



Food and Agriculture
Organization of the
United Nations



Developing

sustainable and resilient

agrifood value chains in conflict-prone
and conflict-affected contexts

Practitioner guidelines for selection, analysis and design



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Acronyms and abbreviations

CGIAR Consultative Group on International Agricultural Research

CIP Crop Intensification Program

FAO Food and Agriculture Organization of the United Nations

FIM Food Insecurity and Malnutrition

GiZ Gesellschaft für internationale Zusammenarbeit

IDP internally displaced people

IFAD International Fund for Agricultural Development

ILO International Labour Organization

IPCC Intergovernmental Panel on Climate Change

ITC International Trade Centre

KII key informant interviews

MEAL monitoring, evaluation, accountability and learning

MSC Marine Stewardship Council

ODI Overseas Development Institute

OECD Organization for Economic Cooperation and Development

REDD+ reducing emissions from deforestation and forest degradation

ROSCA Rotating Savings and Credit Association (ROSCA)

SDG sustainable development goals

S-C-P structure-conduct-performance

SFVC sustainable food value chain

UNDP United Nations Development Programme

UNICEF United Nations International Children's Emergency Fund,

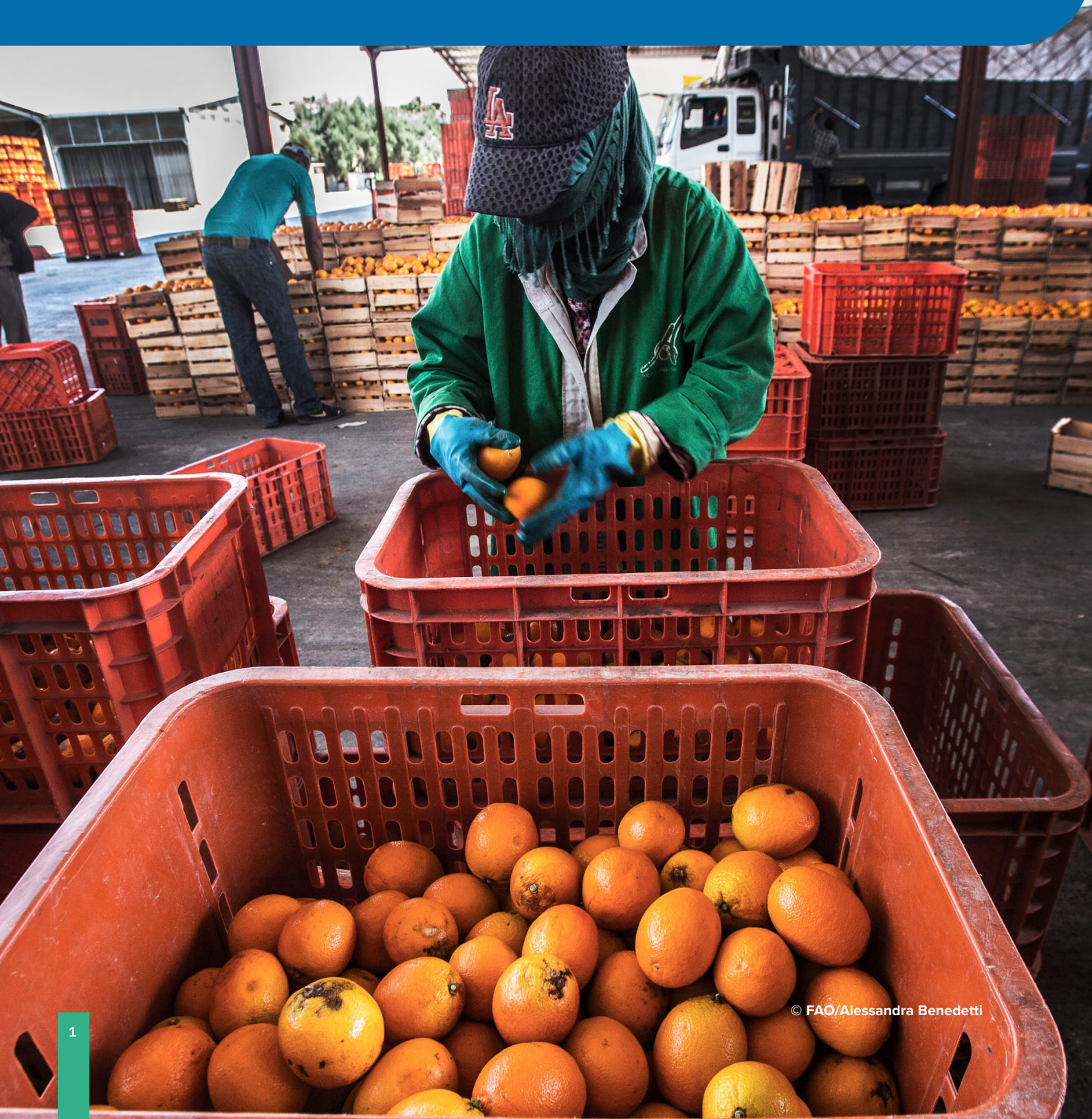
VC value chain

VCA value chain analysis

WFP World Food Program

WHO World Health Organization

Introduction



Rationale

This guide focuses on Sustainable food value chain (SFVC) development in conflict-prone and conflict-affected contexts, observing that even in complex contexts, value chains directly impact the ability of communities to safeguard their livelihoods and contribute to their resilience in the face of all forms of shocks and stressors. It provides guidance to practitioners on how to select, analyse and design sustainable and resilient agrifood value chains in a conflict-sensitive manner.

The SFVC framework (FAO, 2014) purports to design more value-generating, inclusive, green and resilient agrifood value chains as part of FAO's work to support the 2030 Agenda (FAO, 2021a). The design of value chain upgrading strategies is evidence-based and relies on an in-depth value chain analysis combined with extensive value chain stakeholder interaction. The analysis uncovers the inefficiencies and root causes that hold back the value chain actors from taking advantage of existing opportunities (functional analysis). It also provides an assessment of a particular value chain's current economic, social, and environmental performance, as well as its coping capacity in the face of shocks and stressors (sustainability and resilience assessment).

Agrifood value chains are faced with a number of disturbances, such as "climate and market volatility, pests and diseases, extreme weather events, and an ever-increasing number of protracted crises and conflicts" (FAO, 2018a). It is therefore crucial to increase their resilience while addressing potential trade-offs with their economic, social, and environmental performance.

Building sustainable and resilient agrifood value chains is even more important, but also more challenging, in conflict-prone and conflict-affected contexts. In such contexts, agrifood value chains, associated actors, stakeholders and their enabling environments are exposed to political, social, human, security, economic and environmental shocks and stressors, and have a weakened capacity to handle them. Consequently, the value chain actors and stakeholders are more vulnerable to disturbances and their ripple effects. These include, but are not limited to: disrupted infrastructure; rising input and food prices; poverty; inequality; forced displacement; environmental and political degradation, and violence. This may significantly challenge the ability of agrifood value chains to produce, aggregate, process, distribute and consume food. In some cases, agrifood value chains may even contribute to fragility and conflict, for example, if they do not generate enough remunerative self-employment and job opportunities, or if they perpetuate an inequitable distribution of value added, or fail to deliver enough quality food products to the population, or make an unsustainable use of already scarce natural resources.

The potential negative interactions between agrifood value chains and conflict-prone and conflict-affected contexts require development practitioners to adopt a 'do no harm' posture. This means that practitioners must do all "all [they] reasonably can to avoid exposing" value chain actors, stakeholders and their wider communities to harm resulting from the implementation of value chain upgrading activities (adapted from Zicherman et al., 2011, p. 6). This can be achieved through a conflict-sensitive programming approach. This involves understanding the causes and drivers of conflict and using this understanding to inform the design and upgrading processes of sustainable agrifood value chains. Conflict-sensitive programming ensures that value chain upgrading interventions do not reinforce existing conflicts or generate new ones, either between value chain actors and stakeholders directly involved, or with their wider communities.

Audience

The present guide aims to support the work of all practitioners involved in value chain development in conflict-prone and conflict-affected contexts. The content of the guide is relevant to all types of conflict-prone and conflict-affected contexts in which development interventions remain possible despite the threat or outbreak of violent events. This includes contexts experiencing latent or emerging conflicts, as well as those that have witnessed sporadic or widespread violence and which may experience a resurgence of violence (fragile and post-violence contexts). This also includes contexts affected by violent conflict or war, sometimes over a prolonged period of time, but in which there are still some peaceful 'pockets' allowing for a development intervention (violent conflict and war, protracted crises).

Structure

The guide answers the following questions:

- How do fragility and conflict affect the functioning and sustainability performance of agrifood value chains?
- How can the sustainability and resilience of agrifood value chains be improved without exacerbating or creating further conflict drivers within the broader conflict-prone and/or conflict-affected contexts?

Based on the [SFVC guidelines](#) on Selecting value chains for sustainable food value chain development (Walker, DeMatteis and Lienert, 2021), the [SFVC handbook](#) on Developing sustainable food value chains: Guiding principles (forthcoming)b) and the SFVC methodological guide on Developing sustainable food value chains (unpublished), this guide extracts the essence of the SFVC methodology and provides guidance on how to use it in conflict-prone and conflict-affected contexts.

The guide proposes a four-step approach tailored to the specificities of value chain development in conflict-prone or conflict-affected contexts. All four steps can be undertaken and completed in a minimum of ten months. The overall goal of the process is to deliver a value chain development plan to improve the value chain's sustainability and resilience to shocks and stressors, without fuelling or creating conflict in the value chain and its environment.

Step 1: context analysis. This step involves gaining an overall understanding of the actual or potential conflict situation within which the value chain is embedded and in which the upgrading intervention will be implemented.

Step 2: value chain selection. This step focuses on identifying the value chain with the greatest development potential, based on a series of feasibility and impact criteria, including peace & conflict related ones.

Step 3: value chain analysis. The functional analysis and the sustainability and resilience assessment are completed by a value chain-level conflict analysis to assess the extent to which:

- a. the structural causes, drivers and triggers of the wider conflict situation affect the value chain functioning and performance and
- b. the value chain itself may exacerbate or mitigate this broader conflict situation.

Step 4: value chain design. The design of the upgrading strategy is informed by the recommendations emerging from a conflict-sensitivity assessment of the strategic options. This step ensures that the upgrading activities

aiming at strengthening the resilience and sustainability of the value chain will mitigate rather than exacerbate the broader conflict-prone or conflict-affected situation. The MEAL framework ensures that the intervention remains tailored to its rapidly changing and sometimes unpredictable context.

This guideline is the first step towards the development of a full methodological package for work on value chain upgrading in conflict-prone and conflict-affected contexts. It will be completed by case studies and a set of complementary tools such as report outlines and a conflict-context monitoring tool. The content of the guide may also be revised as part of the continuous review and improvement in the SFVC methodology.

1 Conceptual framework



1.1 Defining conflict-prone and conflict-affected contexts

Conflict-prone and conflict-affected contexts denote contexts that have been, could be, or are in violent or non-violent conflict situations. More precisely, they include situations of latent or emerging conflicts, situations affected by violent conflict or war (sometimes over a prolonged period, such as in protracted crises), and situations that have involved sporadic or widespread violence. Despite their diversity, conflict-prone and conflict-affected contexts have two similarities.

The first is **fragility**,¹ which has been characterized as “the combination of exposure to risks and insufficient coping capacity of the state, systems and/or communities to manage, absorb or mitigate those risks” (OECD, 2020). While the causes and consequences of fragility are often difficult to disentangle, they are likely to include poverty, food insecurity, inequality, migrations and forced displacement, environmental and political degradation, and in extreme cases, violence.

Key characteristics of fragile contexts according to the 2022 edition of the OECD’s multidimensional fragility framework:

- » At the start of 2022, fragile contexts were home to 73 percent of the world’s extreme poor. This share is expected to increase to 86 percent by 2030.
- » In 2022, fragile contexts accounted for 22 of 23 food insecure hotspots in the world.
- » Fragile contexts have accounted for only 4 percent of cumulative CO2 emissions, but they are home to 29 percent of disaster events and 46 percent of deaths from disasters globally from 2019 to 2021.
- » Fragile contexts host 64 percent of the world’s forcibly displaced population, including 80 percent of all internally displaced persons. 78 percent of all forcibly displaced persons world-wide have fled from fragile contexts.
- » In 2018, one out of every three women suffered sexual and/or physical violence in fragile contexts, compared to one in four worldwide.
- » Youth (ages 15 – 24) account for one out of every five people in fragile contexts. On average, 26 percent of the youth population in fragile contexts are not in employment, education, or training.
- » Fragile contexts account for 38 of the world’s 59 authoritarian regimes. 19 fragile contexts are either hybrid regimes or flawed democracies.
- » 51 of the 60 fragile contexts were not in a state of war in 2021.

Source: OECD. 2022. *States of Fragility 2022*. Paris, OECD. <https://doi.org/10.1787/c7fedf5e-en>

In the absence of adequate mechanisms to handle these risks, fragility can lead to an accumulation of grievances with no sustainable solutions. In the medium to long term, these unaddressed grievances can erode social ties and the capacity and/or willingness of different societal actors to collaborate for solutions in a constructive manner. This in turn can lead to the emergence of conflicts and in extreme cases, war.

The second similarity between conflict-prone and conflict-affected contexts lies in a specific risk to which each is exposed to, namely the potential or actual risk of **conflicts**. Conflicts need to be understood as interrelated

¹ In this guide, fragility is understood as a concept rather than a ranking. The approach suggested in this guide is thus relevant for all contexts exhibiting signs of fragility, even if they are not included in the annual rankings produced by the World Bank or as measured by the OECD according to their specific criteria.

relationship dynamics between two or more societal actors, who experience disagreement and dispute over perceived incompatible goals during the process of finding solutions to their grievances. From here, conflicts can follow different evolution paths. They can remain latent or escalate towards violent forms, depending on the extent to which the factors giving rise to and/or fuelling any perceptions of incompatibility are transformed and mitigated, or ignored and/or mismanaged. They can be categorised as follows:

- Some conflicts will remain 'hidden' at grievance level, in cases where disgruntled groups or individuals will refrain from taking action to make their grievances known and find resolution (latent conflicts);
- Other conflicts will become visible principally through non-violent actions, which are geared towards raising awareness and seeking to resolve the grievances at hand (emerging conflicts);
- When such actions do not yield results, and grievances deepen, non-violent actions can be replaced by sporadic or even widespread violence, sometimes over a prolonged period, (escalated violent conflict and war, protracted crises);
- The reasons why a particular conflict emerged, and why it came to be waged violently, may remain valid despite the signing of a ceasefire or a peace agreement, thus possibly leading to a resurgence of violence (post-violence context). Several years of work are needed to peacefully resolve the residual grievances and thus put a lasting end to violence (post-conflict context).

A key noteworthy point is that conflicts are not intrinsically bad (Gündüz and Klein, 2008). When the resolution of conflicts is approached from a collaborative and inclusive mindset, promoting mutually beneficial outcomes and non-violent actions to achieve these, conflicts can be a key driver of change and progress, conflicts can be a key driver of change and progress (e.g., institutions allowing democratic debate or the peaceful mobilization of the civil society resulting in the abandonment of initiatives demonstrated as being harmful to the environment) (FAO, 2022).

1.2 Characterizing the interactions between value chain and conflict-prone or conflict-affected contexts

These interactions can be summarized as follows: (Gündüz and Klein, 2008):

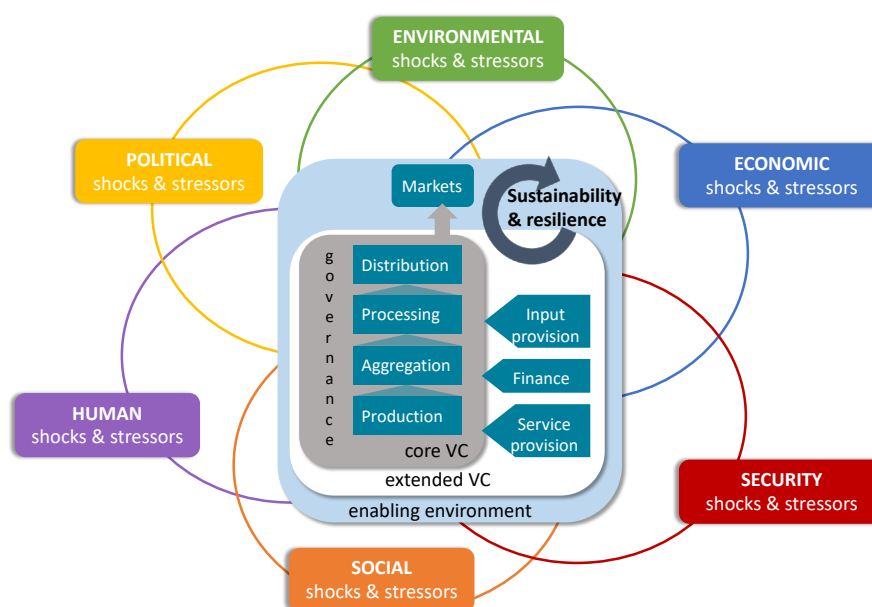
1. The impact of the conflict-prone/affected context on the value chain;
2. The impact of the value chain on the conflict-prone/affected context;
3. Conflicts present within the value chain.

Although these categories are explored separately for explanatory purposes, in real situations they are likely to overlap and mutually reinforce each other's dynamics.

