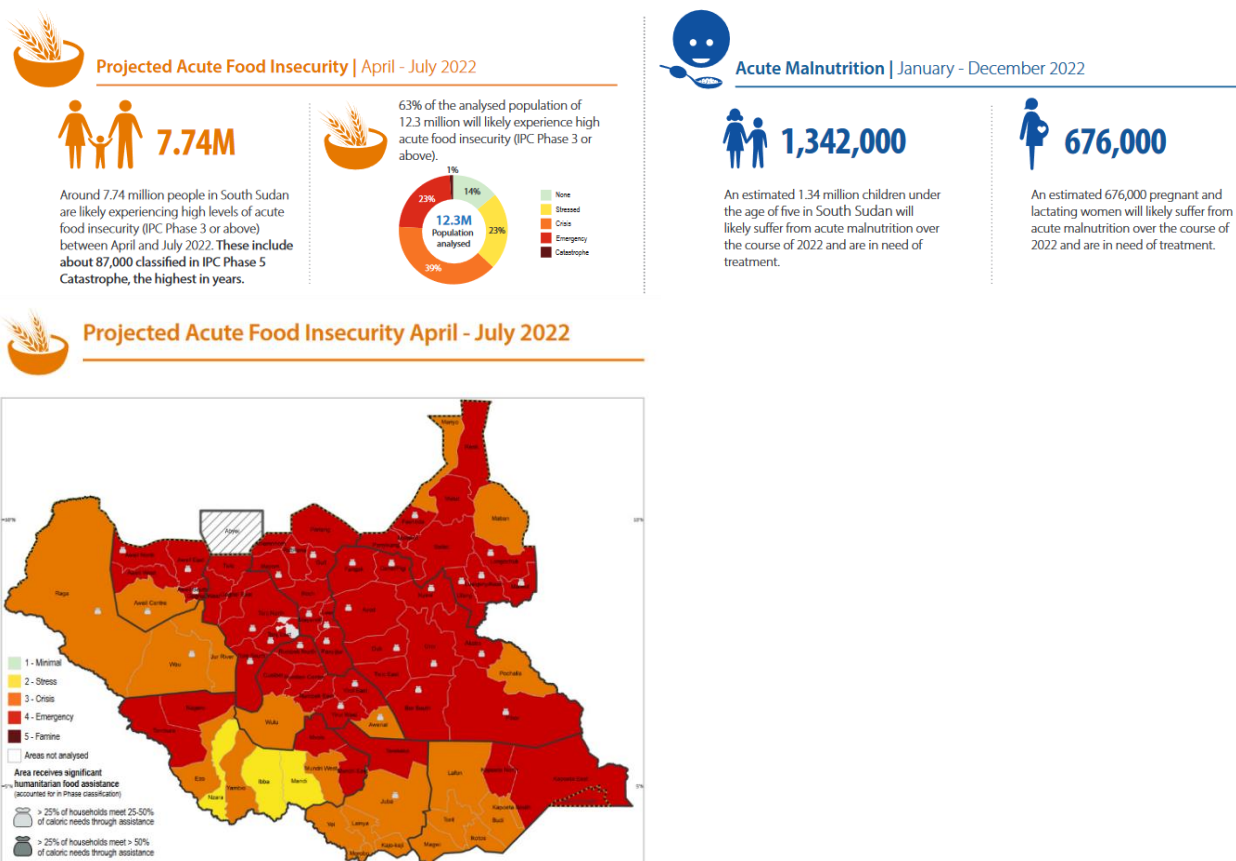


Figure 4 Projected acute food insecurity April - July 2022 for South-Sudan

The IPC info on South Sudan indicates that “Food insecurity in South Sudan is driven by climatic shocks (floods, dry spells, and droughts), insecurity (caused by sub-national and localized violence), population displacements, persistent annual cereal deficits, diseases and pests, the economic crisis, the effects of COVID-19, limited access to basic services, and the cumulative effects of prolonged years of asset depletion that continue to erode households’ coping capacities, and the loss of livelihoods”⁶, which is in line with earlier analysis of observations by key stakeholders for the mid-year sensemaking event in February. These issues are interlinked as was also indicated in that workshop. See **also figure 4**.

⁶ To see the key messages:
https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/South_Sudan_IPC_Key_Messages_February-July-2022_Report.pdf

Key Drivers of Acute Food Insecurity

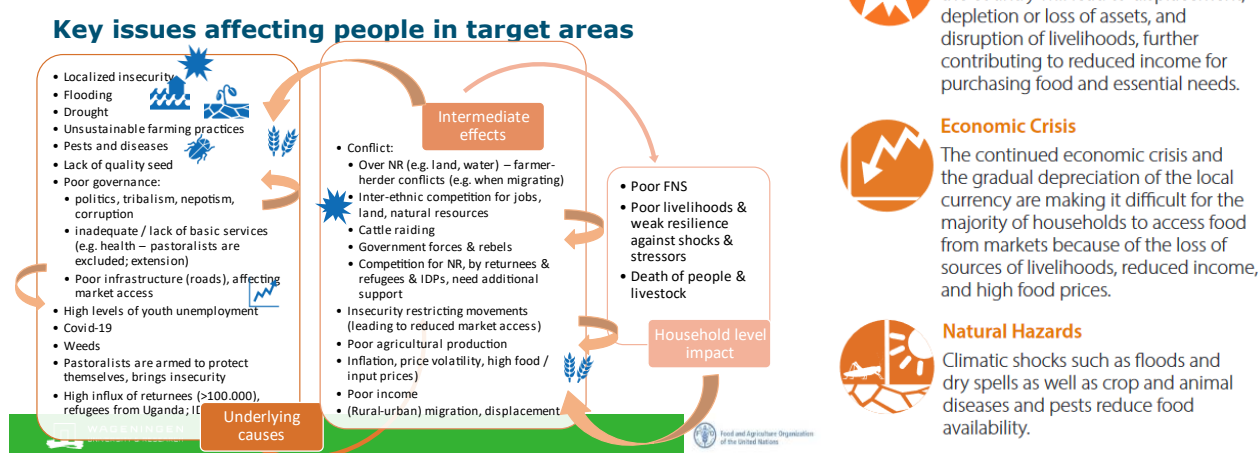


Figure 5 Key issues affecting people in target areas & drivers of acute food insecurity

The Famine Early Warning Systems Network (FEWSNET⁷) indicates similar trends. They also refer to more people facing IPC 3 or above with progression of the lean season. They indicate that the “household’s capacity to produce or purchase food or cope with new shocks is extremely low, driven by the compounding, long-term impacts of conflict and insecurity, successive years of widespread floods, and macroeconomic challenges” and that these “drivers will persist throughout 2022.” They are concerned that “global food and fuel price shocks linked to the Ukraine crisis will exacerbate local staple food prices and sharply increase the costs of food assistance delivery.” And they assess that “the Risk of Famine (IPC Phase 5) remains credible – particularly in areas with large populations in Emergency (IPC Phase 4) or worse – if a new conflict or flood shock were to isolate households from food and income sources for an extended time.”

Food assistance is inadequate: “The food security and livelihoods response under the 2022 Humanitarian Response Plan is only 30 percent funded.” Furthermore, “Conflict and insecurity significantly disrupted farming, livestock, and trade activities in multiple areas in May, namely in Unity, the Eastern-Central Equatoria border region, and northern Warrap. In Leer and Mayendit counties in Unity, the earlier conflict between government and opposition forces has given way to clashes and raids along inter-communal lines, resulting in loss of life, displacement, and barriers to household access to food. In Magwi, western Torit, and Juba (Lokiliri payam) counties in the Equatorias, the prolonged occupation of farmland by Dinka Bor herders and ensuing herder-farmer conflicts have reduced first-season cropping levels and caused large cattle losses among the herders. Key informants report many farmers have abandoned their fields and migrated to Juba, Bor, or Uganda in search of food and income. Territorial conflict among Dinka communities in Twic County of Warrap and Abyei Administrative Area and inter-communal clashes in Gogrial East County of Warrap and Mayom County of Unity are also driving high levels of food insecurity, resulting from displacement, the loss of household cattle assets, and low trade and market functioning.” Some of these locations are also FNS-REPRO target areas and as such some of the beneficiaries were also affected by these conflicts. See also the stories of change.

The impact of the flooding can still be felt in terms of food, income, and health as some households have migrated: “Flood extent in the Sudd Wetland remains atypically high for this time of year, which is not only continuing to constrain household access to food and income but is also resulting in poor health and sanitation conditions in displacement sites. Even in areas where floodwaters have receded, households have not returned home, given the high risk of losing their investments in crop and livestock production during the upcoming rainy season.”

⁷ Source: <https://fewsn.net/east-africa/south-sudan/key-message-update/may-2022>

There are also concerns in terms of food prices as food is largely imported and affected by the Ukraine war: "In April, the retail price of sorghum generally trended 20-140 percent above the five-year average in the four reference markets of Juba, Rumbek, Aweil, and Wau, reflecting the long-term constraints on household purchasing power. Furthermore, there remains significant concern that the impacts of the Ukraine crisis on grain, edible oil, and fuel prices will exacerbate food prices at a time when household purchasing power is already low. At this time, however, the exchange rate has remained stable, facilitating stability in the price of sorghum in Juba and a 60-85 percent decline in Rumbek, Aweil, and Wau compared to April of last year. Nevertheless, food prices may yet accelerate as the lean season progresses and regional and global supply further tightens, especially given South Sudan's high import dependence."

Although there are variations by county depending on local conflict dynamics, rainfall distribution, and pest incidence, FEWS NET broadly expects the first-season harvest in southern and western bimodal areas in June/July to be "lower than last year, driven by elevated conflict and poor rainfall." "Another negative factor is Fall and African Armyworm incidence, which has caused crop damage in Mundri West (465 farms affected) and Mundri East counties of Western Equatoria and Lofan County of Eastern Equatoria."

Overall, the "Livestock health and production outcomes remain very poor in flood- and conflict-affected areas." And "water scarcity has emerged in some eastern areas that previously attracted an influx of livestock from flooded locations during the dry season, such as in Uror County of Jonglei."

Also in terms of rainfall there are differences per locality: "Seasonal weather forecasts for the main June to September rainy season continue to indicate high chances of above-average rainfall, driving high concern for a fourth consecutive year of atypically extensive floods. However, ECMWF weekly rainfall anomaly forecasts suggest the start of season will likely be uneven before rainfall distribution and amounts increase from July onward. For instance, the onset of the rains reflects an early to timely start in parts of eastern and western South Sudan, but a false or delayed start in central South Sudan, especially in central and northern Unity."⁸

All in all the impacts on the already low resilience capacity of households and the weak food systems resilience in South Sudan has worsened due to the long-term impacts of conflict and insecurity, successive years of widespread floods, and macroeconomic challenges.

3.3 The Theory of Change (ToC) for FNS-REPRO in South Sudan

A low level of food system resilience requires both short and long-term actions along the HDP nexus. FNS-REPRO in South Sudan focuses on improving the seed sector so as to ultimately contribute to more resilient food systems and improve the food and nutrition situation and livelihoods of targeted people in the program areas. This is also indicated in the Theory of Change (ToC) for South Sudan, which was prepared in collaboration with the program manager and further discussed during the sensemaking event. A ToC explains the assumptions that people have about how change happens or is expected to happen. Discussion on the ToC during the sensemaking event was done to enhance clarity of program design as well as get input from a range of partners and stakeholders on how to further improve the program in contribution of the seed sector in South Sudan and ultimately the lives of targeted people. These and other discussions during the sensemaking event provided input for the next, final annual plan October 2022-September 2023.

The result can be seen on page 25 figure 6. Basically, in order to enhance food and nutrition security and improve income and livelihoods of smallholder farmers, FNS-REPRO in South Sudan aims to improve the seed sector in South Sudan and access to quality seed for smallholders so that they can increase their agricultural production and productivity of more diverse and nutritious food crops. This is done through 3 main work areas:

1. **Enhanced crop biodiversity** is contributed towards by engaging communities in the conservation and maintenance of local landraces as well as improving crop varieties in situ, and ex situ through community seed banks (local germ plasm) in community seed stores so as to stimulate the demand and use of local landraces and improved crop varieties. Through the process of cleaning and purification of local

⁸ Source: <https://fewsn.net/east-africa/south-sudan>

landraces, genetically pure landraces can be used as Early Generation Seed (EGS) to promote improved biodiversity and enhance crop production. Awareness on NRM is integrated in these activities.

Comments, suggestions and additions by workshop participants included:

- a. Enhance the focus on NRM;
- b. Include attention to NR based conflict management;
- c. Whilst in this component attention is given to local land races, the second component pays more attention to seed that is brought from other countries. Suggestion to give more attention to and strengthen the link with local seeds, including from the gene banks;
- d. In Western Bahr el Ghazal the land race Pearl Millet is disappearing. Instead of conservation maybe this can be multiplied (component 2).

2. **Improved production and uptake of quality seed**, by promoting local seed production and marketing through improved integrated and sustainable seed systems:

- a. **EGS production**, which involves the bulking and maintenance of nucleus seed stock under close supervision of the Ministry of Food and Agriculture and Food Security (MAFS) breeders. Increased production of foundation is promoted through public-private partnerships for sustainable foundation seed business models.

Comments, suggestions and additions by workshop participants included:

- i. Market linkages across the seed system need to be strengthened. For example how can we ensure that foundation seed produced by farmers reaches the seed producers?
- ii. Attention to nutrition needs to be integrated.
- b. **Establishing sustainable seed business** to produce locally adapted and improved quality seed for the market, by enhancing the (business) capacity of community based seed businesses and private sector led contract seed production (with particular engagement of women and youth) from production up to storing, aggregating, processing and marketing the seed produced. This also includes strengthening linkages along the different seed value chains.

Comments, suggestions and additions by workshop participants included:

- i. Agro-pastoral communities share seed among themselves which is good on the one hand but can also hinder seed commercialization (challenge);
- ii. More attention needed for youth engagement;
- iii. Engage farmers in all seed system activities, from production (including in comparing varieties) up to commercialization. This will also influence mindset change (see also below);
- iv. Attention for local seed varieties: needs mindset change and engagement of farmers in all stages. Also needs testing soils where the seed can work better. Different seeds are introduced in different areas in line with climatic issues and land properties. Need to discuss the functioning of the National research corporation that is in charge;
- v. Compare with what is done with community seed banks, where farmers are leading the seed saving & multiplication and compare varieties;
- vi. Attention to nutrition needs to be integrated;
- vii. Market linkages need to be further strengthened.
- c. **Stimulating the demand and uptake of quality seed**, by increasing awareness on benefits of and stimulating local demand for quality seed and by setting up market linkages with the private sector who also promotes quality seeds.

Comments, suggestions and additions by workshop participants included:

- i. It is difficult to introduce new, more nutritious crop varieties as there is 'cultural loyalty' to particular cultural crops (e.g. sorghum). Suggestions:
 1. More sensitization, communication and extension demonstration (with an agreed upon approach – more engagement of farmers from onset, varieties that are of interest to farmers etc.) is needed to deal with existing beliefs and mindsets. This takes time.
- d. **Enhancing the enabling environment**, by addressing challenges in the seed sector. This involves providing technical and administrative support to established platforms and committees to discuss seed sector challenges; providing technical support to MAFS on the development of seed certification protocols and guidelines (Quality Declared Seed standards) and to develop capacities of MAFS/state ministries of agriculture on seed quality control & seed regulation; and to review and validate the National Seed Policy draft including drafting of gender and nutrition-sensitive seed laws and

regulations.

Comments, suggestions and additions by workshop participants included:

- i. Important to have a seed certification agency at country level as this is currently missing. The seed administration unit is particularly at national level, but at state & county level a seed quality control board (SQCB) is being established which involves a critical mass of people trained as seed inspectors. The SQCB also has challenges in terms of capacity.
 - ii. QDS needs to be defined clearly, including the role of the government and other actors.
3. Improved attention for the production and consumption of nutritious food. This involves:
- a. Enhancing knowledge, skills and capacity of local communities around nutrition & healthier diets, through:
 - i. Promotion on crop diversification of nutrient-dense crops;
 - ii. Enhancing collaboration with MAFS researchers/breeders to promote uptake of nutrition rich crops such as cowpeas, green gram and vegetables;
 - iii. Aligning FNS-REPRO interventions with MAFS strategies, policy recommendations and nutrition goals;
 - iv. Promoting production and utilization of nutrient-dense crops of local and modern origin, including rapid multiplication & distribution of vegetative propagated crops (improved cassava & sweet potatoes (OFSP).
 - b. Promoting horticultural seed production of indigenous, fast maturing seeds (regila, kudra) for household income and resilience.

Comments, suggestions and additions by workshop participants included:

- a. Importance on educating farmers on what nutritious crops to grow, what food and nutrition security entails, and what is a healthy/balanced diet;
- b. More emphasis on nutrition is needed when engaging with farmers on producing quality seed or foundation seed;
- c. Nutrient-rich varieties: reassess the approach with the community and rationalize it with them. Explaining the nutritional value is part of it. There is high consumption of beans yet it is not produced on the farm;
- d. SSGID, Aweil West County, supports 12 groups. Women (90%) produce vegetable seeds (onion, okra) and this works well, as they are gaining extra money from vegetable (seed) production and the community eats these vegetables (one of the best successes). However, a key challenge for these women is linkage to the market, as the distances from the farm site to the market are long, and they don't have a store or shed to protect the seeds from the sun etc.

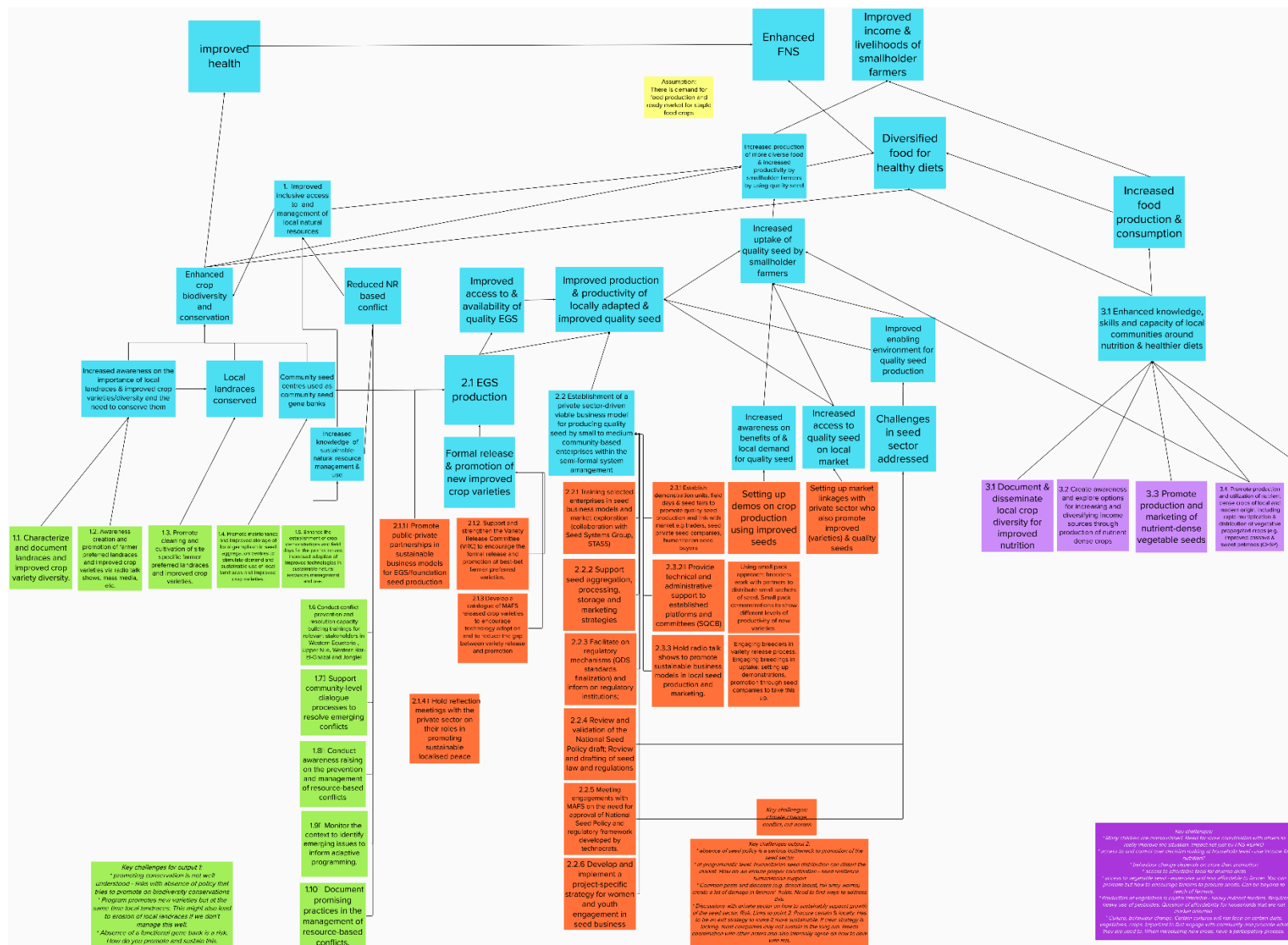


Figure 6 *Revised Theory of Change for FNS-REPRO in South-Sudan*

3.4 MEAL update

The FAO South-Sudan team presented a progress update for FNS-REPRO in South-Sudan focussing on the 2021-2022 annual programming cycle. A summary of the presentation is presented here.