1.2.1 The impact of the conflict-prone or conflict-affected context on the value chain

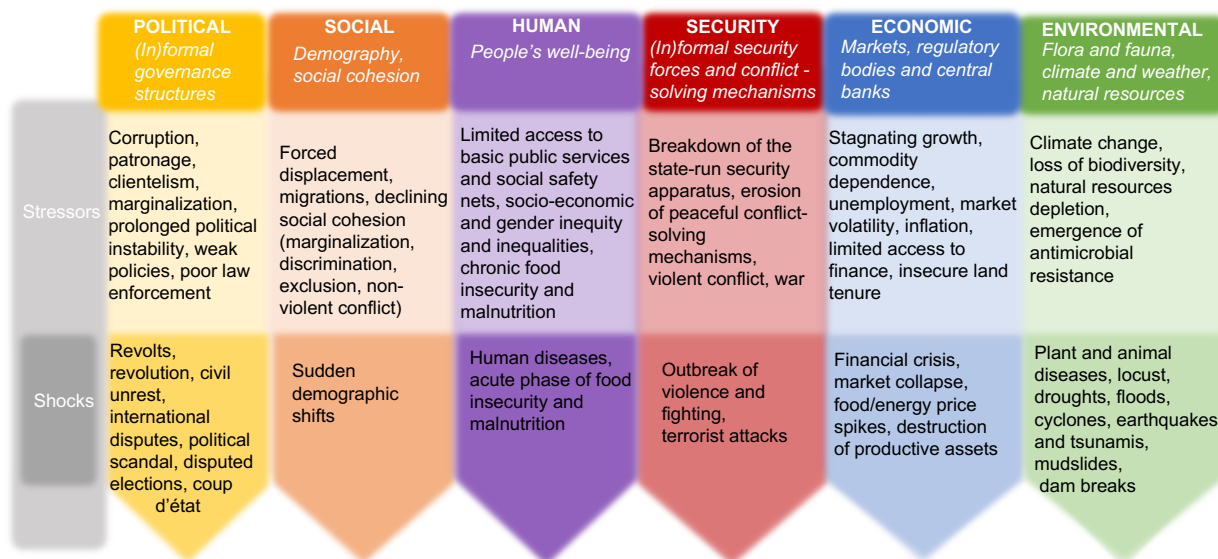
Due to the state of fragility, a value chain is exposed and vulnerable to a number of risks (including that of being embedded in a violent conflict situation) that may negatively affect its ability to deliver food and value to the society without depleting natural resources. Such risks may occur in the form of shocks (sudden events) or stressors (mid and long-term trends) which pertain to six spheres: the political, social, human, security, economic and environmental spheres (Kubitschek Bujones et al., 2013) (OECD, 2022), as illustrated in Figure 1 and Figure 2.

Figure 1. The six spheres of risks affecting value chains in conflict-prone/affected contexts



Source: authors, based on: FAO. 2014. *Developing sustainable food value chains. Guiding principles*. Rome, FAO. www.fao.org/3/i3953e/i3953e.pdf; Kubitschek Bujones, A., Jaskiewicz, K., Linakis, L. & McGirr, M. 2013. *A Framework for Analyzing Resilience in Fragile and Conflict-Affected Situations*. New York, Columbia University SIPA. https://pdf.usaid.gov/pdf_docs/PBAAB059.pdf, and; OECD. 2022. *States of Fragility 2022*. Paris, OECD. <https://doi.org/10.1787/c7fedf5e-en>

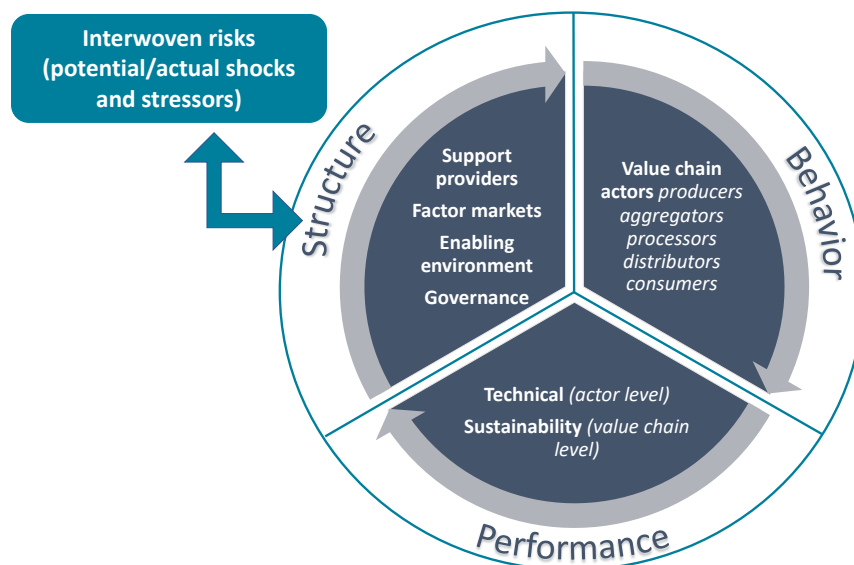
Figure 2. Examples of risks (potential and actual shocks and stressors)



Source: authors, adapted from: Malkowsky, C., Kaut, J., van Uffelen, G.-J. & Eelke, B. 2022. *Somaliland: Food System Resilience Assessment Report*. <https://edepot.wur.nl/564862>; Kubitschek Bujones, A., Jaskiewicz, K., Linakis, L. & McGirr, M. 2013. *A Framework for Analyzing Resilience in Fragile and Conflict-Affected Situations*. New York, Columbia University SIPA. https://pdf.usaid.gov/pdf_docs/PBAA059.pdf, and: OECD. 2022. *States of Fragility 2022*. Paris, OECD. <https://doi.org/10.1787/c7fedf5e-en>

Note: it can be difficult to place a shock or a stressor in either category, since some of them overlap. For example, the human sphere is multidimensional and relies heavily on all the other categories. Practitioners should not spend too much time on classifying the shocks and stressors but instead envisage the categories as a means to understand the situation they encounter.

These actual or potential risks induce changes (or ripple effects) in the value chain that can be apprehended through the **structure-conduct-performance paradigm** illustrated in Figure 3. The risks (e.g., violent fighting or the arrival of displaced persons in consumption areas) induce changes in the **structure** of the value chain (e.g. the destruction of productive assets and marketing infrastructure or increased demand for agrifood products). These in turn determine the **conduct** (or behaviour) of value chain actors. Examples include: the abandonment of certain plots/crops; a shift from raising large pasture-fed ruminants to small ruminants fed on purchased feed; the cessation of activity to enable engagement in violence, and/or changed dietary habits. These changes will influence the technical **performance** of value chain actors (e.g. less volumes produced and marketed, higher losses) but also the sustainability performance of the value chain as a whole (e.g. lower profitability, food insecurity, eroding social and cultural capital). The changes in performance feed back into changes in the structure (e.g. price volatility on local end-markets, new mechanisms of mutual aid between the actors of the value chain to bring the production to these markets). Table 22 in Annex 2 provides a non-exhaustive list of examples to illustrate the changes induced by actual or potential shocks and stressors affecting the value chain.

Figure 3. The structure-conduct-performance paradigm

Source: Authors' own elaboration.

It should also be noted that value chain actors may be directly or indirectly linked to the broader conflict-prone or conflict-affected context in which they are embedded (e.g. they are part of, or cooperate with the belligerents, or they use the same services as them).

1.2.2 The impact of the value chain on the conflict-prone or conflict-affected context

Conversely, the sustainability performance of a value chain can contribute to the perpetuation or mitigation of the broader conflict situation in which it is embedded. For each sustainability dimension, a non-exhaustive list of examples is provided below to illustrate possible positive or negative interactions between value chain performance and the conflict-prone or conflict-affected context in which it is embedded.

- ➔ **Economic sustainability:** The extent to which the value chain is able and willing to generate sufficient value added and decent job opportunities may positively or negatively affect the opportunity cost of engaging in violence. If enough value added and decent job opportunities are generated, then violence is not envisaged as an alternative or complementary livelihood strategy by value chain actors. In the opposite case, value chain actors might prefer to engage in violence to make a living.
- ➔ **Social sustainability:** The extent to which the value chain contributes to social justice can become a key factor in driving conflict or bringing about or maintaining peace. The ability of the value chain to strengthen or weaken the degree of participation of all societal groups can have a significant impact on the strengthening or erosion of social cohesion. As such, a value chain that fails to distribute value added and job opportunities in an inclusive, fair and equitable manner can: reinforce gender inequality; erode food security for some; disrupt positive social and cultural capital creation and promote weak institutional practices. This will contribute to the emergence or exacerbation of conflicts due to weakened societal ties and cohesion. Conversely, the more a value chain is perceived as inclusive; the greater the contribution will be to reducing gender and income disparities, to enhancing cooperation and best institutional practices. This will bring strengthened social cohesion and contribute to mitigating the broader conflict situation.

→ **Environmental sustainability:** The unsustainable use of natural resources by the value chain, especially in resource-scarce environments, may reinforce competition over access to them. If resource scarcity is also identified as causing or contributing to the conflict-prone or conflict-affected context, this competition can fuel community tensions. However, if the value chain manages to make a more sustainable use of natural resources, it will contribute to mitigating the broader conflict-prone or conflict-affected affected situation.

1.2.3 Conflicts present within the value chain

The inherent complexity of value chains means they are invariably crossed by conflicts, irrespective of whether or not they are embedded in a conflict-prone or conflict affected context. These conflicts "can significantly increase tensions and the willingness of value chain actors to cooperate for the benefit of the chain. In contexts affected by violent conflict, they may mirror wider conflict dynamics and issues, further feeding them" (Gündüz and Klein, 2008, p. 20). The conflicts present within the value chain may involve opposition to new actors wanting to enter it from those already involved in it, or between those undertaking upgrading efforts and those adhering to the existing methods, or between producers and processors over quality and/or regularity of supply, or between actors over the control of, or access to, inputs or necessary resources (Gündüz and Klein, 2008).

1.3 Implications for value chain development in conflict prone or conflict-affected contexts

A successful value chain development intervention in a conflict-prone or conflict-affected context is an intervention that:

- » significantly improves the ability of the value chain to sustainably deliver quality food products and income generating opportunities to the whole society despite the occurrence of multiple shocks and stressors (working in conflict).
- » ensures that the value chain is upgraded in a manner that does not encourage violent conflict by minimizing, avoiding and/or positively transforming conflict factors (working on conflict).

remains as effective, relevant and efficient as possible despite the volatile, or even unpredictable context in which it is being designed and implemented. This requires a continuous monitoring and anticipating effort in order to adapt the intervention accordingly (adaptive programming).

Given that value chains are more exposed and vulnerable to different types of risks in conflict-prone or conflict-affected contexts, the focus should be on **strengthening their resilience** while addressing potential trade-offs with sustainability dimensions. By improving the ability of a value chain to continue generating and delivering value (food products and services) despite the occurrence of shocks and stressors, the intervention brings about positive change in the value chain (progress loop). In the S-C-P paradigm, strengthening resilience means introducing changes in the structure of the value chain (e.g. new regulations, strategic plans, technologies, services, etc.) in order to improve the coping strategies of the value chain actors. This will enhance the value chain's actors' ability to anticipate, prevent, absorb, adapt and transform in the face of shocks or stressors, and thereby the ability of the value chain to sustainably deliver food products and services. Informed by a sound understanding of the value chain, such changes bring about self-sustaining mechanisms, meaning that

solutions are found within the system (without requiring dependence on temporary support) while dealing with potential trade-offs (e.g. between resilience and sustainability).

The risk of conflict escalation or its resurgence in violent forms must particularly be taken into account when designing and implementing a particular intervention. Otherwise, the intervention may inadvertently contribute to the escalation or resurgence of violence. Consequently, working in conflict-prone or conflict-affected contexts requires an awareness of fragility and of the conflict dynamics trends, so as to design interventions that are adapted to them and which thus have a diminished probability of contributing to or generating negative externalities.

Conflict-sensitive programming is one of the main organizational approaches used for this purpose. It aims at delivering more context-appropriate, relevant, efficient, effective, and sustainable outputs and outcomes to bring about improved sustainability and resilience. The approach is based on the practice of conflict sensitivity, which is defined as the organizational ability (including the individual ability of organizational staff) to:

- a. Understand the context and contextual dynamics in which the organization is working;
- b. Assess the impact of interactions between these dynamics and its interventions;
- c. Adapt its interventions to ensure that the risk of negative impact on context dynamics is minimized, while the opportunity to positively affect dynamics is maximized.

Table 1 draws a parallel between resilience (i.e. one of the objectives of a value chain development intervention in a conflict-prone or conflict-affected context) and conflict-sensitive programming (i.e. a necessary approach required by the very particular nature of this context). On the one hand, the resilience perspective focuses on the shocks and stressors that may affect the value chain's functioning and performance, and informs the design of interventions to better cope with them. On the other hand, the conflict-sensitive programming approach analyses to what extent these short, mid- and long-term trends may cause or exacerbate a potentially violent conflict situation (structural causes, drivers and triggers of conflict). This knowledge then informs the design of value chain upgrading interventions that avoid, minimize and/or positively transform these factors.

Table 1. Drawing a parallel between resilience and conflict-sensitive programming approach

	Resilience	Conflict-sensitive programming approach
Ability	The ability of the value chain and its components (mainly the value chain actors) to withstand shocks and stressors.	The ability of the practitioners to design and implement an intervention without exposing the value chain participants and their wider communities to harm.
Focus	How are the value chain and its components affected by shocks and stressors? What can be done to increase their ability to withstand such shocks and stressors?	Why and how might the intervention contribute to exacerbating or mitigating the conflict-prone or conflict-affected situation in which it is designed and implemented?
Concepts	Short-term trends	
	Shock Sudden event that disturbs the functioning of the value chain and undermines its performance.	Conflict trigger Sudden event/catalyst that precipitates the escalation of conflict to move between its phases (from latent to emergent, from emergent to active, from active to violent, etc.)
	Mid- and long-term trends	
	Stressor Mid-term- or long-term trend that disturbs the functioning of the value chain and undermines its performance.	Conflict driver Negative factors in the community that keep the conflict in place, increasing tensions between individuals/ groups. This can be mid-term factors. Structural cause of conflict Foundational causes of a conflict, the long-term factors that have generated a conflict.

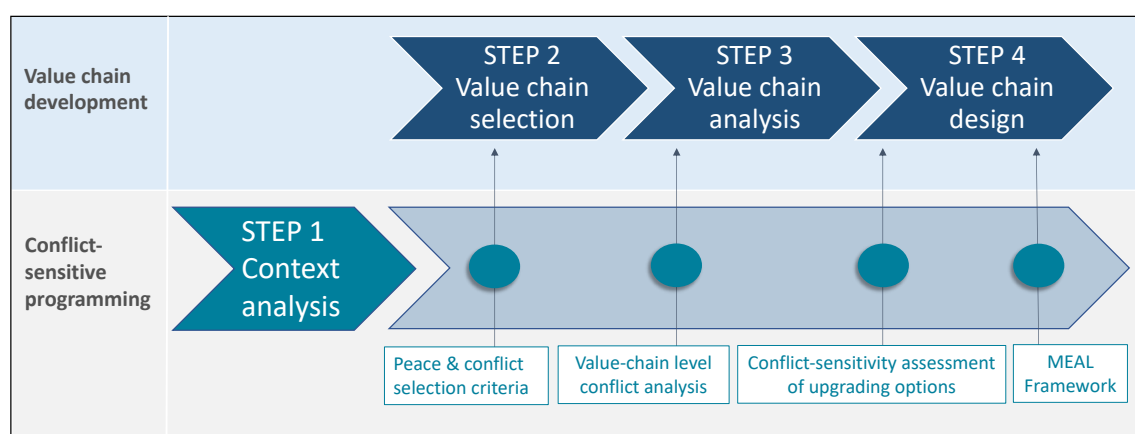
Source: Authors' own elaboration

More generally, the high volatility inherent to conflict-prone or conflict-affected contexts may reduce the relevance, efficiency and effectiveness of interventions towards strengthening resilience. Working in a rapidly changing environment requires practitioners to regularly monitor the conflict-prone or conflict-affected context in which they operate, to anticipate its potential effects on the implementation of the intervention and, when needed, to reorient it (risk analysis and mitigation). The increased vulnerability of communities affected by the conflict-prone or conflict-affected situation also requires specific focus to ensure that the intervention meets their needs. Designing and implementing a Monitoring, Evaluation, Accountability and Learning (MEAL) framework throughout the value chain development process maximizes the chances of an intervention remaining relevant, efficient and effective despite changes in the conflict-prone or conflict-affected context.

1.4 Overview of the value chain development process in a conflict-prone or conflict-affected context

This guide proposes a four-step approach tailored to the specificities of value chain development in conflict-prone or conflict-affected contexts (Figure 4).

Figure 4. The value chain development process in conflict-prone/affected contexts



Source: Authors' own elaboration

Step 1: context analysis. This step provides an overall understanding of the actual or potential conflict situation in which the value chain is embedded and in which the upgrading intervention will be implemented. Obtaining this picture of the broader conflict situation is necessary to identify which of its aspects need to be considered for the value chain selection, analysis and design process.