3.4.1 FNS-REPRO progress update per output

In efforts to support the development of a nascent seed sector and seed systems in South Sudan, FNS-REPRO in South Sudan has made considerable investments towards the development of the seed sector. As guided by the theory of change, FNS-REPRO recognizes that various approaches are required to address food and nutrition insecurity. It is anticipated that a comprehensive package of interventions implemented and aimed at enhancing food production and productivity by smallholder farmers by using quality seed, diversifying food for healthier diets, and enhancing crop biodiversity, among others would ultimately contribute to improved food systems that are more resilient to shocks & stresses.

The programme has partnered with key stakeholders and implementing partners at national, state and county levels to ensure an enabling environment and mechanisms are in place for integrated seed sector development while also enabling households and communities in the project target areas to become resilient and have the ability to withstand and recover from natural and man-made shocks and stressors that negatively impact on food security and their livelihoods.

In June 2022, the sensemaking event was conducted at country level to provide an opportunity for critical reflection and making sense of findings of data generated in various studies and monitoring processes undertaken by programme. The event also enabled information sharing on progress, achievements and challenges in the current annual cycle. As such, annual programme achievements against planned activities realized and presented by MEAL and programme team are indicated below.

Improved inclusive access to and management of local natural resources	Increased knowledge and awareness on the diversity & utilization of available improved crop varieties Documented and characterized 133 crop varieties in 5 States: Landraces (86%); Improved crop varieties (14%); The greatest diversity was in Sorghum (25%) and Groundnut (16%) Enhanced awareness on the importance of landraces and improved crop varieties 22 radio talk shows were facilitated with more than 50,000 listeners 6 new crop varieties (Groundnut-Serenut 4T; cowpea-Secow 2wt, AGRAC 116; cassava-NASE 16,19; sweet potatoes-Naspot 11) obtained from Uganda and Nigeria were introduced through on-farm demos Enhanced measures for biodiversity conservation including in situ conservation of landraces Established 7 acres of land under plant genetic conservation 10 women groups engaged with in situ plant genetic conservation Improved awareness on conflict sensitivity, conflict monitoring, prevention and resolving resource-based conflicts Awareness meetings & trainings conducted in Torit & Magwi Counties on sustainable management of resource-based conflicts
Improved livelihood and income opportunities along selected value chains	38,000 Household beneficiaries reached through various project interventions (adaptive trials, seed grower groups, demo plots, seed fairs, seed distribution) aimed at improving livelihood and income opportunities along selected value chains Increased production and demand for foundation seed 2 public-private partnerships established for foundation seed production 5 MT of foundation seed maize-Longe 5; 5 MT of sorghum Wad Ahmed; 400 bags of cassava cuttings (NASE 19). Improved quality of locally produced seed Facilitated the establishment and functioning of at least 10 Seed Quality Control Boards (SQCBs) in 10 counties Facilitated trainings and technical updates on promotion of local seed production and marketing for key stakeholders and development partners during monthly Agriculture Technical Working group (ATWG) meetings Enhanced measures for quick release of best performing crop varieties

	<p>1 Variety Release Committee (VRC) meeting to encourage the formal release and promotion of best-bet farmer preferred varieties supported</p> <p>3 Hybrid Maize varieties & 5 OPV Sorghum Varieties released</p> <p>Revision and validation of the National Seed Policy draft</p> <p>Improved seed policy advocacy and fast-tracking of the review process & development of regulatory frameworks</p> <p>National legal consultant engaged in seed policy reviews with key stakeholders</p> <p>Enhanced capacities for seed producer groups in seed business and seed market linkages</p> <p>4 linkages established between Seed Trade Association of South Sudan (STASS) affiliated seed companies and FAO supported community seed producers</p> <p>6 trainings conducted for seed enterprise groups on Business Development Services (BDS) & seed market exploration</p> <p>Enhanced capacities for seed aggregation, processing and marketing strategies</p> <p>6 seed producer groups linked with seed aggregation centres; At least 6 trainings conducted on seed storage management</p> <p>1260 MT of locally produced seed aggregated; WES - 140 MT; WBGS-700 MT; EES - 120 MT; UNS - 200 MT; NBGS - 60 MT; JS - 40 MT;</p> <p>4 private seed companies linked with seed aggregation centres</p> <p>Women and youth participation guide developed to promote their improved engagement in seed business in South Sudan</p> <p>Increased awareness and promotion of local seed business models and sustainable business models in local seed production and marketing</p> <p>10 radio talk shows to promote local seed production through increased awareness creation</p> <p>Increased production and marketing of local vegetable seeds (indigenous, fast maturing seeds (regila, kudra) for household income and resilience)</p> <p>5 groups engaged in production of vegetable seeds</p> <p>3.5 Kg of vegetable seed produced (Jir jir and Kudra)</p> <p>Enhanced opportunities for youth and women in seed business</p> <p>5 youth and 5 women groups in seed production and enterprise groups (approx. 300 group members)</p>
Enhanced knowledge, skills and capacity of local communities around nutrition	<p>Enhanced diversification of nutrient-rich crops and improved dietary uptake through improved research collaboration</p> <p>20 demonstrations established to promote 5 nutrient-rich crops; improved cowpea, beans, indigenous vegetables (Jir Jir, Kudra), groundnut & and cassava varieties (approx. 2000 beneficiaries reached through demos)</p> <p>Increased production and utilization of nutrient dense crops</p> <p>2000 beneficiaries supported, sensitized and trained on rapid multiplication and production of improved cassava cuttings and sweet potato vines</p> <p>Distribution, training and sensitization of vegetable production kits to 38,000 household beneficiaries</p> <p>FNS-REPRO interventions aligned with MAFS strategies, policy recommendations and nutrition goals</p> <p>MAFS researchers supported on variety trials and formal release of 3 hybrid maize varieties & 5 OPV sorghum varieties</p> <p>MAFS supported on the review of draft seed policy and development of regulatory frameworks</p> <p>Protocols and guidelines for seed quality control developed for MAFs</p> <p>Enhanced opportunities for women and youth in vegetable production and marketing</p> <p>15,200 women (40%) and 11,400 youth (30%) engaged in vegetable production and capacity development</p>

In addition, the programme identified key issues and trends (recurring) that are still affecting implementation of activities. These include; rampant flooding in Jonglei and Northern Bahr el Ghazal states, prolonged drought in Eastern Equatoria State, inter-communal conflicts in Western Equatoria state, Northern Bahr el Ghazal, Western Bahr el Ghazal, Upper Nile State and Jonglei State and conflicts between pastoralists and farmers in Western Equatoria State and Eastern Equatoria State. In general, these scenarios contributed to wider displacement of farming communities, loss of livestock and livelihoods, and increased tension on scarce resources. In addition, widespread floods and limited access led to late distribution of agricultural inputs in the affected areas. However, concerted efforts were made to address/reduce negative effects of these shocks and stressors as indicated below;

-
- Conflict sensitive programming – wider awareness and capacity building: Promoting context monitoring on potential conflict drivers, training on conflict sensitivity as well as prevention and resolving of resource-based conflicts in project target locations.
 - Early warning systems (EWS) for conflict mitigation: Encourage regular updates and analysis of data on conflicts in collaboration with other key stakeholders and conflict sensitivity resource facilities to predict the potential outbreak, escalation or resurgence of conflicts for appropriate and timely redress measures.
 - Food Security Information System - evidence-based analysis for decision-making & adaptive programming: Making use of evidence-based analysis reports including CFSAM, FSNMS, RIMA and IPC to inform beneficiary targets and adaptive programming.
 - Encouraging youth and women participation with enhanced opportunities for income generation: Deliberate efforts to increase targets for women and youth participation in FNS-REPRO business oriented activities with potential for increased income opportunities.
 - Enhanced engagement with private seed sector in creating local seed demand and improved distribution network through small-pack demos, rural based agro-dealers network, improved packaging and competitive pricing: Promoting sustainable business models for seed production and marketing through rural-based agro-dealer networks and private-led extension models for increased local seed demand and market.

4 Day 2 – Rapid Value Chain assessment; stories of change; key discussion topics

4.1 Rapid Value Chain Assessments (RVCA)

Other key information sources for the 2022 evidence-based and adaptive programming cycle were rapid value chain assessments (RCVAs) with a focus on seeds, undertaken in May / June 2022 in Torit and Yambio counties of South-Sudan. This was commissioned by WUR and undertaken by its partner Juba University of South-Sudan. The assessment targeted three villages in both regions in which FNS-REPRO has been operational. The rapid seed value chain assessment was designed by WUR in collaboration with the WUR Learning Agenda Focal Points (LAFPs), who undertook the assessments with the assistance of technical staff from the FAO field offices as well as their local implementing partners.

The objective of the rapid value chain assessment was to assess the existing seed value chains before the FNS-REPRO interventions, identifying the existing actors and other influencing factors, the existing gaps, how the FNS-REPRO intervention has changed the value chain over time, and what services have been provided by FNS-REPRO and other actors in the chain.

A summary of the RCVA is presented here. The full RCVAs are presented in another report.

4.1.1 Purpose of the rapid value chain assessments

- ❖ To map the changes along selected seed value chain (VC) in South Sudan, in selected FNS-REPRO project areas.
- ❖ To relate these changes in the VC to FNS-REPRO interventions & to other factors & actors.
- ❖ To identify key gaps in the VC & opportunities to strengthen the VC in FNS-REPRO project areas.