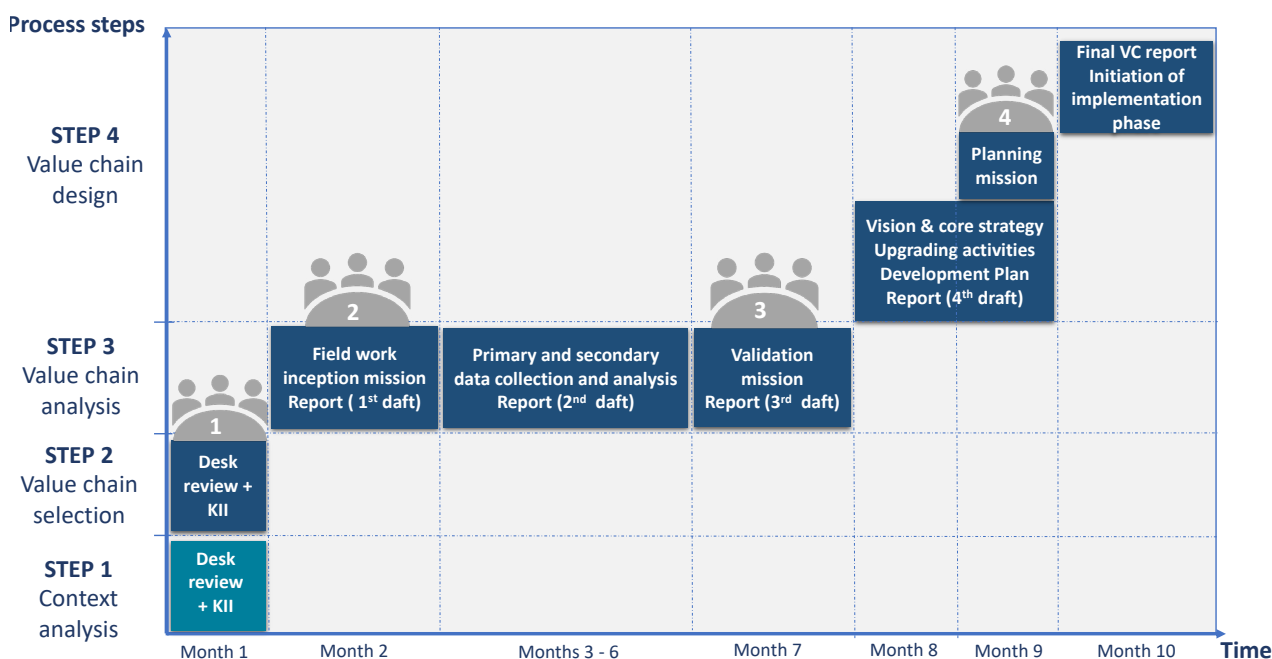
Step 2: value chain selection. This step is of decisive importance for the rest of the process, as it identifies, among many value chains, the one that shows the greatest development potential in terms of impact and feasibility. A selection criterion on peace and conflict is added as part of the conflict-sensitive programming effort. It ensures that working to implement improvements to this particular value chain (i) will not contribute to the escalation or resurgence of (violent) conflict and (ii) is possible despite potential or actual security risks.

Step 3: value chain analysis. This step assesses the current ability of the value chain to sustainably deliver quality food products and income-generating opportunities to the whole society despite the occurrence of multiple shocks and stressors (sustainability and resilience assessment). It is informed by an in-depth understanding of the value chain actors' behaviour and the root causes of any observed inefficiencies (functional analysis). Simultaneously, a value chain-level conflict analysis is conducted to identify to what extent (i) the structural causes, drivers and triggers of the wider conflict situation affect the value chain functioning and performance and (ii) whether the value chain itself may exacerbate or mitigate this broader conflict situation. The findings of this step feed into the identification of conflict-sensitive strategic options that will strengthen the resilience of the value chain.

Step 4: value chain design. This step is where a value chain upgrading strategy is built from the identified options and translated into an overall implementation plan. The design of the upgrading strategy is informed by the recommendations emerging from the conflict-sensitivity assessment of the strategic options, thus ensuring that the intervention will mitigate rather than exacerbate the conflict-prone or conflict-affected situation. The MEAL framework ensures that the intervention remains tailored to its rapidly changing, sometimes unpredictable context.

The overall process lasts approximately 10 months, corresponding to an optimal process of selection, analysis and design of the value chain. However, this time frame should be considered a minimum in conflict-prone or conflict-affected contexts, as many unforeseen events may delay or even suspend the process.

Figure 5. Timeline



Source: Authors' own elaboration.

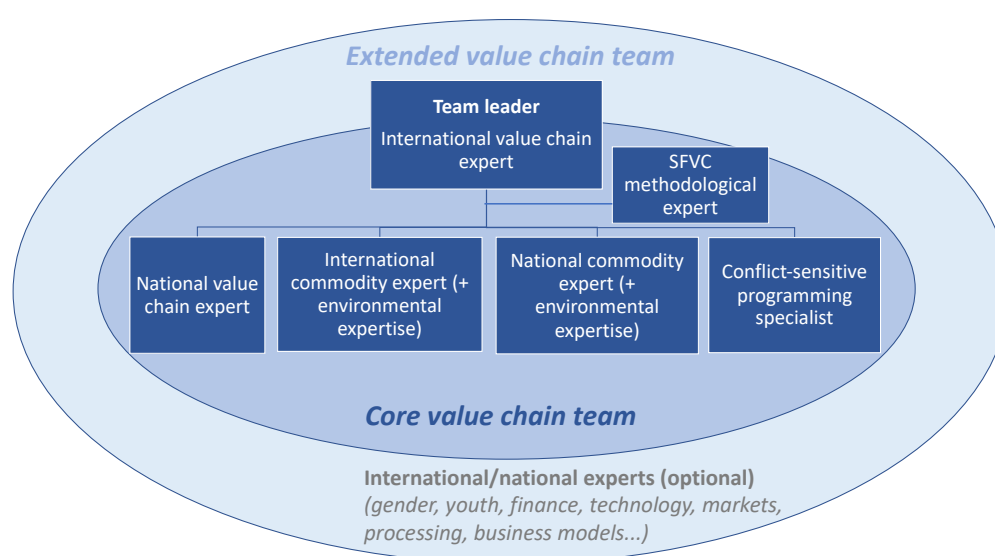
The process is highly participatory and seeks to empower the actors of the public and private sector beyond project duration. Four workshops combining different levels of participation (information, consultation, concertation and co-decision² are planned throughout the process (Figure 5): (1) value chain selection; (2) inception of the work; (3) analysis validation and vision development; and (4) action and investment plan validation. These workshops allow private and public sector actors to co-decide on value chain upgrading actions and are thus an important vehicle for accountability.

Ideally, the core value chain team (Figure 6) is compounded of six members with complementary expertise (e.g., international/national value chain experts, international/national commodity experts, SFVC methodological expert, conflict-sensitive programming expert). Depending on the project priority and preliminary findings of the value chain analysis, this core team may be extended to conduct in-depth analysis on specific aspects (i.e.,

² More information on the various levels of participation is available in Annex 9. Annex 11 provides a non-exhaustive list of good practices for a successful stakeholders' involvement.

gender, youth, technology, market, processing, business models, amongst others). A more detailed presentation of the roles and responsibilities of team members is available in Annex 1. Team members are recruited according to the selected value chain, so that their experience and skills match as closely as possible the nature and challenges of the value chain (i.e., value chain experts, commodity experts). This means that the value chain team depicted in Figure 6 cannot be formed until step 2 is completed. For steps 1 (context analysis) and 2 (value chain selection), it is recommended to include in the team at least an SFVC methodological expert, a conflict-sensitive programming expert, and a value chain expert with good knowledge of national value chains.

Figure 6. Value chain team composition



Source: Authors' own elaboration.

2 Step 1: context analysis



The context analysis is the first step of the value chain development process in conflict-prone or conflict-affected contexts. It provides a big picture of the country context and its conflict dynamics in which the value chain is embedded. More importantly, it highlights the conflict components that are relevant for selecting, analysing and designing this value chain in a conflict-sensitive manner (impact of the conflict-prone or conflict-affected context on the value chain).

The context analysis takes place in five steps. These were adapted from (FAO, 2022), (USAID, 2019) and (Gündüz and Klein, 2008). For each step, a non-exhaustive list of guiding questions is provided. These can be answered by completion of desk research, interviews and focus group discussions with key informants.

Step A: country overview

This step explores the history of the conflict situation (how events have unfolded, giving rise to the present situation), as well as its impact on the agrifood sector.

Guiding questions:

- What are the leading economic, environmental, political, security and social dynamics that have informed the current context?
- Why have certain issues had an inordinate impact on the context (e.g., identity, economic crises, political transitions etc.)?
- How have such issues impacted all stages of the value chains?
- Are there impediments to produce, market, sell, transport or process?
- If so, what are they and what is the impact?
- What sustainable pathways to peace have been explored and what initiatives have failed?
- Why have these initiatives failed?

Step B: conflict lines

This step analyses the incompatible positions or objectives within the society that are driving marginalization and exclusion, and around which grievances are formulated. These conflict lines may affect agrifood value chains in various ways, although some may not be applicable (Table 2). However, it is important to identify the whole spectrum of conflict lines so as to envisage all potential overlapping relationships between agrifood value chains and the broader conflict situation in which they are embedded.

Guiding questions:

- What disputes, tensions or conflicts are present in the area of study?
- How far are they (or might they be) related to the agrifood value chains?

Table 2. Example of conflict lines and their incidence on agrifood value chains

Name of the conflict line	Description of the conflict line	Does this conflict line reach agrifood value chains? How?
Conflict line 1 around water resources	Upstream and downstream population water access and usage rights	The conflict line directly affects the downstream production segments of some particular agrifood value chains (to be listed)
Conflict line 2 around ethnic divisions	Inter-ethnic cohesion/ relationships dynamics	<p>The ethnic groups on either side of the conflict lines are involved in agrifood value chains, and this situation negatively affects cooperation within some particular agrifood value chains (to be listed)</p> <p>The ethnic groups on either side of the conflict lines are involved in agrifood value chains (to be listed), but this currently does not affect cooperation within them</p> <p>The ethnic groups on either side of the conflict lines are not involved in any agrifood value chains</p>

Source: Authors' own elaboration.

Step C: contextual drivers

This step focuses on the drivers of the conflict situation. Whereas the separate concepts of structural causes, drivers and triggers of conflict are introduced in section 1.3 for explanatory purposes, all three are combined here under 'conflict drivers' to ease their practical use. It is important to note that the drivers can be negative (i.e. conflict drivers that divide groups and individuals) or positive (i.e. peace drivers that connect groups and individuals). All these factors are classified in five categories (governance, economic, social, environmental and safety and security)³ and can be summarized as presented in Table 3.

Guiding questions:

- ➔ What drives societal grievances and keeps the identified conflicts in place from a governance, economic, social, environmental and security point of view?
- ➔ Conversely, what trends contribute to mitigating these grievances?

³ The human category of shocks and stressors is ventilated throughout those five categories.

Table 3. Contextual drivers template

	Governance	Economic	Social	Environment	Security
Conflict drivers					
Peace drivers					

Source: Authors' own elaboration.

Step D: stakeholder analysis

This step identifies the main stakeholders grouped along the conflict lines as identified. For the context analysis purposes, stakeholders are defined as "an individual, association or entity with positions and interests capable of influencing, positively or negatively, the context within a given area" (FAO, 2019a, p. 11). This step thus examines the perspectives of the conflict stakeholders, as well as their ability to influence the conflict context, and their involvement in agrifood value chains. The findings of this step can be summarized as presented in Table 4.

Guiding questions:

→ Stakeholders' perspective:

- » Positions: for each of the conflict lines, what are the solutions or demands publicly expressed by the stakeholders? (e.g., conflict line 1 around water resources: downstream actors require as much water flow as upstream actors);
- » Interests: for each of the conflict lines, what do the stakeholders want to achieve? What are their motivations? (e.g., downstream actors want to safeguard their access to water resources in order to continue irrigating their crops)
- » Needs: for each of the conflict lines, what are the most basic and essential necessities stakeholders must have or safeguard? (e.g. downstream actors must secure their crop productions in order to provide their families with a basic livelihood).

→ Stakeholders' power and influence:

- » What stakeholders or actors exert power (coercive action) or influence (persuasion and thus accepted voluntarily) in the area of intervention?
 - » What is the source of the stakeholders' power and influence?
 - » Does their power and influence contribute to tensions or improve the prospects of stability?
- What is the role of this specific stakeholder in agrifood value chains? Is it directly involved in the value chain, or is it connected to its actors and stakeholders?

Table 4. Stakeholders analysis template

	Stakeholders 1	Stakeholders 2	Stakeholders 3	...
Conflict line 1:				
Stakeholders' name				
Stakeholders' perspective				
Stakeholders' power and influence				
Stakeholders' role in / relationship with agrifood value chains				
Conflict line 2:				
...				

Source: Authors' own elaboration.

Step E: recommendations

Based on the findings of the previous steps, this step provides preliminary recommendations for the upcoming value chain selection, analysis and design process.

Guiding questions:

- ➔ How can the value chain development intervention seek to avoid, minimize, or positively impact the identified conflict drivers, and support peace drivers?
- ➔ Are there some value chains for which this would be particularly challenging? The answer will inform the value chain selection process.
- ➔ How should the value chain development intervention work with stakeholders?
- ➔ Is any change in the conflict situation expected during the value chain development intervention (process and implementation)? Why?
- ➔ How can the context be effectively monitored to anticipate such changes and inform adaptive programming? The answer will inform the MEAL framework.

Success story 1: tomato value chain development in Ahwar district, Abyan governorate, Yemen

The tomato is one of the most important vegetables consumed in Yemen due to its nutritional value and multiple uses in local food diet (fresh or dried tomato, and tomato sauce). However, the ongoing war has severely disrupted the functioning and performance of the tomato value chain. Many farmers were unable to cultivate their land, leading to a sharp decline of total tomato production (from 258 654 tonnes in 2012 to 122 673 tonnes in 2019) and low market supply. The resulting increase in tomato prices downstream in the value chain was further compounded by a spike in the cost of agricultural inputs.

The Ahwar district, a region that plays an important role in the tomato supply of urban centres located in the South of the country, also happens to be one of the areas most affected by the ongoing war. Despite the importance of this crop for income generation and employment in the district, farmers suffer from a scarcity of most essential production inputs and services. Lack of knowledge and adoption on good agricultural practices, low quality of seeds, lack of technology (traditional system production), limited application of integrated pest management (IPM) practices, lack of extension services, deficiency of information along the value chain and lack of water resources, were exacerbated by the war and also contributed to low market supply in tomato.

Under the Smallholder Agricultural Production Restoration and Enhancement Project (SAPREP), FAO implemented several interventions over a three-year period to enhance the resilience of farmers affected by crisis and their host communities, together with their food security situation. The interventions also contributed to strengthening the tomato value chain. The provision of agricultural production inputs enabled an appropriate response to the urgent needs of farmers. A Horticulture Seedling Centre (HSC) was established to produce 400 000 vegetable seedlings, including tomato seedlings. FAO also implemented the Farmer Field Schools (FFS) program, which allowed farmers to learn participatively for a full farming season about Good Agricultural Practices (GAPs) for the tomato crop. FAO also formed Women Processing Groups (WPGs) and provided them with necessary tools to process tomato fruits and create value added.

Several outcomes evidence the achievement of the goals assigned to the intervention. The HSC now provides healthy and affordable seedlings, homogenous in size, and pests-free.. The farmers are now able to obtain seedlings while saving 30 to 50 percent of seedlings cost. Capacity-building displayed in FFS contributed to improving the quality of tomato products. The establishment of tomato drying and processing operations by the WPGs enabled the reduction of losses resulting from the fluctuation of tomato prices. More generally, the upgrading of the tomato value chain has contributed to improving its attractiveness and brought about increasing production in the targeted region, while significantly improving farmers' income and the population's food security.

3 Step 2: value chain selection



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Value chain selection is the second step of the value chain development process in conflict-prone or conflict-affected contexts. From a technical point of view, its purpose is to identify the value chain with the greatest development potential. This is based on two sets of criteria: feasibility (can something be changed?) and impact (will the changes have positive impact(s) at scale?). From an institutional point of view, the value chain selection step is an opportunity to actively involve the relevant government at an early stage of the value chain development process. This close collaboration contributes more generally to improving the capacity of the public sector to engage effectively with private sector actors and to facilitate the value chain upgrading efforts.

The risk of aid dependency in conflict-prone or conflict-affected contexts reinforces the need for a value chain development intervention with a lasting impact (i.e. beyond project duration). For this reason, the selected value chain must meet two essential conditions – otherwise, any development effort is likely to fail:

1. There are proven market opportunities for one or more products of the commodity (e.g. fresh and processed), making it possible for these value chains to generate and deliver value (food products and services) on a self-sustaining basis;
2. The private sector is willing to upgrade the value chain (i.e. make the necessary changes to reach these markets) and is supported (or at least not hindered) by the public sector in this effort.

These two conditions served as a starting point to adapt the six-steps value chain selection process presented in the [SFVC guidelines](#) on Selecting value chains for sustainable food value chain development (Walker, DeMatteis and Lienert, 2021). The process proposed in the present guide is tailored to the time, data and resources constraints often prevailing in conflict-prone or conflict-affected contexts. As such, it is envisaged as involving a rapid appraisal rather than an in-depth analysis.

Before starting the process, a cross-technical team is set-up within the relevant Government. This involves between five and fifteen officers drawn from relevant Ministries and Agencies, depending on the value chains to be considered and the available expertise. The roles of this national task force are to (i) co-lead the value chain selection process and (ii) inform the process through the sharing and discussion of evidence on a wide range of value chains. Experts and representatives of the private sector will also be called upon at specific stages of the process for information and ownership purposes. Examples include buyers who purchase from many producers, or input suppliers and service providers.

Step A: customization of the selection tool

A.1. This initial step is driven by the development priorities assigned to the ongoing value chain development intervention. These goals or objectives may have been identified prior to the decision of conducting a value chain development intervention, but they may also arise from the context analysis. In conflict-prone or conflict-affected contexts, the priorities will seek to address:

- ➔ a particular challenge induced by, or contributing to, the fragile situation (e.g. create sustainable livelihoods for internally displaced people; promote the inclusion and empowerment of the poor/internally displaced people/youth and women in the value chain; promote decent work conditions and fight against all forms of forced labour); and/or
- ➔ a particular conflict driver (e.g., promote a more sustainable use of water if water scarcity or the water management system was identified as a dominant or significant conflict driver).