Identifying main changes since 2020 and how selected value chains were impacted by shocks stressors and or other relevant events will help to better understand value chain performance and serve as input to ensure that FNS-REPRO's final annual plan will ensure that FNS-REPRO investment and interventions do lead to improved value chain performance for improving food and nutrition security in its target areas.

4.1.2 The scope of this assessment

The assessment was conducted in four areas - Torit County and Magwi County in Eastern Equatoria State, and Yambio County and Nzara County in Western Equatoria State. Respondents in the sessions included farmers, the county department of agriculture, the cooperatives department, the NRM committees and implementing partners in the regions.

4.1.3 Methodology

The rapid VC assessment was a participatory assignment undertaken by actively engaging stakeholders in selected FNS-REPRO project areas so that learning took place and realistic and relevant options for change were identified. Focus was on changes in selected seed VCs as a result of FNS-REPRO and other influencing factors and actors. Two different exercises were undertaken:

- ❖ Exercise 1 – Mapping the VC since the FNS interventions started (early 2020). Focus group discussion (FGD).
- ❖ Exercise 2. Mapping VC related services & influencing factors (FGD).

4.1.4 Key findings of the Rapid Value Chain Assessments for Torit and Magwi

Below you can find a summary of findings from the 3 rapid VC assessments that have been undertaken in Torit (2) and Magwi (1). The findings are described from the onset of the FNS-REPRO early 2020 up to now, along the different sections of the value chain, from pre-production up to the enabling environment.

4.1.4.1 Key challenges prior to FNS-REPRO

- Late distribution of seeds by other non FNS-REPRO implementing partners;
- Some of the seeds distributed by NGOs and non-FNS-REPRO agencies faced germinating problem or included seeds of low quality;
- Climatic changes (late/erratic rainfall);
- Insecurity caused displacement of farmers;
- Lack of foundation seed production techniques or institutions to offer support to the farmers in every season;
- In 2020 there were some caterpillars (grubs) and black ants that destroyed crops;
- Existing policies are not enforced. Policy regulation of the market is not there.

4.1.4.2 Key challenges during FNS-REPRO interventions

- The NRM Committee in Torit and Magwi lacked some essential tools for farming and had difficulties in opening up new lands;
- Less cultivation and production by the farmers due to lack of sufficient tools;
- Lack of processing machines like grinding mills;
- Lack of storage facilities. In some areas farmers face challenges of storing their seeds and produce;
- Some farmers do not dry their grains properly and that affects the seeds;
- Farmers do not buy seeds from other producers due to bad germination;
- Transportation challenges and long distances to the market;
- Limited market for seeds produced by seed producers;
- Existing policies are not enforced. Policy regulation of the market is not there.

4.1.4.3 Key opportunities prior to FNS-REPRO interventions

- Enough arable land for production and cooperation between the farmers;
- Good yield of production due to the climate and fertile land.

4.1.4.4 Key opportunities during FNS-REPRO interventions

- Farmers and seeds producers are trained on good farming techniques by Global Aim South Sudan (GASS) and Foundation Caritas Luxembourg (FCL), the implementing Partners of FNS-REPRO in Torit and Magwi;
- Availability of farming tools like hoes, rakes and a motorized pump in the FNS-REPRO demonstration farm in Torit;
- Enough arable land for production and cooperation between the farmers;
- Construction of Juba-Torit road has reduced incidence of flooding that used to be recurring in the demonstration farm of FNS-REPRO;
- Capacity of GASS Staff was enhanced by FAO in FNS-REPRO;
- Farmers under the FNS-REPRO enhanced practical skills to produce seeds and grains in Palotaka of Magwi County through trainings given by FCL;
- The NRM committee in Torit has received crops and vegetables techniques;
- NRM committee formed a marketing committee to carry out market assessment on commodity prices and marketing the produce;
- Presence of cooperatives within Magwi county and Palotaka has reduced transport cost for most of seeds producers;
- At the community level, members share seeds among themselves, to ensure each member has something to produce in the specific season if the distribution of seeds is delayed by the NGOs.

4.1.4.5 Key changes during FNS-REPRO interventions

- Establishment of demonstration farm in Torit and Magwi County under FNS-REPRO. Farmers became knowledgeable about crop management through the trainings provided;
- Water pump provided under FNS-REPRO to irrigate the vegetables farm from Kinyeti River in Torit County since the farm is at the river bank;

- Regular seeds distribution to seed producers under FNS-REPRO;
- Training on GAP conducted for farmers and good yields observed by farmers;
- Storage facility built by FAO for seed producers to keep their produce from the demo farm;
- Demo farm under FNS-REPRO seed producers had the chance to sell the produce from the farm.

4.1.4.6 Existing gaps during FNS-REPRO interventions

- Communal conflict and some areas caused displacement of farmers;
- Marketability;
- Transportation (time, cost, and vicinity);
- No market expansion yet. Developed farmers depend on traders coming from outside the village.

4.1.4.7 Key services by other actors along the VC

- In early 2022 farmers received assorted seeds (maize, sorghum, cowpea, sesame) from FAO;
- Provision of seeds, hoes, spades, by implementing partner for FNS-REPRO and by other partners to farmers and seed producers;
- Seeds produced by FCL supported seed producers distributed to farmers;
- Training by FCL on production techniques;
- Monitoring of farming activities and land allocated by the NRM committees;
- FCL provided farmers with bulking bags from FAO and post-harvest tools such as tarpaulins and hermetic bags;
- Post-harvest training by GASS, implementing partner for FNS-REPRO;
- Marketing activities and prices are decided by the NRM committee within the local community.
- Grains mostly maize were procured by WFP under SAMS project;
- NRM committee advises farmers on the best crops production. Also the NRM committee encourages the farmers to use organic farming techniques.

4.1.4.8 Factors influencing seed VC

- Lack of farm machinery like tractor, water pump to boost;
- Lack of knowledge on the right time of planting;
- Late distribution of seeds to the general farmers by the NGOs;
- Drought;
- Locust;
- Irrigation in the demo farm in Torit;
- Poor / low germination of seeds;
- Lack of foundation seeds;
- Lack of production techniques or institutions to offer support to the farmers in every season;
- Insecurity hinders movement;
- Price fluctuations;
- Creation of linkages between the seed producers, general farmers and the suppliers-traders;
- Lack of transport to carry the products to the market;
- No policy regulation of markets done by the government;
- Poor roads during rainy season.

4.1.5 Key findings of the Rapid Value Chain Assessments for Yambio and Nzara

Below you can find a summary of findings from the 3 rapid VC assessments that have been undertaken in Yambio (2) and Nzara (1). The findings are described from the onset of the FNS-REPRO early 2020 up to now, along the different sections of the value chain, from pre-production up to the enabling environment.

Table 1 Time line for VC events and related events, interventions, actors and factors - South Sudan – seed VC/sector since early 2020. Gitikiri Village/Boma –Yambio Payam, Yambio Country, Sasa Village, Atiamako Boma, Nzara Payam, Nzara County, Western Equatoria State.

Time line	Preproduction (including agro-inputs like foundation seed, agro-finance)	Seed/QDS production (including agricultural practices, yield etc)	Post-harvest value creation (e.g. treatment, packaging etc)	Marketing relations & sales	Uptake/use (by farmers, institutions, traders, research institutions etc)	Enabling environment (e.g. policies, strategies & enforcement; formal & informal business environment)
Situation in early 2020 (prior to FNS-REPRO) (key events in this period: start of COVID-19 pandemic, locust....)	There was political unrest of was difficult and unsafe to travel to Gitikiri from town There were few farmers in the area Displacement because of political unrest COVID-19 outbreak Packaging material becomes expensive	Poor agricultural practices Low yield	Lack of treatment of seeds Lack of packaging materials Farmers lacked skills in post-harvest handling Level of poverty was high hence farmers could not afford to buy post-harvest equipment for drying produce and storage	Lack of market information system Lack of buyers of seeds	Lack of uptake of seeds by farmers Lack of uptake by institutions Lack of uptake by research institutions	Lack of seed policy Lack of seed production strategies Lack of legislation and enforcement Lack of support to informal and formal business environment
Changes in late 2020 & why (progression of Covid)	COVID-19 outbreak Packaging material becomes expensive	Lack of agricultural extension services Low yield	Lack of treatment of seeds Lack of packaging materials Farmers lacked skills in post-harvest handling	Lack of market information system Lack of buyers of seeds	Lack of uptake of seeds by farmers Lack of uptake by institutions Lack of uptake by research institutions	Lack of seed policy Lack of seed production strategies Lack of legislation and enforcement Lack of support to informal and formal business environment
Changes in early 2021 & why (locust, ...)	The security situation improved People returned to their homes and started farming Gitikiri farmers group was supported through FNS-REPRO The group received support from the project-tapelines for drying produce The poverty level improved Farmers received training on post-harvest handling Lockdown was lifted goods started getting in the market these could afford packaging material bought	Inadequate training in nutrition Lack of training in seed loss and waste	Lack of processing equipment Lack of treatment of seeds	Lack of information system Lack of transport facilities Poor road conditions Lack of capital	Lack of uptake of seeds by farmers Lack of uptake by institutions Lack of uptake by research institutions	Lack of seed policy Lack of seed production strategies Lack of legislation and enforcement Lack of support to informal and formal business environment

Time line	Preproduction (including agro-inputs like foundation seed, agro-finance)	Seed/QDS production (including agricultural practices, yield etc)	Post-harvest value creation (e.g. treatment, packaging etc)	Marketing relations & sales	Uptake/use (by farmers, institutions, traders, research institutions etc)	Enabling environment (e.g. policies, strategies & enforcement; formal & informal business environment)
Changes in late 2021 & why (poor rainfall)	In late 2020, the fear from Covid-19 started fading due to awareness	Lack of agricultural extension services Low yield Poor rainfall	Poor post-harvest handling Lack of knowledge and skills in post-harvest loss management	Lack of information system Lack of transport facilities Poor road conditions Lack of capital	Lack of uptake of seeds by farmers Lack of uptake by institutions Lack of uptake by research institutions	Lack of seed policy Lack of seed production strategies Lack of legislation and enforcement Lack of support to informal and formal business environment
Changes in early 2022 & why (severe drought, inflation, increased price of food & fuel)	Proper packaging and storage of produce	Poor agricultural practices Dry spell Increased food and fuel prices	Post-harvest prices reduced and are available because goods could come from Uganda		Lack of uptake of seeds by farmers Lack of uptake by institutions Lack of uptake by research institutions	The security has improved Covid-19 situation improved and the level of fear went down
Key challenges	Lack of involvement of seed farmers in identification of crop seeds and their types and varieties Inadequate types, quantity, quality and timeliness of delivery of agricultural inputs Lack of financial support Lack of proper tools e.g. farmers depend on hand tools	Lack of exchange visits to other farms outside Yambio and country Lack of training on human nutrition	Lack of machines for processing maize into other products like flour etc. Lack/inadequate drying materials Lack of processing equipment Lack of storage equipment-the one provided are few Lack of storage facility Storage pests mainly weevils	Lack of market for produce Low prices for maize Lack of transport means	Non-existent of research	Absence of legal and policy framework Government reduced to minimum the price of maize grain to be sold to WFP. Instead of SSP 10,000 reduced to SSP 6,050 and maize seeds SSP 20,000 reduced SSP 9,750 of 50 kgs bag) Delayed payment
Key opportunities	UN agencies, NGOs presence e.g. FAO, STO Vast land Abundant rainfall Supply of Tools	Fertile soil Abundant rainfall Labour Availability of seeds Presence of training agencies Practice of Ecologically organic agriculture (EOA)	Presence of training agencies	Community store for storage	Existence of market/linkage like pro-seed purchased seeds WFP-buying grains	Relative peace Motivation of farmers due to presence of government structures Opening of road to Juba as the biggest market for farmers

4.2 Stories of change

Coupled with the WUR commissioned rapid seed value chain assessment, during the data collection mission by Juba University also some stories of change were collected. The stories of change, being of qualitative nature, assessed a wider range of impacts (so far) by FNS-REPRO in the respective target communities and its beneficiaries and identified what worked well, what did not work well, what good practices were emerging and remaining key challenges.

One story of change is highlighted here. The complete overview of stories of change are presented in the more detailed report.

Story of Motti Boma group in Torit County – in spite of support, still many challenges

When & how did you start as a group?

"In the year of 2020 – Foundation Caritas Luxembourg (FCL) came to our place before FNS-REPRO and offered a nutrition training to the community. By then many children within the community faced a malnutrition problem. FNS-REPRO did not officially launch the group. FCL was the first NGO that visited the farmers in Motti Boma. They have called us and FCL registered some farmers in the Motti orphanage Centre and provided some supplements & training on nutrition for women on how to take care of their children."

"In the year 2021 – GASS & FAO came with seed distribution and trainings. At that time the group was established and we were committed as a group to do farming together, although it was not recognized by the partners till Global Aim South Sudan (GASS) came and put us into proper producer groups that involved males and females and this is how the group was formed. Since then we are an established group to this day."

What was the situation in early 2020 - prior to FNS-REPRO interventions?

"In 2020 the COVID-19 pandemic continued and farmers were restricted movement and farming together. And that has affected us negatively. The benefits of us working together encourages us to plant in large areas and also reduce the hunger among us. But since we were doing it at individual level the outcome was unusual compared with the time before COVID."

"We are living in this community but we have a challenge of clean water. Due to lack of clean water, women move for distances just to provide clean drinking water for the household and that affects their contribution and they end up with less produce."

"In our community here in Motti, since the prevalence of locust the planting activity has reduced and that affected the community negatively. We were left in hunger because of the fear to plant crops that the locust might eat. We as the farmers we had not heard any information from the concerned departments to update us whether either we can plant or we should not. Some of us tried but the majority did not."

"Few seeds were put down. Due to heavy rainfall that caused flooding, the crops were affected and the entire production during the farming season. It was very difficult for us here in Motti to plant since we are near to the river bank of Kiyenti and the water overflowed. We are a very active community and we love doing agriculture because it is the main source of our livelihood but we all were put to hunger."

What were changes in late 2020 and why did these changes occur?

"Community members have diverted their activities, resorted to charcoal burning due to failure of production. COVID-19 affected group work as during COVID-19 many people avoided community work and farming together. Farmers within the community started doing individual farming due to COVID-19 restrictions. Community members were trained on fire prevention in farmlands by GASS."

"A new store was built by FAO as a community store for the local farmers to keep their seeds in a proper storage system. And that has brought many advantages to the community."

"Different NGOs came to our community for different programs. An NGO provided the community with training on gender based violence (GBV) and protection awareness on sexual violence. Especially for women when they are in the farm field they fall victim of rape and violence due to insecurity."

What were changes in early 2021 and why did these changes happen?

"2021 has been a year of dry season, prolonged drought that affected us and led to less production during the drought season. The community faced hunger as a result of poor yield, and poor nutrition. The majority of farmers diverted from farming to cutting of firewood and making charcoal."

What were changes in late 2021 and why did these changes occur?

"The influence of COVID-19 continued and farmers resorted to petty businesses like selling of firewood, grass for house building. Drying up of streams resulted to shortage of water for domestic uses and our women in the community suffered a lot in providing water for drinking and small planting of vegetables near the houses to sustain us. And there were limited boreholes which affected women in the community. Most of the women are wasting time going for long distances just to find clean water for drinking while affecting their activities in the farm."

What were changes in early 2022 and why did these changes occur?

"Delayed and erratic rainfall affected planting. The majority of farmers have not yet planted. There are high prices of food commodities due to low supply plus poor production in the previous years. Key challenges are food and seed insecurity. Long distances to boreholes disrupt farming activities. There is little capacity to grow large gardens. And there is lack of important tools like panga, axe, slasher."

Additional comments by the LAFP

Distribution of pangas and slashers has been stopped by the supporters/NGOs due to surge in its use in domestic violence in the communities, while it is needed by the farmers to help them in the farming activities.

Key opportunities

There are a range of key opportunities observed from this story of change. These include availability of large areas of land; cooperation among farmers, no land disputes; interest in group work and willingness to support each other in farming activities. Furthermore, farmers gained basic skills in vegetable and crop production through trainings provided by different actors. Farmers receive seeds from NGOs every year. The presence of implementing partners and other organizations on the ground.

4.3 Key issues for discussion and suggestions for improvement

During the sensemaking event a few topics were discussed more in detail so as to better understand the issue and also come up with suggestions that could be included in the next, final annual plan. For South Sudan the following key topics for discussion were included: improving uptake of newly introduced varieties; seed security & market linkages across the seed system (including private sector engagement); improving output 3 on nutrition; and improving MEAL & evidence. These issues were discussed more in detail during the afternoon of the second day of the sensemaking event and a summary of each discussion is provided below.

4.3.1 Improve uptake of newly introduced varieties

People tend to stick to the crops and varieties they are culturally used to. This sometimes prohibits integration of new and/or traditional (varieties that were lost) crop varieties with the particular aim to diversify diets for healthier diets. During the sensemaking event, this issue was discussed and the main discussion points are presented here (see also comments under 'uptake' in ToC section).

- a. **'See it to believe it'.** It was clearly stated that farmers learn and adopt new technologies and varieties if they see it works. This will lead to replication. The role of demo farms comes in here as an important starting point for demonstrating new varieties and technologies. The role of technical field personnel is important to act as outreach mechanisms to bring farmers to demo plots to be exposed to the new varieties and technologies.
- b. **Local appropriateness.** Whichever new variety is introduced, it needs to be locally and culturally accepted. This requires a context assessment in order to understand which varieties fit where, to prevent non-adoption of new varieties and ensuring that the newly introduced varieties are actually culturally (Do people eat this? Do they like it?) and agro-ecologically (Does it fit the local environment, soil, water, etc?) absorbed.
- c. **Sensitization and communication.** Highlights the importance and added benefits of economically, nutritionally and environmentally beneficial crop varieties. Certain varieties can either generate (more) income, be beneficial to a diverse and healthier diet, can be beneficial to the environment, less vulnerable to pests and diseases, and/or improve soil quality and subsequent yield. It is key that communities and farmers receive the right sensitization and communication, linked to the demonstration plots and outreach as described earlier. Furthermore, taking away taboos, if these exist, is also key. Cultural beliefs and taboos like for example 'Planting a mango tree will kill someone of your family' can be harmful to communities and does not help when introducing new varieties with added benefits.
- d. **Bottom-up and participatory approach.** Farmers and farming communities need to be able to decide for themselves what they would like to change and why. What do they feel is missing and how can this be addressed? What new crop variety would they like to (re-)introduce? Ensure that (lead) farmers are taken along every step of the process to ensure that ownership is high and that the introduction of new varieties is successful.
- e. **Collaborative management of demo plots.** There is need for clear agreements and arrangements related to the management of the demo plots. Lead farmers need to 'own' the demo plot as it is key that the demo plot produces and is able to demonstrate new technologies and varieties to local people. This is key if newly introduced varieties and technologies are to be replicated and absorbed. Extension workers

- need to collaborate with lead farmers and agreements need to be established on the management structure of the demo plots. This includes taking notes, using a logbook, acquiring the right inputs, etc.
- f. **Capacity building and training.** Whenever new crop varieties and/or technologies are introduced, this needs to be coupled with the required capacity building and training processes. This is critical to ensure that new crop varieties and technologies are properly produced, handled, harvested, treated, etc. This enhances absorption chances and thus successful adoption of new varieties / technologies with added benefits.
 - g. **Lead farmers.** When introducing new varieties, lead farmers / champions have to be identified, selected and trained in respective GAPs and be exposed to other demo plots that are already operational. Selection goes through the communal chief as they will know whom to select as appropriate lead farmers, in collaboration with implementing partners and the (local) government. The lead farmers will receive the seeds and get to keep the produce as an incentive to become a lead farmer. Ownership and inclusion is key.
 - h. **'Push versus pull'.** The incentive mechanism. It is key to explore what people want and what they feel they need or miss to improve their livelihoods rather than imposing something on them. What crops and/or farming techniques do people see as required to improve their livelihood? What is missing for them to improve income and FNS? E.g. with contract farming, 'whatever you grow, it will be bought for a certain price'. It is important to identify the pulling factors that exists, i.e. incentives of people to improve their livelihoods and focus on these, rather than pushing certain ideas and interventions to people that they may not necessarily accept.