Although conflict-prone or conflict-affected contexts encompass multiple challenges, it is recommended that no more than two project priorities be selected in order to conduct the value chain development intervention

efficiently. Relying on a relevant government's strategic orientations is an excellent way to define project priorities while ensuring that these are aligned with the national development agenda.

A.2. The value chain selection criteria are then chosen in line with the defined project priorities. However, the project priorities are not the only factor to consider when selecting the criteria. It is important to have an integrated approach, considering both the feasibility and any potential impact of a value chain upgrading intervention among the economic, societal and environmental sustainability dimensions. The usual list of criteria and corresponding guiding questions, as well as the guidance on how to customize them in relation to the project priorities, are available in the [SFVC guidelines](#) (Walker, DeMatteis and Lienert, 2021). As part of this customization effort, the present guide proposes an additional subcategory of criteria to explore the interactions between the value chain and the peace and conflict dynamics, and thus better reflect the risks inherent to conflict-prone or conflict affected contexts (Table 5).

Table 5. Subcategories of selection criteria in conflict-prone and conflict-affected contexts

Feasibility	Impact
Economic feasibility	Economic impact
Societal feasibility	Societal impact
Environmental feasibility	Environmental impact
<i>Peace and conflict feasibility</i>	<i>Peace and conflict impact</i>

Source: Authors' own elaboration.

- ➔ On the **feasibility** side, the subcategory on peace and conflict is broken down into two criteria:
 - » **Safety and security risks:** this criterion explores to what extent a value chain development intervention is possible despite the safety and security risks inherent to the current (latent or open) conflict situation, or its potential escalation.
 - » **Value chain governance:** this criterion explores to what extent the linkages in the value chain have given or may give rise to violent conflict.
- ➔ On the **impact** side, the subcategory on peace and conflict makes sure that upgrading a particular value chain will not contribute to the escalation or resurgence of (violent) conflict.
 - » A first set of criteria explores to what extent intervening in a specific value chain may exacerbate the conflicts drivers identified in the context analysis, namely the **economic, social, governance, security, environmental drivers**.
 - » Based on these findings, a criterion on **conflict - value chain dynamics** determines whether selecting this value chain may exacerbate the broader conflict situation.

The list of guiding questions for each feasibility and impact criterion is presented in Annex 3.

The total number of criteria to be selected depends heavily on time and resources constraints. In contexts where these are limited, it is recommended to cap the total number of criteria while maintaining a balance between

all subcategories (e.g. two criteria for each subcategory or a total of sixteen criteria). Whereas some criteria may not be relevant in every fragile or conflict situation (e.g. specific criteria on different types of conflict drivers), some others should not be removed regardless of the fragile or conflict situation in which the value chain selection process is being conducted. These mandatory criteria indeed provide information on key aspects of the feasibility and potential impact of the value chain intervention in a conflict-prone/affected context, such as:

- **Criterion on market demand and criterion on private sector support** (feasibility/economic sustainability): these criteria allow verification that the two above pre-conditions to mitigate aid dependency are met. Both criteria and corresponding guiding questions are presented in Annex 3 of the SFVC guidelines (Walker, DeMatteis and Lienert, 2021)
- **Criterion on safety and security risks** (feasibility/peace and conflict): this criterion allows assessment of local safety and security conditions and determines whether it remains possible to conduct a proper intervention in compliance with the safety and security rules of the organization and partners.
- **Conflict – value chain dynamics** (impact/peace and conflict): this criterion ensures that it is possible to work on a particular value chain without (directly or indirectly) exacerbating the certain conflictual dynamics of the country context.

The list of criteria should be assembled in a Microsoft Excel file (standard file available upon request) to make weighing and scoring easier, as well as to record the main arguments for and against the selection of each value chain. This valuable information can then be reused at a later stage to guide the development of the value chain upgrading strategy.

A.3. Within the list of selected criteria, it is strongly recommended to **define exclusion criteria** in preparation for step C (shortlisting). Considering the mandatory criteria as exclusion criteria is an efficient way to rationalize the value chain selection process, while considering the specific constraints induced by conflict-prone and conflict-affected contexts. This amounts to discarding any value chain where it is explicitly shown that:

- The products and by-products of the value chain have no proven market development potential;
- It is not possible to conduct an intervention in compliance with the safety and security rules of the implementing organization and partners;
- The value chain contributes negatively (directly or indirectly) to the conflict-prone or conflict-affected situation, and this cannot be mitigated through value chain upgrading.

FAO's standardized value chain selection tool includes a set of online surveys to assess the market development potential of a specific value chain's products and by-products, i.e.:

- » a local expansion potential (including an import substitution potential);
- » an export development potential;
- » no market potential.

This tool can be used to efficiently inform the criteria on market demand and private sector support. More information on the rationale of this tool is presented in Annex 4.

In addition, it is possible to use any other (non-mandatory) criteria as exclusion criteria.

A.4. Once the whole list of criteria has been defined, the value chain team and the national task force **assign a weight to each criterion**. The criteria corresponding to the project priorities will be weighted more heavily to ensure that the final score obtained by the value chains is in line with project priorities. Weights are assigned by distributing 100 percentage points across the criteria.

The decision whether or not to conduct a value chain development intervention in a conflict-prone or conflict-affected context must be made based on the local security conditions (i.e. at country and implementation levels). The value chain team members should always bear in mind that in such contexts, "one is faced with neither total 'war' nor total 'peace'" (Le Billon, 2000 in Collinson et al., 2002), but instead a chronic state of instability and vulnerability which can deteriorate at any time and have dramatic consequences for human lives. It is therefore important that the value chain team is aware of and compliant with their organization's safety and security rules, as well as those of any partner organization involved at any stage of the value chain analysis, selection, design and implementation phase. It is recommended to work in close interaction with security experts during the value chain selection phase (i.e. to assess component 11 on safety and security risks) but also throughout the entire value chain development process (e.g. design of specific context monitoring indicators, regular monitoring of the maps showing the geographic incidence of conflict, etc.).

Step B: list of proposed value chains

The spectrum of the value chains to be considered must be as broad as possible (i.e. crops, livestock, fisheries), while focusing on the most widely produced and/or consumed products, or those that are not yet widely produced or consumed but for which experts and key informants agree that there is a demonstrated potential for development. For each envisaged commodity, it is important to distinguish two types of value chains. First, fresh products (i.e. the products have not undergone any further processing than is necessary to make them consumable such as extracting, gutting, drying, grading or cleaning activities: pepper berries, honey, fish). Second, processed products (i.e. the products could have been consumed in their fresh forms but they have been transformed through one or several processing steps such as cutting, powdering, grinding, etc: juices, sauces, ready-made vegetables, fish fillets).

Step C: preliminary data collection and shortlisting

The shortlisting exercise is intended to ease and expedite the data collection step (step D) and scoring step (step E) exercises, by reducing the number of value chains to be investigated and scored. This is based on knowing that it can take about one hour to score a value chain. This step requires the value chain team and the national task force to collect preliminary data to inform the selected criteria. Given that a significant number of value chains are considered at this stage, it is recommended to target research efforts on the exclusion criteria, as well as the more heavily weighted criteria. Data collection can be conducted through rapid desk research, eventually followed up by rapid primary data collection through a few KII's or focus groups with key stakeholders (e.g. government, local authorities, experts, or transversal value chain stakeholders such as input and service providers). The main information should be gathered in summary sheets, for which a standard example is presented in Annex 5 of the [SFVC guidelines](#) (Walker, DeMatteis and Lienert, 2021). On this basis, it is recommended to use a traffic light scoring system (green = select; red = do not select; yellow = maybe) to carry out the shortlisting exercise.

Step D: data collection for the shortlisted value chains

Once the scope of value chains being considered has been narrowed, additional data must be collected to guide the final selection process. Whereas in step C data collection efforts were focused on a subset of criteria, in Step D they should cover the whole set of criteria, as defined in step A. The goal of step D is to gather just enough information to address the questions related to each criterion. Much of the information can be collected through secondary data collection from pre-existing publications and value chain analysis, policy statements and programme documents, as well as available databases. A limited number of interviews with KIIIs (e.g. experts) or focus groups (e.g. actors participating in one or more value chains such as buyers who purchase from many producers, or input suppliers and service providers) will help in addressing data gaps and in validating the information while facilitating stakeholder engagement and buy-in. The expertise available within the national task force is also a valuable resource to mobilize. It is recommended to summarize the information gathered for each of the shortlisted value chains as presented in Annex 7 of the [SFVC guidelines](#) (Walker, DeMatteis and Lienert, 2021).

Step E: scoring and validation

This step is intended to assign a score to each selection criterion as defined in step A, based on the information gathered in step D for the value chains shortlisted in step C. The quantitative nature of the exercise should not obscure its parallel goal, which is to encourage discussion and highlight the pros and cons associated with the selection of each value chain. The scoring occurs through a collegial discussion between the value chain teams and the national task force membership. Feasibility criteria are scored from 0 (not feasible) to 3 (highly feasible), while impact criteria are scored from -3 (highly negative impact) to 3 (highly positive impact). The score of each criterion is discussed and assigned following consideration of the expert opinions, available data and statistics, but also on the expectations and assumptions of the value chain team and national task forces membership. A short description of the main arguments should be recorded in the dedicated columns of the Excel file to keep track of the rationale underpinning the score. This will feed an iterative process, in which the scores initially assigned to the criteria of a particular value chain can be adjusted ex-post facto considering the discussion on similar criteria of another value chain. The scores for each criterion are then multiplied by the weights assigned to them and summed up to provide a global score for each value chain. At this stage, it is useful to compare and discuss the results obtained for each value chain, and possibly make the necessary adjustments. Scores should be considered as a necessary part of the decision support tool rather than as a final verdict. Scores should orient, but not dictate, the final decision-making process, as other political or donor-driven considerations may also be determinative. Once the scoring exercise is completed, it is recommended to share the findings with the project donors and give them the opportunity to validate the results and contribute to the final selection of the value chain.

Step F: informing the stakeholders

All the stakeholders involved in the selection process (including key informants) should be adequately informed of the outcome of the value chain selection process, as well as the next steps of the value chain development process. Depending on the conflict context and how it affects the quality of social relations (e.g., it may not be possible to bring different groups together precisely because of the conflict situation), and also considering the resources available, this can be achieved in the form of a single workshop or separate workshops. If not possible, relevant stakeholders should, as a minimum courtesy, be informed through written correspondence.

Before stepping into the value chain analysis phase, it is worth summarizing the main strategic findings emerging from the context analysis and the value chain selection process. This allows maintenance of a common thread throughout the value chain analysis step, which will generate a lot of additional information. This can be achieved for instance by drafting an internal list of “10 key ideas to upgrade the value chain”, or by drafting a preliminary strengths-weaknesses-opportunities-threats matrix (section 5.1). Any observations on sensitivities to the conflict, and/or power relations and interests of certain actors should also be highlighted to inform the rest of the process and be further explored.

Success story 2: better lives and income through improving the dairy value chain - the case of Iraq

More than thirty years of conflict in Iraq have caused the displacement of millions of people, the destruction of essential services, networks and equipment, all essential parts of functioning value chains. The situation worsened during the 2014-17 conflict against the Islamic State of Iraq and the Levant (ISIL), where Iraq's economy was destroyed. The disruption of the supply chains and destruction of personal assets, food supplies, crop and livestock production were the direct consequences of the economic downturn. As a result, massive population movements took place along with the destruction of water systems, irrigation facilities and other infrastructure.

FAO is part of a broader effort to support rehabilitation and recovery work in Iraq, including large investments to rebuild infrastructure such as roads, primary service stations and irrigation schemes. It focuses on the introduction of modern equipment and training on climate resilient production and farm management practices supporting greater value addition for farmers and other actors along the value chain.

In this context, the dairy value chain was targeted as it is especially well suited for the provision of socio-economic support to women.

Based on local research and engagement with local actors, FAO intervened in all segments of the value chain, with strong focus on women's empowerment, skills attainment and mastery of food hygiene rules, the introduction of mechanization and modern equipment and the expansion of business contacts through fairs and exhibitions. As a result, the value chain has been greatly expanded, and marketing and sales of high-quality dairy products now have national coverage in Iraq. New businesses have also been created upstream in the value chain around inputs provision (i.e. the cultivation of irrigated animal fodder crops, and the production of mixed animal feed and blocks).

Training of Iraqi Government technical and extension staff as facilitators, the training of Trainers within Farmer Field Schools, the advancement of farmer-to-farmer promotion, FAO project staff commitment, local and national influencers and consumers of the high-quality dairy products have been identified as key agents of change in upgrading Iraq's dairy value chain.

4 Step 3: value chain analysis



Value chain analysis is the third step of the value chain development process in a conflict-prone or conflict-affected context. This step is divided into three main parts: the functional analysis, the sustainability and resilience assessment, and the value chain-level conflict analysis.

The functional analysis is centred around the behaviour of the value chain actors and stakeholders. Put another way, it seeks to understand why they choose particular markets, technologies or governance mechanisms in preference to others that may seem more rewarding or efficient. Examples include entering loan agreements with lenders at high interest rates when more advantageous credit terms are available exist or not producing a particular product despite evident strong demand for it. In conflict-prone or conflict-affected contexts, the focus is on understanding how value chain actors and stakeholders cope with the shocks and stressors they are exposed to (i.e., how the conflict-prone or conflict-affected situation changes their behaviour).

The findings of the functional analysis feed into the sustainability and resilience assessment. This determines how well the value chain continues delivering food products and services in a sustainable manner despite the occurrence of shocks and stressors.⁴

Finally, a value chain-level conflict analysis is conducted to identify the extent to which the structural causes, drivers and triggers of the conflict-prone or conflict-affected situation affect the value chain's functioning and performance as well as the extent to which the value chain itself may be exacerbating or mitigating this broader conflict situation.

The cumulative analytical findings produced by this step feed into the identification of conflict-sensitive strategic options that strengthen the resilience of the value chain, while considering potential trade-offs with sustainability.

4.1. Functional analysis

The functional analysis explores if and how the conflict-prone or conflict-affected situation changes the behaviour of the value chain actors. It focuses on understanding how shocks and stressors affect the behaviour of the value chain actors (a resilience perspective), rather than understanding the causality of conflict dynamics (conflict-sensitive programming approach). The latter is explored in the value chain-level conflict analysis (section 4.3).

To assure a holistic and in-depth understanding of the value chain, the functional analysis is carried out in four steps: (i) value chain mapping; (ii) the end-market analysis; (iii) the value chain elements analysis and (iv) the governance analysis. The overall process for the functional analysis is described in Figure 7.

Figure 7. The four steps of value chain functional analysis

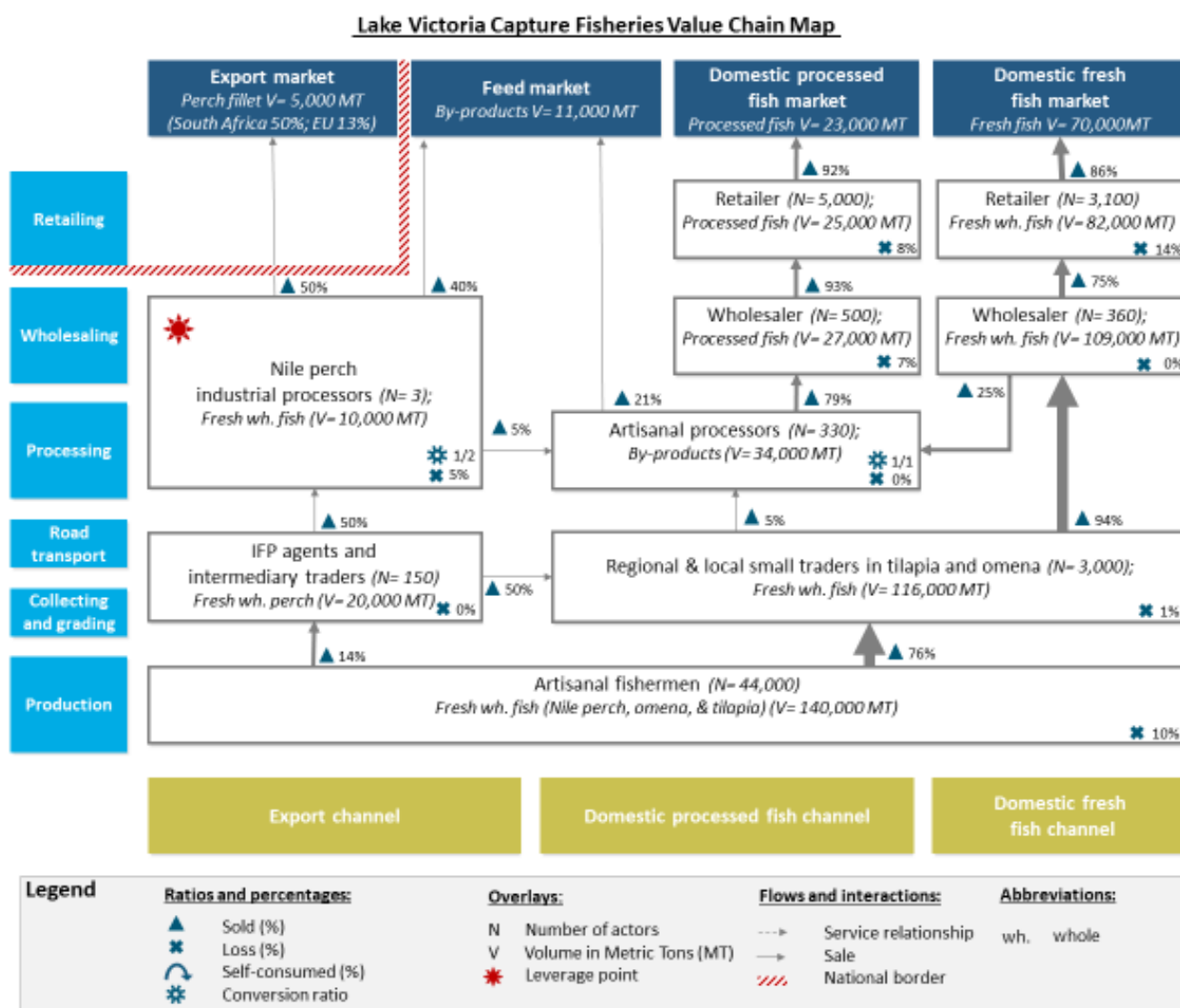


Source: Authors' own elaboration.