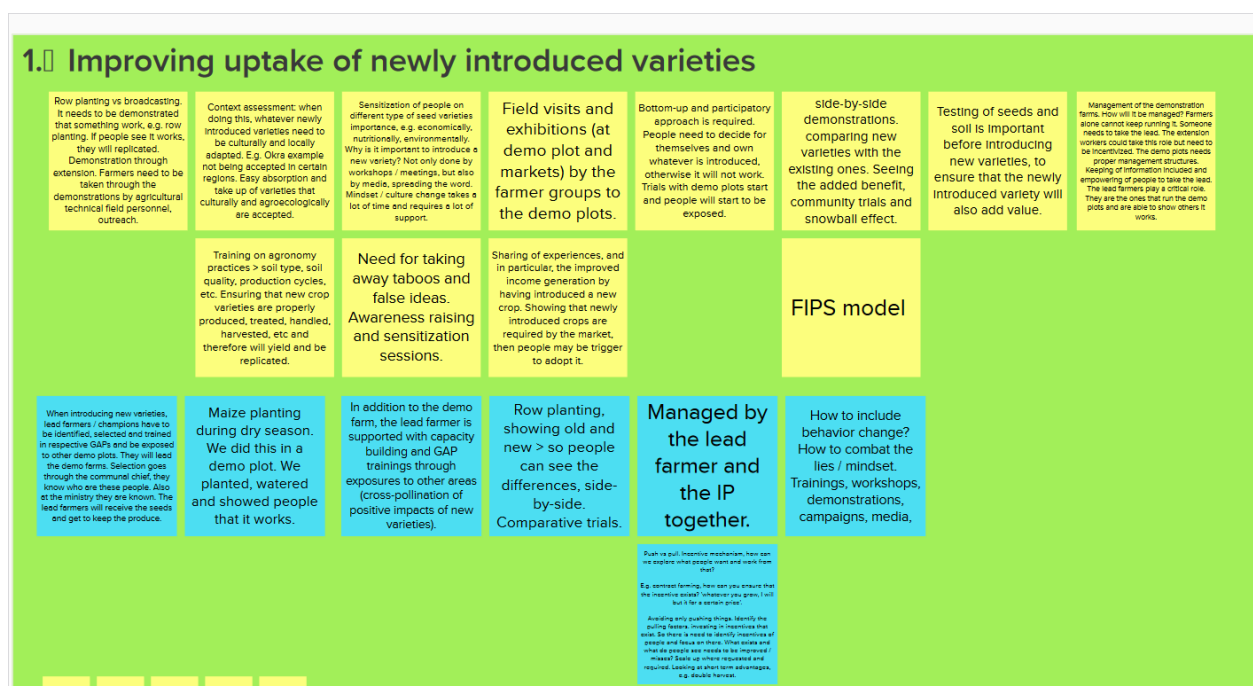


Figure 7 Overview of group discussion on improving uptake of newly introduced varieties

4.3.2 Improve seed security & market linkages across the seed system (including private sector engagement)

During discussions in the sensemaking event it became clear that there was need to review key challenges in the seed system and think about how these challenges could be addressed so as to support seed security for farmers. This included challenges to link the produce to the market, especially for women. Or to link seed and grain producers to the market. There are also challenges in ensuring that foundation seed that is produced by farmers reaches the seed producers and is also of the right quality, quantity and variety/crop. Other challenges in terms of linkages include linking the women's groups that produce vegetables better to the market and to access to micro-finance. So basically challenges from Early Generation Seed (EGS) up to the enabling environment. The presentation on the rapid seed value chain assessment revealed post-

production challenges such as marketing, storage, transportation, and limited market. Initial discussions on what could help included the role of cooperatives, having a marketing strategy etc.

During the afternoon of day 2 of the sensemaking event these issues were further discussed. Key challenges and proposed suggestions for solutions along the seed sector are described below.

Preproduction

Preproduction includes agro-inputs like foundation seed, agro-finance but there are also aspects of variety development (research) by breeders which is important for the development of foundation seed.

- Improve the variety selection process, criteria and awareness to increase uptake of new varieties - there are challenges of farmers not accepting the seeds in terms of varieties (see also the comments under 'uptake' in the ToC section)
 - *Engage farmers in the process of selection and testing*: Researchers should develop and test whether it varieties works according to the environment (e.g. climatic conditions, soil). But the process of variety testing needs to be participatory – farmers need to be actively engaged in the process of variety development as this is necessary to ensure uptake of these varieties.
 - *Undertake variety research on location*: Trials to be done in various counties or states to make varieties relevant, and to demonstrate the comparison of the new variety with other (older) varieties so farmers can see the result.
 - *Include farmer relevant selection criteria*: this farmer engagement also brings us to what criteria are used for selection of varieties. These can include scientific criteria so that the varieties meet the e.g. climatic and geographic conditions. Use criteria that are relevant to farmers (e.g. taste, resistance to pests and diseases, economic value, nutritional value, maturity index, drought tolerance, genetic purity – true to variety genetic traits and free from generic modification, right seed shape, size & weight for producing good seedlings). This will support uptake of varieties that are being introduced.
 - *Enhance awareness raising on the new varieties*.
- Speed up variety release: there is a need to increase the speed of releasing varieties to farmers, and to focus on varieties that perform well. Currently varieties that already have been released from neighbouring countries and that address challenges in South Sudan are being selected. This helps to speed up the release process as if these varieties have already been released from neighbouring countries there is need for only 1 season of production/testing in South Sudan to ensure release of these varieties in South Sudan. Furthermore the program is trying to harmonize these processes with other countries so as to encourage release in these countries.
- Improve production of and access to foundation seed:
 - *Enhance financial resources of breeders*: Researchers that multiply the breeder seed for foundation seed producers lack funding to produce the volumes that foundation seed producers need.
 - *Improve linking foundation seed production to demand* - Foundation seed producers face challenges of financial resources and access to land as isolation distances are needed. What are their options?
 - *Engage with the private sector* to sustainably link foundation seed production to demand: Private sector can come in to invest in this regard (contracts FNS-REPRO collaborates with researchers and private seed companies (e.g. PRO-Seed, but there are in total 11) in a Public Private Partnership (PPP) to address these issues. Seed companies produce crops that have a high margin/profit (e.g. maize, sorghum, groundnut, sorghum, cowpeas) and that do not require a lot of labour and time. These can also be sold as grain in case they can't be sold as seed.
 - *Engage institutions*: Institutions can also put in pre-contracts for foundation seeds. Requests come with money that needs to be paid in advance.
 - *Engage with cooperatives*: If cooperatives are well organised they can also be engaged in foundation seed production.
 - *Engage government*: the government needs to be involved in the quality assurance of foundation seed production and the training of foundation seed producers. This can be done by the seed quality control board (SQCB). Researchers need to be part of the whole foundation seed production process to ensure quality control.
 - *Set up an (information) system* for requests for foundation seed

Seed/QDS production

This includes improving agricultural practices, yield etc but also seed quality control and training.

- Ensure a marketing plan for sustainable QDS production, including a role for the SQCB and the private sector:
 - This includes the 4 P's of marketing of quality seed. QDS production is partly related to access to foundation seed. But it starts with the selection of the crop – the 4 P's of marketing: product, price, place and promotion. As such seed producers need to understand the economic value of seed, where to sell the seed, what other competitors are (relates to market price) etc. For this a marketing plan is needed.
 - Legalize QDS and engage the private sector to support quality control by SQCB:
 - The issue is the printing of labels, this is work in progress.
 - Furthermore there is need to develop the capacities of the SQCB for labelling and packaging of the quality seed produced.
 - Groups are to share the planting returns so that the SQCB can map out where seed production is taking place and use this for inspection.
 - The cost of monitoring is an issue. Suggested to put this burden on the seed companies who are engaging the seed out growers. Minimum cost to facilitate the movement of the SQCB is now covered by the program. Encourage the private seed companies and support the functioning of the SQCB. Seed companies need to have their production plan.
- Develop a long-term strategy for quality assurance: A long-term strategy is needed for quality assurance with clear roles for the SQCB, private sector and government. The SQCB can play a major role, and maybe a small fund (in LoA) can be used to support them. They become active when implementing partners (IPs) keep them busy (covering transport, refreshment) - but what about the future, sustainability? The ministry should support them, but capacity of the Ministry is a key challenge. IPs can facilitate the country to deliver but there is still a big gap that we can't shy away from. How can we ensure that the Ministry of Agriculture and Food Security (MAFS) and the private sector play a critical role? Now this is not feasible. Therefore there is the need to come up with a long-term strategy for quality assurance.
- Work on the sustainability and capacity of the SQCB: sustainability of the SQCB is a government issue, so as to sustain quality control of QDS. But there must be a business model for seed certification as in other countries. E.g. by working with the private sector. The SQCB can ensure quality and also support marketing of the seed. They should not attach a huge cost for quality control as it adds to the price of seed. The SQCB needs to be supported but we need to be mindful of conflict if the SQCB is not independent (with private sector engagement). There is a critical role for MAFS and need for an independent body run by the private sector to fill the gap. Although there is not yet a seed authority, it is important to work on the sustainability of quality assurance. Who pays? In the government system one can go for months without pay. Sustainability of seed company as government doesn't have the money. But there is variability of seed companies, should they register? Seed companies are required to register with the government, this should also be the same for the SQCB to register with the council. There is need to support the board members so they can do their marketing activities, but after that also look for other partners, as part of SQCB – e.g. to ensure capacity development of the SQCB.
- Develop Standard Operating Procedures (SOP) manual for production of QDS. Inspection is different for the production of QDS compared to the production of certified seed and therefore this requires developing SOP.
- Harmonize seed guides across NGOs: Most of the NGOs have a seed guide but all these guides should be harmonized with the seed guide developed within FNS-REPRO. Also the government should be included in this process.
- Link up with East West Seed Foundation⁹, particularly in relation to (seeds for) vegetable production.

Post-harvest value creation and marketing relations & sales

Post-harvest value creation includes seed treatment, packaging, aggregation, storage, seed value addition whilst marketing relations & sales includes also seed market information.