⁴ The guidance provided on the functional analysis and the sustainability and resilience assessment is presented in a summary form to highlight specific elements in conflict-prone or conflict affected contexts. More detailed information on how to conduct such analysis and assessments in other contexts is available in the SFVC methodological guide on Developing sustainable food value chains (unpublished).

4.1.1. The value chain map

Figure 8. Lake Victoria capture fisheries value chain map



Source: adapted from USAID. 2008. *The Kenya Capture Fisheries Value Chain: an AMAP-FSKG Value Chain Finance Case Study*. microreport #122. The United States Agency for International Development, Washington, D.C. https://pdf.usaid.gov/pdf_docs/PNADN416.pdf

The value chain map is a flow chart that provides a general picture of the value chain from production to consumption. It indicates the functions, relevant actors, linkages between them, and the main channels (Figure 8). It facilitates an understanding of the nature of the value chain, its dimensions and dynamics, and quantifies it through the indication of the numbers of actors and their volumes and/or values of sales. The value chain map allows for the identification of the leverage points, namely those points in the system where upgrading is likely to have the greatest impact. Data used to develop the map is derived from a wide range of primary and secondary data.

Setting the boundaries for a value chain is a critical step that structures the rest of the analysis. The value chain analysis may be at national or sub-national (local) level, or it may focus on intermediate markets rather than end-markets (e.g., processors rather than households). It may also entail processed produce and by-products, which represent an excellent entry point to diversify the value chain and thus increase its resilience. Under the

assumption that there is market demand for such products, they can offer an interesting risk-management strategy that potentially mitigates the effects of market volatility. One example is deciding to process fresh fruits when their selling price declines significantly. Where there is a poor infrastructure network, a strategy that enables processing of fresh fruits when transport and cooling conditions severely affect the product quality is another example. The level and type of processing can also be adapted depending on the required investments (for example, producing semi-processed fruits as opposed to juice) as part of an evolutive market strategy (e.g. increasing the degree of sophistication as demand shifts to more processed products, the infrastructure network stabilizes and the firm's financing capacity improves).

Developing a VC map consists of 6 steps:

1. Determine the functions;
2. Determine the actor types;
3. Indicate the flows;
4. Identify the main channels;
5. Provide dimension overlays (data layers);
6. Indicate leverage points.

4.1.2. End-market analysis

The end-market analysis identifies a set of concrete end-market opportunities, as the economic performance of the value chain is ultimately determined by its ability to capture value in an end-market, where consumers make their purchase decision from a set of competing alternatives. Through secondary data (e.g. [ITC Trade Map](#)), market reports, interviews with local retailers and overseas buyers, and a domestic consumer survey, a detailed understanding of existing and potential end-markets is established. This includes: market sizes and growth rates; trade flows; prices and price trends; market drivers; market segments; order specifications; critical success factors; unique selling propositions and consumer perceptions and behaviour.

When analysing end-markets, key points that need to be considered are:

- ➔ **Actual and potential market opportunities:** The principal opportunity categories are: growing segments of the domestic market, import substitution and export markets. In addition to the usual end-market opportunities, some examples specific to conflict-prone and conflict-affected contexts include niche export-products that emphasise their potential contribution to peace (e.g. [UNODC/Malongo initiative in Myanmar](#) around coffee for peace and biodiversity; [Peaceworks initiative](#) in building partnerships across conflict regions and exporting processed food products from these regions), as well as local regional procurement for food aid (see case study in Uganda in Annex 4). Market opportunities should include not only those for the currently marketed product (e.g., undifferentiated whole fish) but also for potential value-added products that may not yet exist in the value chain (e.g., branded MSC-certified fish fillets). End-market opportunities include not just retail sales of food products to households, but also sales to restaurants, street food vendors and other industries such as feed manufacturers.
- ➔ **Market requirements:** Often, upgrading strategies for value chains assume increased sales. There needs to be clarity as to which markets will actually experience increased sales and what needs to happen throughout the value chain to capture market share. This is achieved by working back from the market to the producers by reference to detailed specifications.

→ **The behaviour of end-consumers in the domestic market:** a range of questions are relevant. What, where and how do consumers purchase, prepare and consume the food products and why? What opportunities exist to sell more to domestic consumers or achieve greater value? In conflict-prone or conflict-affected contexts, it is important to identify changes in the procurement and consumption practices of the end-consumers as a result of the particular fragile situation. Examples include noting changing dietary habits as a result of diminishing purchasing power, or the arrival of new populations with different diets, etc..

Fragility and conflict affect markets directly or indirectly, positively or negatively. This is not only true for end-markets, but also for downstream markets in the value chain (i.e. all the transactions from one downstream actor to an upstream actor). The main market changes to be aware of when conducting a value chain development process in conflict-prone or conflict-affected contexts include:

1. **Increased volatility**, triggered by market disruptions and the resulting price fluctuations. Demand shocks can be caused by population displacement in localized areas, while supply shocks may occur because of the destruction of productive assets. Emergency food aid programs may also contribute to distorting food prices at different levels. At national level, food-price inflation, exchange rate instability and stagnated growth may influence consumer behaviour and terms of trade (FAO, 2018b). Sudden changes in regulations also contribute to market volatility. For example, import and/or export bans applied as sanctions during a conflict situation will inevitably distort the availability and price of concerned products.
2. **Limited access**, as a result of discrimination (e.g. entry barriers based on ethnicity) or reduced mobility (itself caused by destroyed or damaged road and/or broader transport networks, and/or permanent fear of violent attacks).
3. **Changing power relations and operating rules.** **Fragility** and conflict transform society, creating opportunities for some individuals and groups, and threats for some others (Collinson et al., 2002). **This** induces or reinforces three broad types of economies: the war economy, the shadow economy and the coping economy (Collinson et al., 2002). **All** three are driven by different objectives: "to fund the war effort or achieve military objectives"; "to make a profit on the margins of the conflict"; "to cope and maintain asset bases through low-risk activities, or to survive through asset erosion" (Collinson et al., 2002). These different economies interact with each other and modify the power relations between groups and individuals, often through more or less unanimous, transparent and systematic rules (e.g. rules related to the type of currency or bank notes being used, the exchange of currency, the application of taxes and fees, etc.).

All these changes influence and are influenced by the changing behaviour of value chain actors (section 4.1.3.1), stakeholders (section 4.1.3.2), and a changing societal and natural enabling environment (sections 4.1.3.3 and 4.1.3.4).

4.1.3. Analysing the elements of the value chain

The value chain elements include:

- Actors in the core value chain (producers, processors, aggregators, distributors);
- Support providers and factor markets in the extended value chain (input suppliers and service providers; land, water, energy, labour markets);

- The societal enabling environment (policies and institutions, socio-cultural elements, infrastructure, organizations and cooperatives);
- The natural environment.

This section focuses on the behaviour of the value chain actors and seeks to understand how they cope with the shocks and stressors induced by the broader conflict-prone or conflict-affected situation. However, the coping strategies implemented by value chain actors do not depend solely on those actors, but also on their incentives and capacities, which are themselves broadly determined by the extended value chain and the enabling environment. Many causes of under-performance, and as many upgrading opportunities, actually lie in the extended value chain and the enabling environment, rather than in the value chain itself.

Each value chain element is thoroughly examined in this section with the aim of identifying concrete and feasible opportunities to strengthen resilience while increasing economic, social (peace) and environmental benefits. This requires identifying the root causes, or ultimate reason for observed underperformances, leverage points (nodes in the value chain where a small change can lead to significant impacts) and binding constraints (i.e. constraints requiring to be addressed first to untie a chain of inefficiencies or bottlenecks).

4.1.3.1. The value chain actors

This section focuses on the value chain actors, i.e. those who produce or procure from the upstream level, add value to the product and then sell it on to the next level. Five generic types of actors are distinguished: producers, aggregators, processors, distributors and consumers. The end-market analysis covers the consumption function. In each of these actor categories, there may be distinct subgroups (e.g., modern and artisanal processors), increasing the number of actor types.

The analysis of value chain actors in conflict-prone or conflict-affected contexts occurs in three steps. Step A involves identifying the shocks and stressors that have the potential to significantly affect the behaviour and performance of each particular type of value chain actor. Step B involves analysing the coping strategies effectively implemented by the value chain actors to face the shocks and stressors, as well as their outcome in terms of technical performance. In Step C, the desired coping strategies are discussed with the relevant value chain actors (Step C). Throughout these steps, equal importance is given to reality and to its perception by the value chain actors (Malkowsky et al., 2022). This allows the design of an upgrading strategy that best serves their conscious and unconscious needs. The value chain actors analysis is based primarily on primary data sources. This involves structured and semi-structured interviews with individual actors and focus groups which are subsequently triangulated based on primary and secondary data sources. The interviews are also intended to collect the more quantitative information needed to prepare the operating accounts that will be used in the economic sustainability assessment.

Step A: list relevant shocks and stressors. For present purposes, 'relevant' means that (i) the shock or stressor is likely to occur, or is perceived as being likely to occur by a specific type of actor; and (ii) if it occurs, the shock or stressor will generate significant damage if not mitigated by the actor, or it is perceived as such. The focus is on the shocks and stressors that have the potential to affect the firm. However, in the case of small family-owned operations, shocks and stressors affecting the household are also important (food insecurity, gender-based violence). This is because they directly influence firm decision-making, such as selling productive assets to meet the household's food needs or relocating the firm's activities. The list of relevant shocks and stressors may differ from one actor type to another, and even within a single actor type category. For example, men may be more exposed to violence than women. Due to time and resources constraints, it may not be possible to fully explore the specificities of each group, but the project priorities as pre-planned can assist with defining the relevant groups (e.g. women, youth, or internally displaced people).

Guiding questions:

- What are the main challenges faced by the actor to maintain its activity? Put another way, are the risks manageable, or perceived as such? What could prevent the actor from maintaining its activity? Put another way, are the risks not manageable, or perceived as such?
- Has this always been the case? When did it start? Could this happen (again)?
- Why has/could this shock or stressor become an issue for this specific actor?
- Do the peers/partners/competitors of this specific type of actor face the main challenges?

N.B.: It is advisable to start the interviews with open-ended questions, as this will highlight the shocks and stressors that seem most important to the interviewees. Shocks and stressors not initially mentioned by them can then be explored through closed questions.

Step B: analyse the coping strategies implemented by the value chain actors. This step provides key information to conduct the resilience assessment (section 4.2.4). It focuses on the strategies implemented by the different types of value chain actors to cope with shocks and stressors. It also looks at the outcome of such strategies in terms of technical performance. The below elements should therefore be envisaged from a dynamic perspective. Put another way, how did they evolve as a result of the perceived shocks and stressors?

- Characteristics of the decision maker (age, education, ethnicity, gender, wealth, household size);
- Location (for example, can they move to a more secure area?);
- Functions covered by the actor (can they abandon certain functions or, on the contrary, take on new ones? (for example, a producer that also provides repairing services);
- Procurement practices (examples include: changing business partners as a result of conflict escalation between two or more groups; accessing lower quality inputs as a result of inflation; using informal credit following the closure of bank branches, etc.);
- Production practices (examples include reducing the area cultivated and/or the use of inputs; moving from large pasture-fed livestock to small feed-fed livestock near the home; increased capital intensity as a result of labour shortage; the abandonment of quality standards procedures);
- Marketing practices. These include changes in contracts, markets, prices obtained, transaction mechanisms (examples include, reducing the share of production intended for sale in favour of self-consumption; sale of livestock to protect against theft despite lower prices);
- Infrastructure and equipment used. Examples include: the sale of productive assets; using less sophisticated or damaged or higher energy-consuming assets or using an alternative energy source;
- Technical performance. Examples here include reducing production volume; increased loss rates; reduced labour productivity; incompliance with quality standards. As one example, as a result of the conflict escalation in Mali in 2012, "many new but unskilled butchers entered the profession to serve the insurgents' demand for meat, so the quality of meat has suffered" (Kimenyi et al., 2014, p. 23);
- Competitiveness. For example, compare technical performance to benchmarks;
- General business skills. Examples include accounting, pricing, planning and negotiating).

N.B. Some elements might not change at all. It is important to understand why, as this provides valuable information for the upgrading strategy. For example, understanding why a producer has equivalent yields using fewer inputs; or why and how a service provider has managed to maintain its activity when all others stopped.

Step C: explore desired coping strategies. The coping strategies implemented by the value chain actors are the outcomes not only of their motivations, but also of their incentives, capacities and interactions with each other. What would they do differently if they had the opportunity? Questioning the value chain actors on how they would ideally cope with shocks and stressors is an excellent way of identifying upgrading opportunities that are tailored to their needs, and thus actively involve them in the development of the upgrading strategy.

Guiding questions:

- What future do the actors want for their company?
- What would they need to make it happen?
- What can they do to make it happen?

4.1.3.2. Support providers and factors markets in the extended value chain

Support providers and factors markets include:

- Suppliers of physical inputs such as feed, packaging, ice, and equipment;
- Providers of non-financial services such as storage, transport, extension, repairs and market research;
- Providers of financial services (including insurance products);
- Labour, energy, land and water markets.

These elements make up the extended value chain, namely the services and markets that are necessary for value chain actors to conduct their business. This section identifies potential gaps in support provision and factor markets in terms of availability, accessibility, effectiveness of inputs and services that represent opportunities for strengthening the resilience of the value chain.

As for the value chain actors, support providers and factors markets may experience several changes resulting directly or indirectly from the conflict-prone or conflict-affected situation. Whereas support providers are first and foremost firms (making it possible to use the same steps and guiding questions as used in ascertaining the value chain actors' coping strategies), the factor markets are explored through the interaction between supply and demand. By this is meant how they align in terms of availability, quantity, price and suitability for the value chain, etc.). The below guiding questions help extract relevant information for the analysis. For support providers these must be considered as complementing the elements listed in section 4.1.3.1.

Guiding questions:

- Physical input suppliers:
 - » Are physical inputs imported or locally sourced? If imported, what potential exists for import substitution?
 - » Are there any sourcing and /or marketing difficulties such as shortages? In which areas? How do suppliers overcome these? Are they increasing their selling prices, sourcing from elsewhere, diversifying their products or /activities, etc.?
- Financial and risk management service providers:
 - » Are traditional or innovative sources of finance willing and available to finance value chain activities in the face of shocks and stressors (e.g., capital flight or risk-sharing mechanisms)?

- » What is the offer for digital finance services such as cashless IT transactions? By whom is it provided (e.g., banks, NGOs, informal groups) and to what extent is it used?
- » What are the sanctions if a debt is not repaid?
- Other service providers (training and extension, transport and storage logistics, Information and Communication Technologies (ICT), processing,⁵ repair services, market and price information):
 - » Which, of all the public and private training services offered, are continuing to be delivered despite the conflict-prone or conflict-affected situation? For example, is training still available in production techniques, quality standards and financial literacy, etc.?
 - » What is the offer for repairing services of productive assets (e.g., machinery)?
 - » Are formal and informal market information systems in place? How reliable are they?
 - » How do transporters adapt in the face of disrupted transport infrastructure, red tape, rising fuel prices?
 - » Are there any digital marketing platforms to enable online sales? To what extent are they used? What is the potential for making them inclusive?
- Factor markets (labour, land, water, energy):
 - » Are there any labour shortages resulting from disrupted training and/or education services, population displacement, reduced mobility?
 - » What are the terms of access to land? What is the potential for making land accessible to the most vulnerable?
 - » How are water and/or energy availability and prices affected by the conflict-prone or conflict-affected situation (e.g. price increases, power outages, etc.)?

4.1.3.3. The societal enabling environment

In addition to the natural environment, the societal enabling environment comprises all the societal elements that enable or restrict the access of VC actors and stakeholders to market, finance, information and other resources for VC actors, their relationships (governance) and their capacities and incentives to upgrade. The functional analysis of the societal enabling environment focuses on the following elements:

- Policies and other institutions;
- Socio-cultural elements;
- Infrastructure;
- Organizations and cooperation (relevant projects).

Conflict-prone or conflict-affected contexts are often characterized by weakened or failing institutions. This is reflected in several ways in the enabling environment of value chains. For a myriad of reasons, such as lack of or inefficient use of financial and human resources, political priorities focused on the war effort, etc., the state and/or its decentralized/deconcentrated authorities have little ability to fulfil their functions throughout their territory. Examples include enforcing the law, constructing and maintaining basic infrastructure (energy, telecommunications, transport, etc.), and providing the population and firms with basic services (education, healthcare, security, justice and transaction regulation). As a result, the quality of the societal enabling

⁵ If the processor does not take ownership of the product to be processed.

environment of the value chain may differ significantly from one geographic area to another (e.g. urban as opposed to rural area; conflict-affected areas as opposed to non-affected areas, etc.). It is important to capture such nuances in the analysis in order to propose relevant upgrading opportunities. Regulations may be identical throughout an entire territory but unevenly enforced from one area to another.