- Ensure a seed price that is competitive and also affordable for farmers:
 - *Ensuring quality seed, importance of locality*: The humanitarian sector is the biggest buyer of both imported and locally produced seed but only contributes 14% of the total seed requirement while the informal seed sector contributes to over 85% of seed sources¹⁰. How can the private seed sector promote

⁹ <https://www.eastwestseedfoundation.ph/>

¹⁰ Seed Systems Security Assessment in South Sudan, 2019

local seed demand and marketing? NGOs already have their own procurement system, difficult to change. Prices are competitive. FNS-REPRO reaches out to local seed producers and companies to apply for tenders. The issue of marketing also goes with the prices & quality of seed which is the biggest challenge. Furthermore the request for planting returns, letter of government, and locations where seed is produced is important, with a critical for the SQCB. The main challenge is identification of the location of production – where is the seed produced? It is difficult to determine the quality of the seed if it comes from outside the country. If local seed producers can add the location of the seed production, they can compete with the local seed companies. The role of the SQCB in the quality of the seed produced is important in indicating the source and ensuring quality seed and avoiding fake seed or poor quality seed.

◦ Ensuring competitive but affordable seed price:

- Production cost of seed is high. Suggestion that the government subsidizes inputs, such as for opening land for seed production, planting costs, management costs etc.
- FAO buys seed from the seed producers. Seed companies raise the prices of seed which makes them less competitive. People now take advantage of seeds from outside. How to make QDS production affordable: capacity development of cooperatives (helps in marketing seed and reducing prices). Private seed companies can add value, e.g. by supporting packaging, treatment and transport of seed. Need to bring down the seed prices to be able to market the seed and be competitive with seed from outside. Now bubble contracts (not legally binding) - hard for farmers and private sector to commit. Need to empower local seed business so they can make the price more affordable to farmers and also become more competitive. Big role of seed companies. We are not just selling to humanitarian sector but mainly to farmers.

- Focus on local seed production and developing the local seed market: important to know what seed is needed. And to help reduce the price. E.g. PRO-Seed supports costs along the way including transportation and other costs to help lower the price. Other point is sustainability: seed companies need to have a marketing plan to attract farmers for the seed, and their reputation as a company needs to be improved. The private sector is still young, has challenges, but we need to work with them to build their capacity and encourage them to invest and have a marketing strategy, and prepare them for the future. More than 80% of relief seed comes from the informal market so there is an opportunity there as the cash is with relief organisations. But it is not sustainable to get seed from outside, and therefore there is a need to focus on local seed production.

Enabling environment

- Organise a follow up discussion to inform the national seed policy.

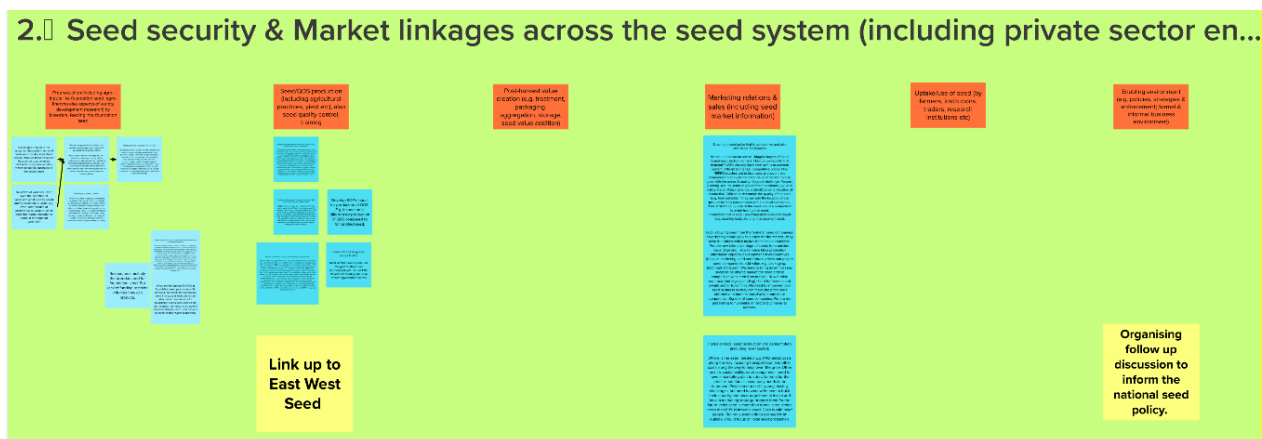


Figure 8 Overview of group discussion on improving seed security & market linkages across the seed system (including private sector engagement)

4.3.3 Improve output 3 on nutrition

4.3.3.1 Introduction

As already indicated in section 2.2, the levels of food insecurity and also malnutrition were already serious but are expected to worsen during the lean season (April-July 2022), with 7.74M (63%) of the population projected to be facing high levels of food insecurity (IPC Phase 3 or above). Some 1,34M children under five are likely to suffer from acute malnutrition over the course of 2022. Prices of food are currently increasing¹¹. See also the figure below. The World Food Programme (WFP) expects a global increase in acute food insecurity due to the war in Ukraine¹².

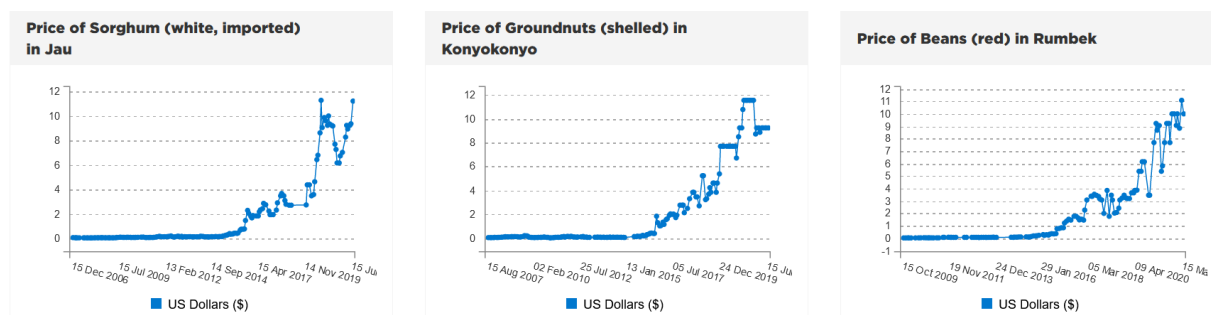


Figure 9 Trends in food prices in South Sudan¹³

In terms of malnutrition, particular attention is needed for children under five years and for pregnant and lactating women. In line with national policy targets this specifically calls for attention to reducing anaemia among women, low birth weight among infants, childhood stunting and wasting and increasing the prevalence of exclusive breastfeeding in infants 0-5 months¹⁴.

4.3.3.2 Key elements of this output and suggestions for improvement

During the discussions in the sensemaking workshop, e.g. during the discussion on the Theory of Change (ToC), it was noticed that there is need to improving attention to nutrition, to increase the production and consumption of nutritious foods. Issues that came up included:

Increase production of nutrient-dense foods

We do not sufficiently know what nutrition-dense crops are grown, and where they are grown across the year. If we knew, we could better design our interventions. Therefore, activities proposed are:

- First undertake a *baseline/assessment* of locally grown nutrient-dense crops per FNS-REPRO areas and across the year.
- *Promote new integrated practices* (i.e. poultry, kitchen gardens) in currently supported FNS-REPRO groups.
- Support *demonstration plots* with locally grown nutrition-dense crops.

Increase consumption of nutrient-dense foods

We do not sufficiently know the nutritional needs of our beneficiaries, and what they generally consume per target location and across the year. If we knew, we could better design our interventions. Therefore, activities proposed are:

- *First* undertake a *baseline/assessment* of the current typical diets and consumption patterns for each FNS-REPRO areas and across the year.
- Develop a *South Sudan cooking book* with local dishes and customs, which also profiles / assesses the nutritional value of these dishes.

¹¹ see for example: <https://data.humdata.org/dataset/wfp-food-prices-for-south-sudan>

¹² see also: <https://docs.wfp.org/api/documents/WFP-0000138155/download/>

¹³ <https://data.humdata.org/dataset/wfp-food-prices-for-south-sudan>

¹⁴ see; <https://globalnutritionreport.org/resources/nutrition-profiles/africa/eastern-africa/south-sudan/>

- Support better foodstuff sharing between communities (i.e. farmer-pastoralist-fisher), and organize “nutrient-dense food fairs” (with vouchers for beneficiaries). This can bring together suppliers/producers of such nutrient-dense foodstuffs (including fish), with beneficiaries that might otherwise not consume those.
- Design and implement an *awareness campaign* on the importance of healthy diets, for crops that are actually available locally. This can include hygiene education, food preservation and storage, and cooking demonstrations.
- Establish and support *nutrition champions* within communities, in particular women (Caritas in Magwi have a good example on this). This is particularly important when introducing and promoting new varieties, which has to be done in a participatory way and together with people of influence.

Note: RTEA will also support this nutrition component by engaging a nutrition consultant.

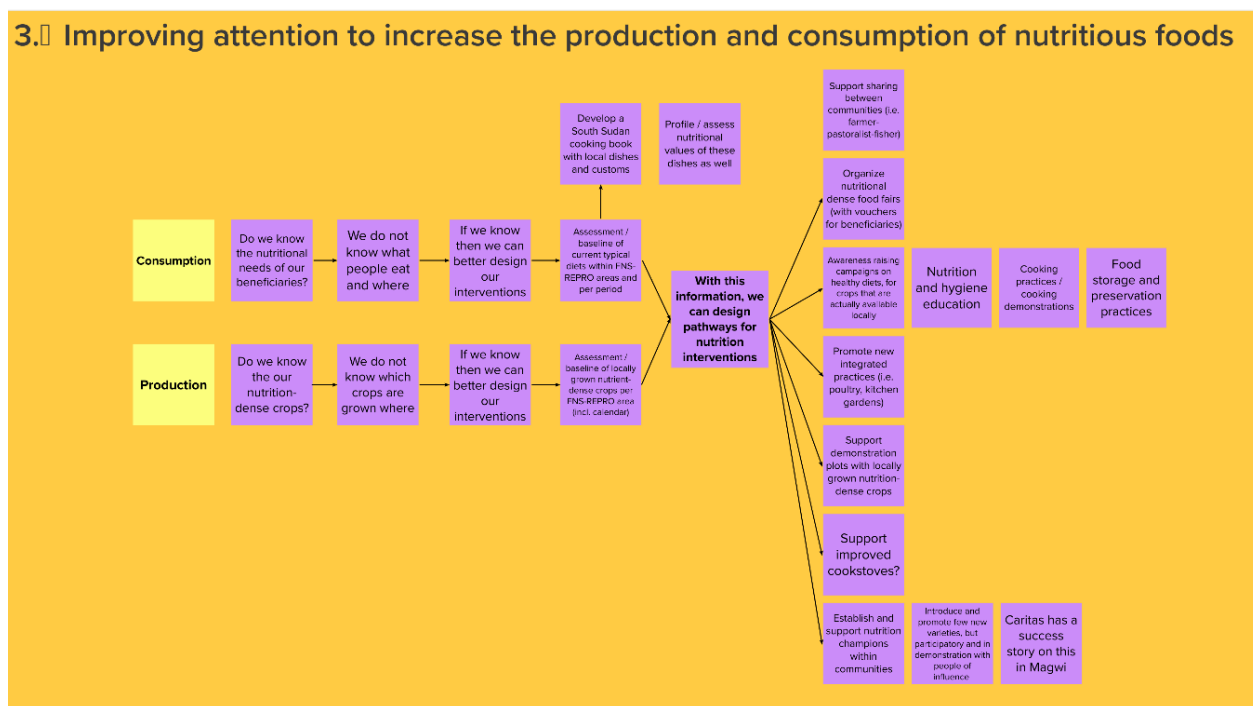


Figure 10 Overview of group discussion on improving output 3 on nutrition

4.3.4 Improve MEAL & evidence

During various discussions in the sensemaking event in South Sudan, it became clear that there is a need to strengthen the evidence and related MEAL in the programme. This involves:

- More detailed data disaggregated by: crop variety, group (so we can compare groups, and even categories of group that are more or less advanced in terms of farming as a business), locality, gender etc
- What we collect - types of data, especially at outcome/impact level e.g.:
 - Production data: What is produced, used at household level, shared or sold within the community, sold on the market
 - Not only lumpsums of data (e.g. MT for grains and tubers cannot be combined)
 - Profit
 - Outcomes: expected (e.g. income) and unexpected (e.g. women empowerment)
 - tracking influencing factors (e.g. drought, flooding, insecurity) and actors (e.g. late delivery of foundation seed, or getting seed they did not prefer) that affect their outcomes.
- How we collect & process data and what we do with the data:
 - Feedback loops, e.g. from target groups but also IPs are important. But also feedback from FAO back to e.g. committees on complaints provided.
 - More sharing of information across the different organisations (seed technical working group) -> covered by seed group that meets monthly. But not trickling down. Establish state level seed working groups (Multi-Stakeholder Platforms, make use of existing platforms that can support the seed sector).

- Quantitative: regular MEAL, preferably real time (KoBoToolbox) or with other digital tools like excel. Standardized across the different IPs.
- Qualitative: capturing stories of change, understanding the why behind changes (role of FNS-REPRO and other factors and actors)
- Improving MEAL to showcase evidence that can inform future programming as well as tracking data in real time. In a brief meeting with the FAOR on Tuesday, he suggested to identify some key lessons learnt that could be replicated to other FAO projects.

This was used as the basis for the more detailed MEAL discussions that were held in the afternoon of day 2 of the sensemaking event. The key results of the discussion are described in the table below.

Issue	Recommendation from the sensemaking workshop	Way forward/ comments
Collection of detailed and disaggregated data at groups level	<ol style="list-style-type: none"> 1. Profile groups (composition, company, cooperatives, research etc.) 2. Profile all crop varieties per group- variety and testing 3. Create a tool to collect groups' data, administered by IPs staff and County agriculture department. The tool should include data on; production, income, source of seed, seed class, quantity used, land covered, sold, consumption, saved for next season etc.) 	High priority <ul style="list-style-type: none"> • Develop tool for collecting groups detailed data IPs and roll it out ASAP • Orient partners on the tool • Support groups with record keeping tools where none exists • IPs to use KoBo collect or another practical tool (excel) to submit data • FAO to create a dashboard
Monitoring tools and data collection at outcome/impact level	<ol style="list-style-type: none"> 4. Collect qualitative data using participatory approaches on outcomes/impacts through stories of change and better understand the why behind changes, contribution/attribution of FNS-REPRO, role of other actors on the change etc. 5. Document success stories including photos, beneficiary quotes etc. 6. Standardization of monitoring activities across IPs (e.g. Post distribution monitoring, post planting, post-harvest monitoring) 7. Standardize data collection tools for FNS-REPRO and share with partners 	<ul style="list-style-type: none"> • RTEA/WUR to support in qualitative data collection and documentation • MEAL team can conduct quick assessments tailored for different partners where possible • Ensure partners are conducting the monitoring activities
	<ol style="list-style-type: none"> 8. IPs to collect data on beneficiaries reached directly & indirectly through different awareness raising campaigns and changes because of the campaigns (data disaggregated by gender, youth, location etc). Guidance needs to be provided on how to do this. 	High priority <ul style="list-style-type: none"> • Nathan and Natalie to prioritize this • SS MEAL to follow up to ensure IPs are collecting and reporting indirect beneficiaries. • LOAs should include reporting on indirect beneficiaries
Data verification	<ol style="list-style-type: none"> 9. Engage the communities through regular field visits to close information gap (Sometimes the information reports by IPs is different from beneficiaries feedback) 	<ul style="list-style-type: none"> • FAO MEAL team to conduct regular spot checks
Documentation of key lessons learnt	<ol style="list-style-type: none"> 10. Include a section on partner observations and recommendations in the IPs reporting template <ol style="list-style-type: none"> a. Revise reporting template for LOAs b. Encourage monthly reporting by IPs instead of the current frequency indicated in the LOAs 	<ul style="list-style-type: none"> • Revise regular reporting template for LOAs
Tracking influencing factors e.g. drought, flooding, insecurity	<ol style="list-style-type: none"> 11. Operationalize existing context-monitoring tool to track local changes 12. Introduce outcome harvesting approach for monitoring conflict related outcomes on a quarterly basis to capture changes in the community as a result of interventions of local peace infrastructures 	<ul style="list-style-type: none"> • Engage IPs to keep a regular focal person (IP staff) per location to collect the information. • Report submitted to FAO focal person monthly and quarterly to RTEA

Issue	Recommendation from the sensemaking workshop	Way forward/ comments
Beneficiary Feedback mechanism	13. Have clear communication with groups to share feedback on issues raised <ol style="list-style-type: none"> Field extension assistants and FAO AAP field focal person to have weekly visit to groups to give feedback During quick assessments, collect data on complaints and feedback 	<ul style="list-style-type: none"> Program manager to follow up
SS programme dashboard	14. Develop dashboard for REPRO South-Sudan performance indicators	<ul style="list-style-type: none"> MEAL team to provide data required
Strengthening other monitoring mechanisms	15. Incentivize existing county crop monitoring committees to monitor performance of crops (this data will inform IPC and food security and livelihood partners)	<ul style="list-style-type: none"> Program manager to follow up
Information sharing	16. To ensure information sharing at county/state level, we need to strengthen existing platforms (SQCBs) through; capacity building, providing technical guidance and support, close monitoring by IPs and FAO 17. Convene quarterly seed technical working group (includes SQCB) meetings at county/state level to share information. <ol style="list-style-type: none"> IPs and FAO focal person to share outcomes of the meetings with all groups (complete the loop) 	<ul style="list-style-type: none"> Program manager to follow up
Linkages with higher learning institutions	18. IPs and FAO to link with relevant higher learning institutions for new ideas, innovation etc.	<ul style="list-style-type: none"> Program manager to follow up



Figure 11 Suggestions for improving MEAL

References

- FAO. (2021). The State of Food and Agriculture 2021. Making agrifood systems more resilient to shocks and stresses. Rome, FAO. <https://doi.org/10.4060/cb4476en>.
- HLPE. (2020). Food security and nutrition: building a global narrative towards 2030. *High Lev. Panel Expert*, 112.
- Wittman, H., Arulingam, I., Cano, J., Mungai, C., Huambachano, M., Korzenszky, A., . . . White, B. (2021). Promoting Youth Engagement and Employment in Agriculture and Food Systems.

Appendix 1 Workshop participants

S/N	Name	Agency/NGO
1	Moses Ajak Yong	PCO - SS
2	Benjamin Anyuon	CAWDC
3	Daniel Achuil Akuei	World Concern
4	Jacob Mamer	FAOSS
5	Mimi Emilia Wanga	FAOSS
6	Samuel Modi Wanga	MAFS - State
7	Dima Berry Wilfred	GASS
8	Romano Ngor Kuot	SSGID
9	Sunday Koang Biel	SSGID
10	Godwill Juma Samuel	Hagana agro process
11	John Ngong	World Vision
12	Michael Roberto kenyi	U of J
13	Maurice Mogga	FAOSS
14	Morris Tabiano	FAOSS
15	Simon Peter Oplor	Caristas Luxemburg
16	Okidi Joseph	FAOSS
17	Obudra Francis Bile	STASS
18	Tunda Emmanuel Jerry	STASS
19	Tony Ngalamu	U of J
20	Elizabeth Otunga	CMD
21	Rabach Nicholas	VSF Germany
22	Chirilo Deng Mawien	CWDC Juba
23	Juru Rose	VSF - Suisse
24	Mading William	FAOSS
25	Martin Mbia Peter	FAOSS
26	Richard Opi Zozimo	FAOSS

Wageningen Centre for Development
Innovation
Wageningen University & Research
P.O. Box 88
6700 AB Wageningen
The Netherlands
T +31 (0)317 48 68 00
wur.eu/cdi

Report WCDI-22-223



Wageningen Centre for Development Innovation supports value creation by strengthening capacities for sustainable development. As the international expertise and capacity building institute of Wageningen University & Research we bring knowledge into action, with the aim to explore the potential of nature to improve the quality of life. With approximately 30 locations, 7,200 members (6,400 fte) of staff and 13,200 students, Wageningen University & Research is a world leader in its domain. An integral way of working, and cooperation between the exact sciences and the technological and social disciplines are key to its approach.

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



Wageningen Centre for Development Innovation
Wageningen University & Research
P.O. Box 88
6700 AB Wageningen
The Netherlands
T +31 (0) 317 48 68 00
wur.eu/wdci

Report WCDI-22-223

The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 7,200 employees (6,400 fte) and 13,200 students and over 150,000 participants to WUR's Life Long Learning, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.