The below guiding questions help identify whether the societal enabling environment is a source of vulnerability (i.e., little capacity to cope) or a source of resilience (i.e., good coping capacity) for value chain actors. Despite the challenges induced by the unique conditions of conflict-prone or conflict-affected contexts, there is often a means to nimbly circumvent them. For instance, if the road infrastructure is severely damaged, then a pragmatic solution for value chain development would be to adapt the products accordingly rather than seeking to improve the road infrastructure itself. An example would be to produce semi-dried fruit rather than fresh fruit because semi-dried fruit is less prone to damage during transport.

Guiding questions:

→ Policies and other institutions:

- » What are the main formal and informal regulations framing the activities of the value chain? What is the level and type of authority in charge of enforcing them (local/national, de jure/de facto authorities)? Are there any variations throughout the national territory?
- » To what extent do such regulations foster or hinder value chain functioning? How do they affect the costs, benefits and risks of starting or running a business in this value chain (e.g. will firms have to pay taxes and customs twice following the presence of occupying forces)?
- » What are the upgrading opportunities to address the identified inefficiencies? Are they feasible? Upgrading opportunities may involve (introducing new mechanisms if they are missing, or simply working around the constraints (for example, by strengthening the mechanisms if they are weak, or adapting them if they are misdirected).
- » How easy is it to do business, for example is there room to reduce the time and resources required for business registration, to address delays, etc. What is the administrative burden? Are the fees appropriate?
- » What are the mechanisms in place to anticipate and prepare for relevant shocks and stressors? Examples include early warning systems and Disaster Risk Reduction strategies? How effective are they?
- » What are the mechanisms in place to absorb and adapt to relevant shocks and stressors, such as tax exemptions, social safety nets, and investment grants? How effective are they?
- » What authorities will it be possible to rely on to upgrade the value chain (e.g. governmental authorities and traditional leaders and national and local level)?

→ Socio-cultural elements:

- » How have community practices, traditions and attitudes, changed as a result of encountering a conflict-prone or conflict-affected situation?
- » What are the impacts on value chain actors?
- » To what extent are certain practices adapted to the particular religious or cultural rules/ sensitivities of the community? Examples include interest rate level and animal slaughter rituals etc.

→ Infrastructure:

- » Is transport, electricity, communication, and marketing infrastructure fit for purpose as regards produce reaching the identified end-markets despite the conflict-prone or conflict-affected situation?
- » What costs, benefits or risks are associated with the use of infrastructure? Examples include assessment of the safety risks and the risk of deterioration of the product quality.
- » Are there territorial variations?
- » What are the feasible upgrading opportunities?

→ Organizations and cooperation:

- » Which past or ongoing state or donor projects/programmes could offer interesting synergies to upgrade the value chain? This would include all interventions that seem necessary to upgrade the value chain but that go beyond the scope of a value chain development project. Some examples are infrastructure projects, peace-sustaining or peace-building projects and youth employment programmes etc. The list should be rather short and focus on projects and programmes (or implementing organizations) for which synergies are both relevant and feasible.

4.1.3.4. The natural environment

This section analyses how environmental conditions in the areas of extraction (catching, hunting, collecting or farming) impact the competitiveness of the value chain. It identifies the key strengths, weaknesses, opportunities and threats that emanate from the natural environment and that need to be taken into account when developing the upgrading strategy.

The natural environment includes: climate; quality and quantity of water, land degradation or fragmentation, resources available for production and processing; unique genetic resources; qualities and quantities of raw materials available for extraction (current stock rates); geography (the ease with which inputs and outputs can physically move to, from and within the country based on topography and global location); the absence or likelihood of environmental shocks and stressors occurring and their consequences for the value chain. Documenting the current and forthcoming effects of climate change is key for anticipating and preparing for the potential worsening of environmental conflict drivers identified in the context analysis.

4.1.4. Governance analysis

Value chain governance refers to the coordination of value chain stages, as well as the relationships and decision-making interactions between value chain actors, all of which contribute to making it possible to bring a commodity from primary production to end use.

This critical section is where the focus of the analysis shifts from analysing how the individual elements function to analysing how the value chain functions as a whole. Put another way, does the value chain work as the sum of uncoordinated individualities or as an organic entity?

The governance analysis aims at identifying upgrading opportunities within governance structures and dynamics by strengthening existing linkages or establishing new ones. These upgraded linkages will in turn create incentives and capacities for value chain actors to change their behaviour, and thus improve the performance of the value chain.

This requires gaining an in-depth understanding of existing linkages, and the extent to which they are shaped by the conflict-prone or conflict-affected situation. For example, the existing participatory and representation structures may serve the interests of a powerful minority instead of addressing the diversity of needs among the value chain (FAO, 2013b). As a result, any upgrading intervention to strengthen these structures would reinforce power inequalities within the value chain. The role of the governance analysis is thus to identify upgrading opportunities that minimize negative externalities in terms of social cohesion within the value chain and the broader community.

The components requiring systematic analysis are listed in Table 6. Conflictual relationships between value chain actors and stakeholders (whether or not induced by the broader conflict-prone or conflict-affected situation) are investigated separately in the value-chain level conflict analysis in section 4.3.

Table 6. Main components of the governance analysis

Components	Examples of practices and factors to be considered
Vertical linkages - External linkages	<ul style="list-style-type: none"> » Price discovery and price-setting » Standards applied » Presence or absence of quality premiums » Dependencies (e.g., credit lock-ins) » Levels of coordination and information exchange » Nature of the dominant coordination and transaction arrangements » Impact of possible volatile supplies throughout the year » Transaction costs and benefits (e.g., contract farming to access inputs) » Capacity-building through transactional relationships (e.g., embedded training)
Horizontal linkages	<ul style="list-style-type: none"> » Levels of competition vs collaboration (e.g., risk-sharing mechanisms) » Collective action such as joint inputs purchasing, value addition, or marketing » Associated economies of scale or scope » Role of associations and cooperatives etc., and barriers to entry thereof » Presence of leaders for the various value chain actor types
Market power	<ul style="list-style-type: none"> » Shift in power relationships (e.g., small players becoming large or influential actors) » Vertical or power imbalances that can lead to exploitation » Asymmetries in size, knowledge, or financial means » Role of asset specificity (i.e., having assets that lock the actor in to a limited set of buyers) » Intertwining of business and political interests (e.g., politization of cooperatives, war/shadow economies benefitting certain actors and reinforcing their aura, rent-seeking resource management systems, nepotism)

Components	Examples of practices and factors to be considered
Trust	<ul style="list-style-type: none"> » Quality of relationships » Incidence of cheating, corruption, non-payment » Levels of transparency » Role of cultural factors » Presence of enforced formal dispute resolution mechanisms, and their perceived legitimacy
Social capital	<p>Role of social networks (family, community, other ties) (e.g., increased dependency on certain groups to access markets, inputs, technology and services as a result of the conflict situation)</p> <p>Social obligations to work in groups or share benefits with group members (e.g., obligations towards the warring parties, such as giving them a share of the profits or production in exchange for their protection)</p>
Formal and informal rules	<p>These inter-relate to the previous components: the influence of institutional and socio-cultural rules on the governance structure (e.g., emergence of war/shadow/coping economies obeying specific rules)</p>

Source: adapted from, FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>; based on interviews with key informants; FAO. 2019b. *The Programme Clinic: Designing conflict-sensitive interventions - Approaches to working in fragile and conflict-affected contexts. Facilitation guide*. Rome, FAO. www.fao.org/3/ca5784en/CA5784EN.pdf; Huddleston, R.J. & Wood, D. 2021. *Functional Markets in Yemen's War Economy*. *Journal of Illicit Economies and Development*. 2(2): 204–221. DOI: <https://doi.org/10.31389/jied.71>; Collinson, S., Bhatia, M., Evans, M., Fanthorpe, R., Goodhand, J. & Jackson, S. 2002. *Politically informed humanitarian programming: using a political economy approach*. London, Overseas Development Institute (ODI). <https://odihpn.org/wp-content/uploads/2002/11/networkpaper041.pdf>

4.2. Sustainability and resilience assessment

The objective of the sustainability and resilience assessment is to analyse the VC performance in terms of economic, social and environmental impacts, as well as its ability to resist shocks and stressors, in order to identify critical sustainability issues (hotspots). For this assessment, the focus of the analysis shifts from how the natural and societal environment impacts the VC (functional analysis) to how the value chain impacts the environment. The sustainability and resilience assessment comprises five parts.

The first three parts delve into the specific economic, social and environmental impacts. Throughout these three sections, the analysis involves not only assessment of any direct impacts on the actors, support providers and workers in the value chain, but also the externalities it generates beyond the value chain. For example, social externalities such as declining social cohesion or environmental externalities such as degradation of natural resources.

Part four examines resilience as a meta-dimension of sustainability. It seeks to answer the question of how vulnerable the value chain is to the identified shocks and stressors.

The results of the sustainability and resilience assessment are summarized in a heat-map which feeds into the strategy development (Table 7). Based on expert assessments, three levels are distinguished in the heat-map: red indicates a high concern area, or a highly unsustainable/non-resilient situation that requires attention in the immediate term; yellow indicates there is a concern in terms of sustainability/resilience that needs to be addressed in the medium-term; green indicates that there are no significant sustainability/resilience concerns.

Table 7. Example of a value chain sustainability heat-map in a conflict-prone or conflict-affected context

Economic sustainability	Social sustainability	Environmental sustainability
Net income	Wages and employment distribution	Electricity use
Trend in net income	Value added distribution	Fuel consumption
Return on sales	Poverty and vulnerability	Carbon footprint
Return on investment	Discrimination	Renewable energy use
No. of jobs in full time equivalent	Women's economic involvement	Water consumption
No. of full time jobs	Gendered division of labour	Water pollution and waste water treatment
No. of wage labour jobs	Gendered access to productive resources	Soil erosion
No. of family/self-employed jobs	Women's decision-making & leadership	Soil quality
Average wage for hired workers	Availability of food	Impact on associated species
Average wage proxy family labour	Accessibility of food	Status of vulnerable ecosystems
Total value of net wages	Utilization of food	Status of endangered, threatened, and protected species
Direct value added at core VC level	Stability of food	Responsible use of genetic resources
Indirect value added at VC level	Respect of labour rights	Application of biosecurity measures
Total value added at VC level	Child and forced labour	Appropriate plant growing practices
Contribution to GDP	Job safety and security	Responsible use of fertilizers
Contribution to trade balance	Job attractiveness	Responsible use of drugs and chemicals
Rate of integration	Collective action	Air pollution
Public finances impact	Coordination of transactions	Inorganic solid waste pollution
Contribution to investment	Social cohesion	Organic solid waste pollution
Consumer surplus	Cultural traditions	Food loss
Food safety violations	Policy, regulations and standards	Food waste

Economic sustainability	Social sustainability	Environmental sustainability
Consumer evaluation	Access to finance	
Consumer preference	Access to natural resources	
Price relative to substitutes	Access to information and knowledge	
Resilience		
Redundancy	Diversity	Connectivity
Collaboration	Learning and adaptation	Participation and inclusion

Key:		
Not concerning	Concerning	Highly concerning

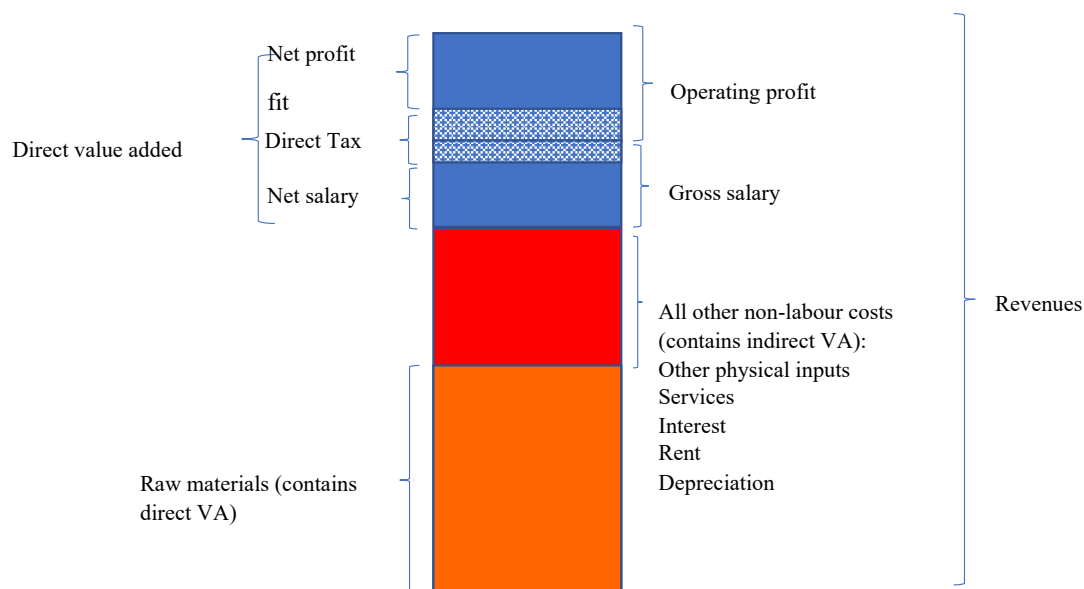
Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of 2030 Agenda – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

4.2.1. Economic assessment

The economic analysis focuses on the actor-level and value chain-level contributions to economic growth. It contains six domains:

- ➔ Profitability (financial analysis)
- ➔ Employment (see Figure 10)
- ➔ Value added
- ➔ Effects in the national economy
- ➔ International competitiveness
- ➔ Value for end-consumers

Each domain presents a number of sustainability impact indicators, with the central concept being 'value added' (VA). VA is the difference between the revenue from goods sold and the total cost of goods and services purchased from other firms (see Figure 9).

FIGURE 9. The value-added concept (at actor level)

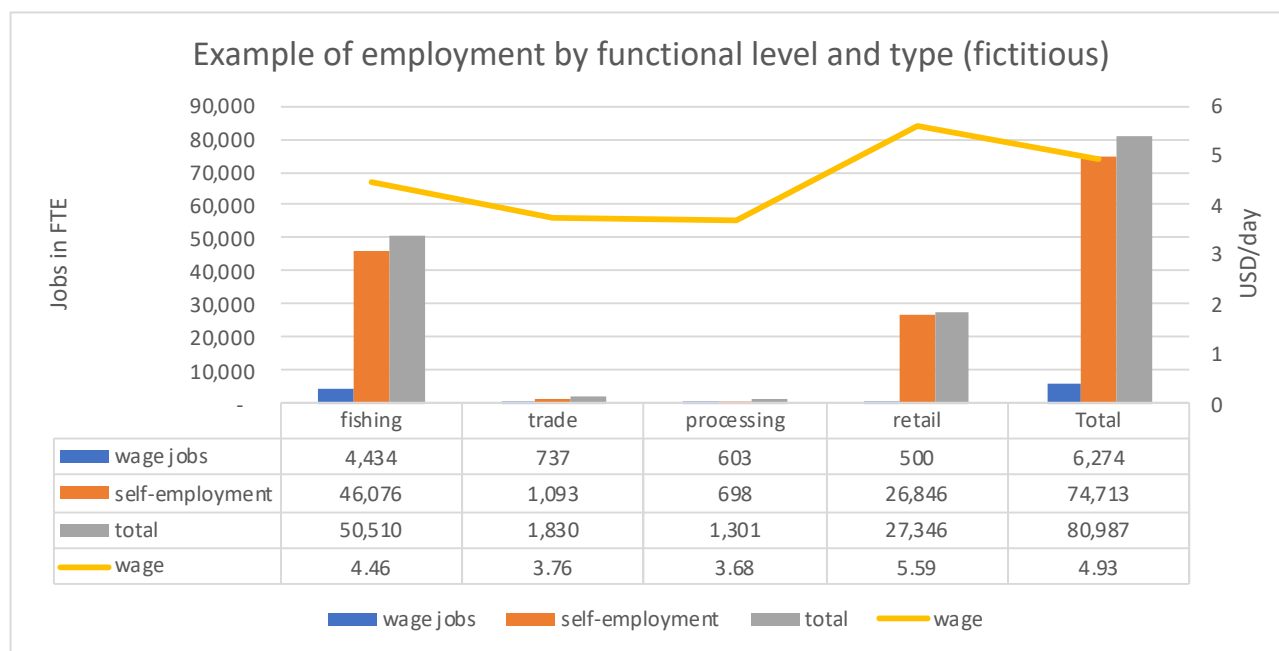
Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

The concept distinguishes between raw materials bought from the preceding actor in the VC and other costs. Essentially, this means that value added consists of wages, profits, taxes, interest, depreciation, and rent. As the assessment's focus lies on the value added captured by employees, asset owners and the government, rents, interest and annual depreciation are included under other costs. To conduct the economic analysis the FAO's value chain analysis Tool (see box), and an associated spreadsheet tool are used.

Social profile tool

The social sustainability analysis uses the social profile tool, an Excel based spreadsheet inspired by the VCA4D approach. The tool involves expert-scoring based on a combination of qualitative and quantitative data organized around a set of 72 questions and 25 quantitative indicators. As such it is a strategic device to help highlight potential areas to address through value chain development.

Figure 10. Number of jobs and type of employment along the value chain



Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>.

4.2.2. Social assessment

The objective of the social sustainability assessment is to measure the social impacts of the value chain activities (positive and negative) across six core social domains and corresponding framing questions:

- 1. Inclusiveness:** how equitably are the economic benefits distributed across the value chain?
- 2. Gender equality:** how does the value chain promote gender equality?
- 3. Food security, safety and nutrition:** how does the value chain contribute to a secure, safe, nutritious and stable food supply?
- 4. Decent employment:** how does the value chain ensure that working conditions are safe, secure and decent?
- 5. Social and cultural capital:** how are social and cultural capital protected and enhanced through this value chain?
- 6. Institutional strength:** how are public and private institutions strengthened through this value chain?

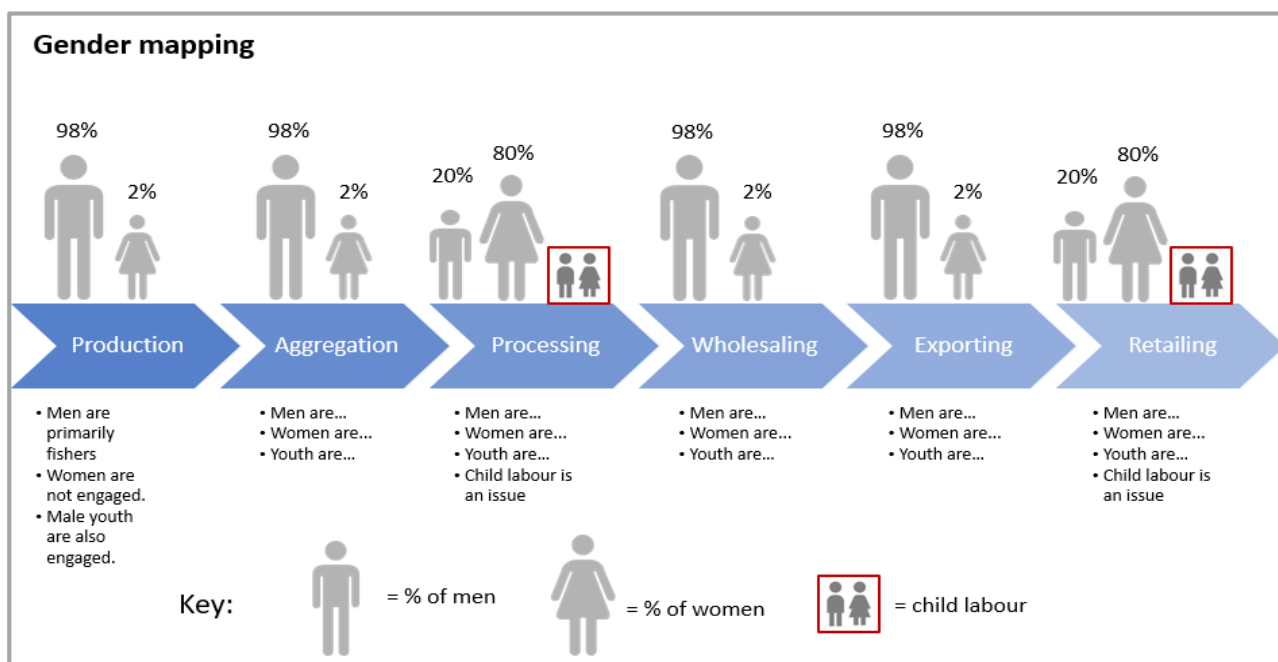
As Table 8 demonstrates, each domain is broken down into four sub-domains. Three key questions per sub-domain are provided in the social profile tool. The social expert answers these questions and gives a rating scored 1-to-5.

Table 8. Social domains and subdomains

1. Inclusiveness	4. Decent employment
1.1. Wages and employment distribution	4.1. Respect of labour rights
1.2. Value added distribution	4.2. Child and forced labour
1.3. Poverty	4.3. Job safety and security
1.4. Discrimination	4.4. Attractiveness
2. Gender equality	5. Social and cultural capital
2.1. Women's economic involvement	5.1. Collective action
2.2. Gendered division of labour	5.2. Coordination of transactions
2.3. Gendered access to productive resources	5.3. Social cohesion
2.4. Women's decision-making and leadership	5.4. Cultural traditions
3. Food security, safety and nutrition	6. Institutional strength
3.1. Availability of food	6.1. Policy, regulations and standards
3.2. Accessibility of food	6.2. Access to finance
3.3. Utilization of food (nutrition, safety)	6.3. Access to natural resources
3.4. Stability of food (trends)	6.4. Access to information

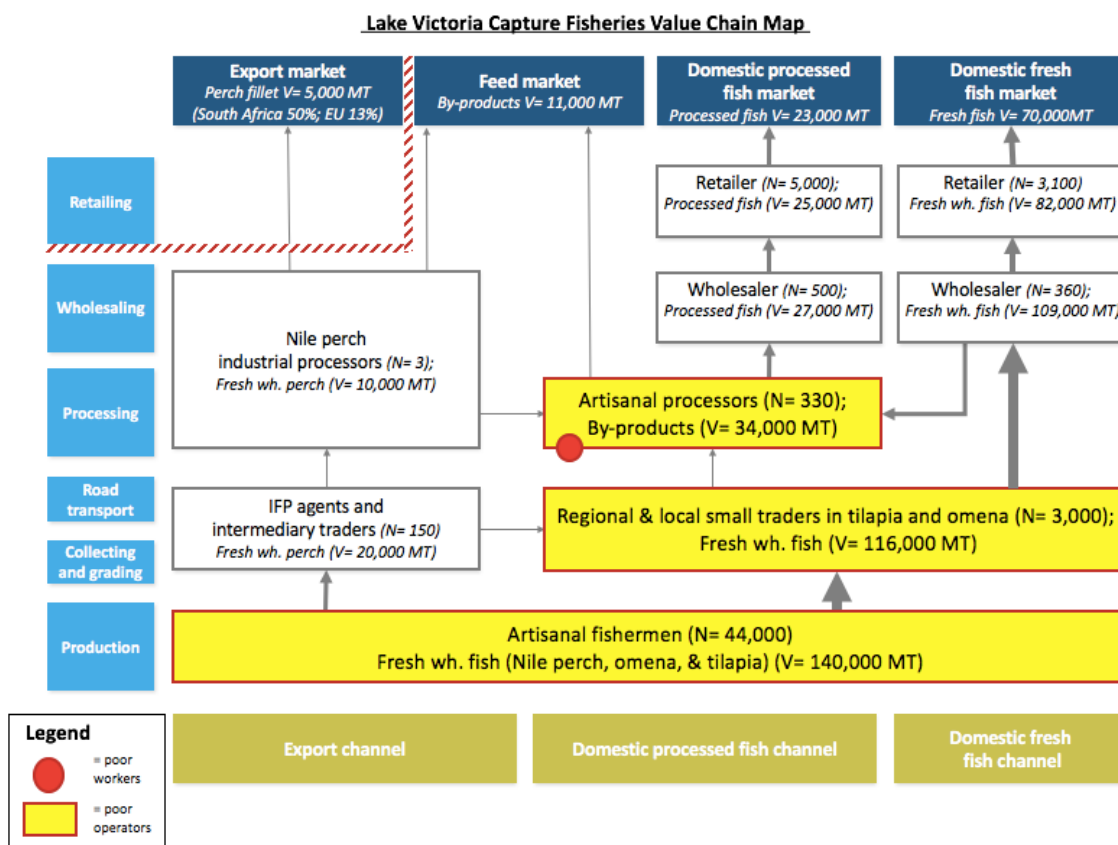
Source: Authors' own elaboration.

Figure 11. Example of a value chain gender mapping



source: FAO (forthcoming)c.

Figure 12. Example of a value chain poverty mapping



source: adapted from USAID (2008).

The heat-map (Table 7) and the generated indicators are also used for monitoring purposes, meaning that they track changes over time. They are also used to identify topics that require more in-depth analysis to be conducted by short-term experts. This is particularly relevant in conflict-prone or conflict-affected contexts, since they are characterized by a population's greater exposure and vulnerability to poverty, gender-based violence, food insecurity, inequality and forced displacement (OECD, 2022). The decision to conduct a complementary analysis depends on the project's priority, as well as the initial findings of the functional analysis and the sustainability assessment. Examples include thematic value chain mapping exercises (e.g., to reflect the inclusion of women or the poor in the value chain, as illustrated by Figure 11 and Figure 12, or any other vulnerable group); the computation of disaggregated indicators (e.g. distribution of operating profits of women versus men-led enterprises); or conducting a vulnerability analysis of specific groups (e.g. internally displaced people) to involve them in the value chain. Practitioners should focus on those vulnerability elements which they can address through a value chain upgrading intervention and liaise with relevant partners for those that they cannot address (e.g., humanitarian assistance).

In this guide, population displacement is considered through the lens of agrifood value chains. Whether forced or voluntary, population displacement can affect agrifood value chains in different ways, for example by generating demand shocks in the food market, supply shocks in the labour market, or conflict over access to natural productive resources (land and water). When population displacement is voluntary (migration), it represents a funding source for value chain development through the mobilization of remittances. Conversely, agrifood value chains can also affect population displacement. This is dependent on their ability to deliver quality and affordable food products, create attractive and decent employment and self-employment opportunities, or ensure access to productive resources, for all segments of the population, in a sustainable manner, and despite the occurrence of shocks and stressors. For practitioners, this means not only identifying and anticipating the opportunities and threats posed by population displacement for value chain development, but also designing value chain upgrading interventions that maximize the benefits for the population, including its most vulnerable segments. While some tools, questionings, and examples are provided throughout the guide, practitioners should keep in mind that agrifood value chains are one livelihood system among others and may not be able to solve all sources of vulnerability on their own. Population displacements also induce some specific constraints (e.g., in countries hosting refugees) that are not addressed in this guide. It is therefore advisable to partner with complementary projects and expertise (e.g. ILO and UNHCR's "Guide to market based livelihood interventions for refugees", available at https://www.ilo.org/empent/Projects/refugee-livelihoods/WCMS_634395/lang--en/index.htm).

4.2.3. Environmental assessment

The environmental sustainability analysis aims to determine the value chain's impacts on the natural environment by categorizing the impacts according to their severity. The analysis identifies critical areas (hotspots) that may require more in-depth measurement and analysis. Seven environmental domains are examined in detail. Each domain comprises several subdomains (Table 9) and for each subdomain, a number of indicators require to be measured and discussed in order to evaluate the environmental sustainability at sub-domain level. The information needed for the environmental analysis is collected based on secondary data, key informant interviews, as well as firm and consumer level interviews and surveys. The analysis examines environmental impacts across the different stages of a value chain, from primary production to end-consumption, making a distinction between different groups of actors in order to obtain an overview on what specific parts of the value chain have the smallest or the largest impact on the natural environment.

Table 9. Environmental domains

1. Climate impact	5. Plant health
1.1 Electricity use	5.1 Application of biosecurity measures
1.2 Fuel consumption	5.2 Appropriate plant growing practices
1.3 Carbon footprint	6. Toxicity and pollution
1.4 Renewable energy use	6.1 Responsible use of fertilizers
2. Water footprint	6.2 Responsible use of drugs & chemicals
2.1 Water consumption	6.3 Air pollution
2.2. Water pollution & waste water treatment	6.4 Inorganic solid waste pollution
3. Soil quality	6.5 Organic solid waste pollution
3.1 Soil erosion	7. Food loss and waste
3.2. Soil quality	7.1 Food loss
4. Biodiversity and eco-systems	7.2 Food waste
4.1 Impacts on associated species	
4.2 Status of vulnerable ecosystems	
4.3 Status of endangered, threatened and protected species	
4.4 Responsible use of genetic resources	

Source: Authors' own elaboration.

4.2.4. Resilience assessment

The framing question for this section asks whether the value chain is resilient (or vulnerable) to shocks and stressors. Put another way, does the value chain maintain its ability to generate and deliver food products and value despite the occurrence of shocks and stressors? Answering this question relies on the functional analysis, and the response feeds into development of the vision, strategy and implementation plan development.

At its core, the analysis of value chain resilience is at the value chain level. However, this implies looking into the components of the system such as agrifood firms. While shocks and stressors will likely impact firms (and their owners), consumers, workers and the government, and the impact to all four groups requires assessment,

the agrifood firm is at the nexus of the causal relationships in value chain development. The degree to which an agribusiness can maintain its operations in the face of a shock, will impact employment, food supply and tax revenues. When analysing the components of the value chain, the focus is thus at the firm-level, rather than the household level.⁶ This includes the response capacity of the firms in the value chain (both core actors and support providers), which in turn depends on the structure of the value chain and the behaviour of the firms. The latter both influences and is influenced by the behaviour (responses) of other value chain stakeholders, i.e., consumers, workers and especially the government.

The ability of the value chain to withstand shocks and stressors is determined by five key capacities:

- **Anticipation** – capacity to understand and anticipate shocks and stressors and reduce their impact through risk management and strategy planning, e.g. preparedness, forecasting and early warning systems, local and national Disaster Risk Reduction (DRR) strategies.
- **Prevention** – capacity to adopt preventive measure to lower the impact of shocks and stressors, e.g. setting up of grey (dam) and green (trees, hedges, etc.) infrastructure to reduce the impact of flood.
- **Absorption** – capacity to cope immediately with the effects of shocks and stressors.
- **Adaptation** – capacity to adapt to new options in the face of a shock by making proactive and informed choices about alternative strategies based on an understanding of changing conditions.
- **Transformation** – capacity to transform and go through a structural change in a more fundamental way to make the value chain structurally more resilient. This can be done by shifting to a new technology, product, institution, infrastructure, governance mechanisms, etc.

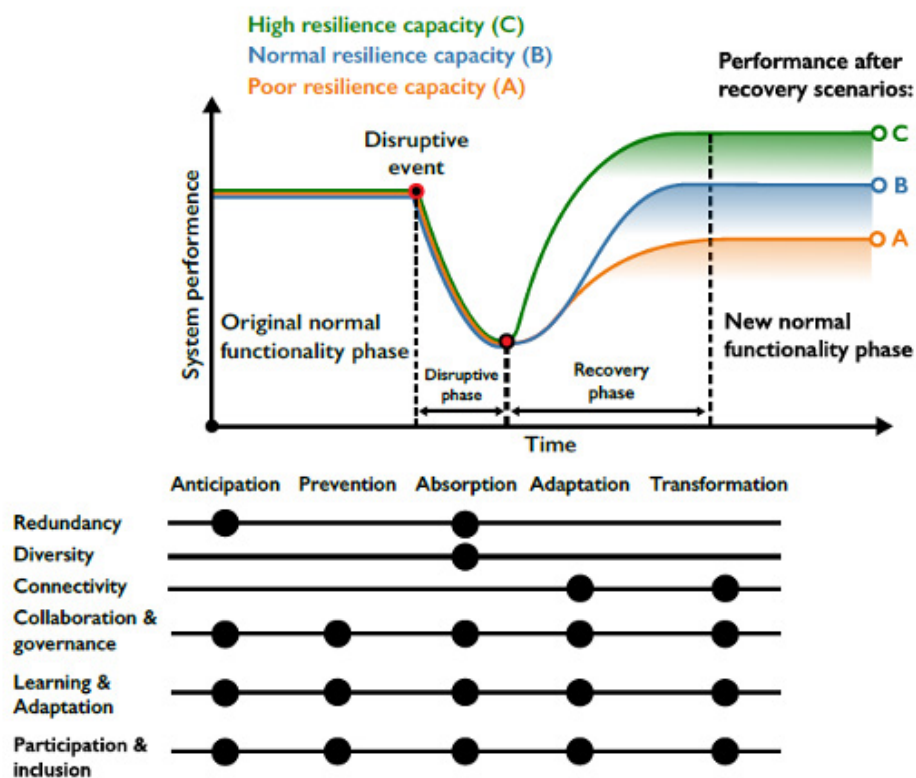
Anticipation and prevention are capacities of the value chain that relate to the phase prior to an occurrence of a disturbance. Absorption refers to the capacity that the value chain can draw on during the event of the disturbance (likely short-term), and is influenced by the anticipation and prevention capacities, while adaptation and transformation capacities are more relevant in the aftermath of a disturbance and they determine how recovery happens (medium to long-term).

The resilience assessment occurs in two steps:

- **Step 1 – assess how resilient the value chain is** to (potential) shocks and stressors, i.e., how well do the individual and collective coping strategies work and allow the value chain to continue delivering value (food products and services) to the society without depleting natural resources? The assessment is made through the six resilience domains listed in Table 10.
- **Step 2 – assess the sustainability impact pathways** of the relevant shocks and stressors identified in the functional analysis. Identify the economic, social, and environmental impacts. Who and what would be most affected and how? Will firms go out of business, workers lose their jobs or become ill, consumers face reduced food security, food safety or nutrition, loss of natural resources, etc.? Are there particular geographic locations, vulnerable groups, firm types or value chain channels etc., that will be particularly severely affected? Are there important indirect impacts and externalities (domino-effects)?

⁶ Farms and fishing operations are included under firms here. In the case of small family-owned operations, the distinction between household and firm may be minimal. How shocks affect different household members in different ways may be touched upon in this analysis (e.g., flag a potential important impact), but a detailed analysis of intra-household dynamics during times of shock goes beyond the scope of this analysis (but could be proposed as an activity in the action plan table).

Figure 13. Post-shock recovery scenarios of a value chain and the role of resilience capacities



Source: FAO. (forthcoming)b. Developing sustainable food value chains – Guiding principles.

When assessing the impact of a shock or a stressor, three phases can be distinguished (Figure 13):

- » the disruptive phase;
- » the recovery phase;
- » the new normal phase.

While the disruptive phase is important in terms of minimizing the short-term impact on vulnerable groups, it is the recovery phase that is critical for long-term impact. The new normal for the value chain can be associated with a poorer, similar or better sustainability performance than previously, depending on the nature of the recovery process. It is therefore important to realize the importance of the recovery process and to evaluate how the shock can be used as an opportunity for transformational change that improves the sustainability performance.

Table 10. Resilience domains

Structural resilience domains	Behavioural resilience domains
Redundancy	Collaboration and governance
Diversity	Learning and adaptation
Connectivity	Participation and inclusion

The definitions and related indicator for each resilience domain are provided below.

→ Domain 1: redundancy

Redundancy refers to a value chain having excess capacity in terms of infrastructure, finances, stocks and numbers of actors performing the same function, etc. An excess capacity position and the availability of back-up systems enables the value chain's core functionalities to be maintained in the event of shocks.

Indicators:

- » Buffer inventories
- » Storage capacity
- » Savings
- » Government reserves
- » Surplus of actors performing the same function in the value chain

→ Domain 2: diversity

Diversity refers to the existence of multiple components and substitutes with different risk profiles within the value chain. The more diverse the value chain components are, and the lesser the degree of dependency on one element (e.g., one actor, one input, one services provider, one location, the lesser the likelihood of a particular shock severely disrupting the value chain.

Indicators:

- » Variety of end markets and channels (local and trade-based)
- » Variety of value-addition options and products
- » Variety of production systems in a variety of locations and with a variety of technologies
- » Variety of actors in the core value chain
- » Variety of actors in the extended value chain
- » Variety of inputs or presence of substitution
- » Biodiversity

→ Domain 3: connectivity

Connectivity refers to the presence of connections of various types between actors, other value chain stakeholders and resources, from the perspective of the extent they are expected to hold up in case of a shock. Having good connectivity between components assists in quickly identifying problems and needs, and in facilitating flows that boost recovery and mitigate the effects of shocks.

Indicators:

- » Presence and reliability of relevant physical infrastructure (markets, transport, IT, utilities)
- » Presence of strong social linkages (informal socio-cultural elements)
- » Presence of strong and flexible formal institutional elements connecting the different stakeholders
- » Presence of networks (organizational elements)
- » Connection to input and output markets (including open trade agreements)
- » Presence (and broad-based participation) in digital platforms, the formal economy

→ Domain 4: collaboration/governance

Collaboration (as opposed to competition) refers to how actors and other value chain stakeholders collaborate to achieve common purposes, especially as regards resilience. Collaboration enhances resilience capacities because risks are shared among stakeholders and because the value chain stakeholders as a group have a better picture of the risks and how to manage them.

Indicators:

- » Experience sharing within actors' groups (horizontal)
- » Experience sharing between actors' groups and the impact of market power (vertical)
- » Degree and effectiveness of collaboration between Ministries
- » Degree and effectiveness of collaboration between the public and private sectors (commodity platforms)
- » Degree of trust and transparency as opposed to secrecy, fraud, bribery, and corruption
- » Presence and effectiveness of collaboration during previous shocks

→ Domain 5: learning and adaptation

Learning and adaptation describes the levels of flexibility and innovation within the value chain, in particular with respect to previous shocks. It assesses how the value chain is gradually improving or destabilising its ability to absorb, adapt and transform, and if the distance to tipping points is shrinking or growing.

Indicators:

- » Levels of experimenting and innovation (proactivity compared with reactivity)
- » History of dealing with shocks and level of past success
- » Presence of agile business models that can easily adapt to shifts in their environment

- » Level of shock-preparation plans and value chain stakeholders' (public and private) to implement them
- » Presence of information-gathering processes and warning systems for monitoring of some variables
- » Presence of quick response capacity in terms of contingency plans and procedures (including within contracts)

→ Domain 6: participation and inclusion

Participation refers to the empowerment and engagement of the full range of diverse value chain stakeholders in any potential upgrade process. Do all have a say, especially in how to prepare for, deal with and recover from shocks? Widespread participation and inclusion can contribute to diverse knowledge, technical or management ability, monitoring, funding, or legitimacy and political support. The outcome will be stronger resilience. Improved inclusion also helps assure that selected vulnerable groups do not bear the brunt of the impact of shocks.

Indicators:

- » Vulnerable groups are well connected to shock response and recovery mechanisms
- » Proportionality of the risk distribution
- » Risks can, or are likely to be, transferred from weaker to stronger value chain actors (shared risk).⁷

4.3. Value chain-level conflict analysis

The value chain-level conflict analysis continues and completes the context analysis. The goal is to design a conflict-sensitive upgrading strategy for the value chain. It explores the three interactions between the value chain and the conflict-prone or conflict-affected context as presented in section 1 (Gündüz and Klein, 2008):

1. The impact of the conflict-prone or conflict-affected context on the value chain
2. The impact of the value chain on the conflict-prone or conflict-affected context
3. Conflicts present within the value chain

The analysis occurs in four major steps.

Step A. identifying the conflict lines in the value chain. This step assesses whether the conflict lines identified in the context analysis are relevant for the selected value chain. It also identifies some other conflict lines that may not be directly related to the broader conflict-prone or conflict-affected situation, but which may influence the behaviour and relationships of actors and stakeholders involved in the value chain.

Guiding questions:

- To what extent are the conflict lines of the broader conflict-prone or conflict-affected situation reproduced in the value chain?
- What are the other issues in the value chain that divide the value chain actors and stakeholders around opposing or even irreconcilable positions?

⁷ Shared risk refers to how proportionately the risk is distributed, assuming that the more widely it is distributed, the easier it is to carry. Also, if a buyer can reduce the burden on an at-risk supplier by paying them more quickly, then the risk shifts from supplier to buyer, with the latter now having more risk, but no actor reaching tipping point level risk.

Step B. understanding the conflict and peace drivers within the value chain. This step focuses on the identification of:

- **Conflict drivers:** the factors that generate and/or maintain disputes/tensions/ conflicts within the value chain from political/governance, economic, social, environmental and security perspectives. Factors can include: various dividing values and principles; competing interests and colliding positions of value chain actors; aggressive attitudes; threatening conduct; discriminatory laws; and marginalising practices by organizations and structures within or pertaining to the value chain. Particular attention must be paid to those conflict drivers that overlap with the broader conflict-prone or conflict-affected situation, as they may contribute to conflict escalation or the recurrence of conflict, including violence. Examples of conflict drivers can be found in Annex 6.
- **Peace drivers:** the factors that contribute to cooperation and cohesion within the value chain. These ensure that useful entry points are identified and utilised to optimize the value chain's capacity to contribute to peaceful coexistence, cooperation and strengthened social cohesion.

The below guiding questions assist with identifying conflict and peace drivers in the value chain functioning and its sustainability performance. The lists are not exhaustive and require to be adapted to each conflict-prone or conflict-affected context. The findings of the analysis are summarized in Table 11.

Guiding questions:

→ General

- » What are the main peace and conflict drivers in the value chain?
- » Do the conflict drivers in the value chain overlap with the broader conflict drivers identified in the context analysis?

→ End-market

- » Is there a fair and equitable access to certain end-markets or segments thereof, or is there discrimination against certain groups, including consumers?
- » Are these constraints related to the conflict drivers identified in the context analysis?

→ Input provision

- » Is access to inputs restricted or permitted based on affiliation to different identity groups, or for those deemed as being on the 'right' side of the conflict line (i.e., a specific issue dividing individuals/groups having entrenched positions)?
- » Are the quality and price of the inputs differentiated based on the buyer's identity, social status, etc.?

→ Finance

- » Is access to finance restricted to certain groups? Does this restriction overlap with conflict lines?
- » Does it reach historically marginalized groups or groups that have experienced discrimination?
- » What are the sanctions if a debt is not repaid?

→ Non-financial service provision

- » Is access to relevant value chain services fair and equitable for all value chain actors and stakeholders, or are they restricted in certain contexts based on group affiliation?
- » Are there disputes/tensions/conflicts related to any of the relevant service areas in the value chain? Where are the conflicts arising, and what is driving the disagreements/ conflicts?

→ Enabling environment

- » Do some subsidies/tax exemptions benefit particular groups while excluding others?
- » If some practices are not adapted to the relevant religious or cultural rules/sensitivities of the community (e.g., interest rate, animal slaughtering, etc.), is this failure to adapt acting as a conflict driver?
- » Do inefficiencies in the value chain such as transportation costs, additional taxes, cause grievances/tension/ conflict within the value chain?

→ Governance

- » Are there conflict lines within and between the value chain actors and stakeholders? Where are these and what drives/perpetuates them?
- » Is there fair and equitable access to each segment of the value chain and its services regardless of identity, social status, etc.? Are certain groups marginalized and does it overlap with the conflict drivers identified in the context analysis?
- » Do regulatory frameworks, and planned reform thereof, involve the participation of all relevant actors, or are restricted to large scale, influential value chain actors and stakeholders?

→ Economic performance

- » Does the value chain offer the level of profits to value chain actors that allows their basic needs to be met, thus minimising incentives to engage in war/violence?
- » Does the value chain generate accessible employment opportunities and wages at a level sufficiently appropriate to minimise the risk of value chain actors engaging in illicit trade or war/violence?
- » How is the value-added generated by the value chain used in the country/region? Is it diverted to assist funding war/illicit activities?
- » Is the value for end-consumers likely to cause grievances/tension/conflict? One example is that inefficiencies along the value chain induce excessive prices for end-consumers.

→ Social performance

- » Is the distribution of profit equitable among value chain actors? Do inequalities overlap with the identified conflict drivers?
- » Are sustainable, decent and well-paid value chain employment opportunities equitably accessible to all community groups, regardless of their identity or group affiliation (e.g., gender, political, geographic, religious, ethnic, migration status)?
- » How does the value chain integrate socio-cultural norms related to gender-equality and related power-dynamics? Are there equal and equitable decision-making roles and opportunities for the different gender groups?
- » How do the inefficiencies of the value chain (food shortages, lack of healthy/quality food, etc.) impact the societal dynamics? Do they cause unrest, demonstrations, or other public order issues?
- » Are value chain governance practices, the associated policy environment, policies and practices contributing to the weakening or strengthening of social and cultural capital? From these practices, what contributes to group alienation, lower mobility, and less opportunities for social participation? What contributes to strengthening social ties?
- » Are the value chain regulations transparent and accountable in front of the value chain stakeholders and beneficiaries?

→ **Environmental performance**

- » Does the value chain use scarce resources such as water and energy in an unsustainable manner, deepening resource-related grievances and conflicts in a given area? Does this footprint contribute to the displacement of communities?
- » Does the value chain over-exploit and/or waste biodiversity resources such as fish, forests, etc.), leading to loss of livelihood and food insecurity for certain societal groups?
- » What are the value chain's animal health and welfare practices?
- » Is access to biosecurity measures equitable to all value chain actors, regardless of their identity or group affiliation (e.g., gender, political, geographic, religious, ethnic, migration status etc.)?
- » Does the toxicity and pollution footprint of the value chain contribute to poor health of value chain actors and consumers? Does this footprint contribute to the displacement of communities?

Table 11. Summary template of value chain conflict and peace drivers

	Economic	Governance	Social	Security	Environment
Value chain conflict drivers (no overlapping with broader conflict drivers)					
Value chain conflict drivers (overlapping with broader conflict drivers)					
Value chain peace drivers					

Source: Authors' own elaboration.

Step C: mapping the value chain actors and stakeholders. This step deepens the governance analysis (section 4.1.4) and explores the relationships between value chain actors and stakeholders around identified conflict lines. It focuses on the value chain actors and stakeholders who experience unresolved, competing, incompatible grievances and needs. This requires understanding their perspectives around the identified conflict lines. In order to anticipate a potential escalation of conflict, it is also important to assess the extent to which they are able to exert influence or power over the other value chain actors and stakeholders. Table 12 offers some guiding questions to explore these aspects. Particular attention must be paid to the value chain actors and stakeholders that are opposed around conflict lines which overlap the broader conflict-prone or conflict-affected situation. Drawing a conflict actor map showing the overlaps and interactions between value chain and conflict actors and stakeholders is also useful to assess the risk of (violent) conflict escalation or resurgence (Figure 14).

Step D: recommendations. The value chain-level conflict analysis culminates in the formulation of recommendations that will feed into the formulation of strategic options. The recommendations will be refined in the conflict-sensitivity assessment of the strategic options (section 5.3).

Guiding questions:

- ➔ How can the intervention seek to reduce the impact of conflict drivers related to the value chain, while attempting to support localized peace drivers?
- ➔ How should the intervention work with local stakeholders? How could the intervention be more inclusive with respect to marginalized groups?

Success story 3: installation of cold storage units to improve income for potato value chain actors - the case of the West Bank

Potato is one of the most consumed vegetables in Palestine and represents the largest area planted with vegetables (around ten percent). Despite high demand, potato production and marketing are hindered by limited storage capacity, thus negatively affecting farmers' incomes. Second season planting is limited to the small number of farmers with access to storage facilities able to keep their seed potatoes for the next season, but at high cost. Insufficient storage capacity also forces most of the farmers to sell their produce in the peak season. These challenges have been exacerbated by the escalation of the Israeli-Palestinian conflict, which has further reduced storage capacity.

Under the Multi-donor Agribusiness Programme (MAP), FAO supported 18 farmers/cooperatives to adopt business models with a demonstrated potential for social inclusivity, environmental sustainability and profitability. A competitive process allowed provision of support investments at firm-level and the establishment of a cold storage unit for vegetable crops (mainly potatoes and onions) with a storage capacity ranging from 400-1 000 m³.

As a result of the intervention, storage capacity, accessibility, and affordability have all increased, enabling farmers to improve their incomes by reducing potato production costs and increasing selling prices. Farmers are now able to store surplus crop (after marketing) for up to three months and sell them at prices two to three times higher than those prevailing during the peak production period. Additionally, these farmers can store the non-marketable potatoes which will be planted as potato seeds in the winter season. They also sell their stored seeds to other farmers who do not have storage facilities because imported seeds are not available in the winter season. The installation of solar systems in some of the storage facilities makes it possible to reduce storage costs and vulnerability to power outages.

By improving access to storage facilities and farmers' incomes, the intervention contributed to increasing their production capacity creating jobs across the value chain. Additionally, nearby farmers could store their excess produce to utilise later and also store seed potato for the second season planting.

5 Step 4: value chain design

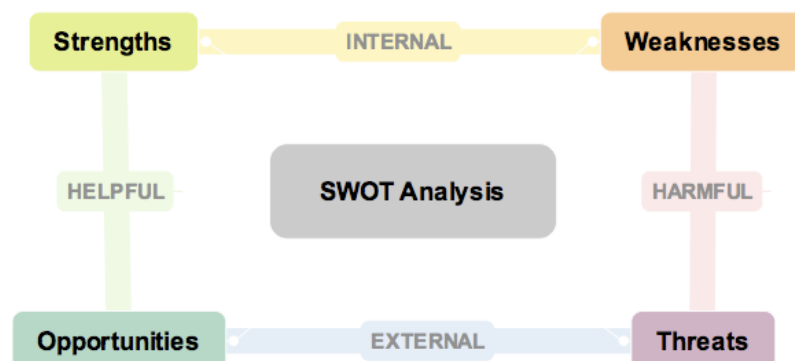


Based on the findings of the value chain analysis, a conflict-sensitive value chain design is developed in step 4. The analytical findings are summarized in a SWOT matrix (section 5.1). This informs the drafting of strategic options and the creation of an inspiring vision that will drive the development of the value chain (section 5.2). The value chain team facilitates a discussion with the value chain stakeholders to seek agreement upon a shared vision. Also sought is a conflict-sensitive assessment of the strategic options to decide which of them are most able to minimize conflict drivers while maximizing prospects for peace (section 5.3). An upgrading strategy (section 5.4) and a theory of change are developed to achieve the pre-agreed vision in compliance with the conflict-sensitive programming recommendations (section 5.5). This comprises three types of upgrading activities, namely, upgrading business models, upgrading the enabling environment and upgrading governance (section 5.6). The alignment between agreed vision and upgrading strategy, externalities, sustainability and resilience impact is reviewed in the sustainability impact assessment (section 5.7), and ultimately, the upgrading plan development lays the ground for the finalised project implementation (section 5.8).

5.1. SWOT analysis and strategic options

SWOT analysis is a tool that transforms analytical complexity into strategic simplicity. The object of SWOT analysis is the entire value chain. Four sets of factors (strengths, weaknesses, opportunities and threats) that can foster or hinder the development of the value chain are extrapolated from the value chain analysis. As shown in Figure 15, strengths and weaknesses are 'internal' to the value chain, whereas opportunities and strengths are 'external' to the value chain. 'Internal' in this context refers to existing linkages in the value chain (e.g., a lack of trust between producers and service providers represents a weakness), and events or trends that have already occurred, such as ongoing population growth and urbanization represent a weakness contributing to urban expansion thus amplifying pressure on the availability of arable land for the value chain). 'External' refers to linkages not current existing (e.g., an excellent support provider not yet linked in to the value chain, but that represents an external factor as including them represents an opportunity). 'External' also refers to events or trends that have not yet occurred (e.g., the outbreak of violence). This means that shocks and stressors already identified are classified among 'weaknesses' if they have already happened, and among 'threats' if they have not yet happened but are likely to happen.

Figure 15. SWOT analysis



Source: <https://timothycohn.com/2010/07/13/A-SIMPLE-SWOT-ANALYSIS-DIAGRAM/>

Several core **strategic options** emerge from the four SWOT factors:

- ➔ For each opportunity, what strengths can be leveraged and what weaknesses can be addressed in order to take advantage of them? An example is: capitalize on the existing linkages in the coffee value chain (strengths) to improve the quality of coffee cherries (weaknesses) and reach new markets (opportunity).
- ➔ For each threat, what strengths can be leveraged and what weaknesses need to be addressed in order to take action to mitigate them? Examples include:
 - » adapt the existing price incentive mechanisms (strength) to increase coffee growers' willingness to embrace agroforestry production systems (weakness) and mitigate soil erosion (threat).
 - » strengthen the linkages with international buyers (strength) and build linkages with other value chains (e.g., cocoa and banana which are also grown in coffee agroforestry production systems) (weakness) to reduce the vulnerability towards market and income volatility (threat).

Typically, a range of different strategic options are available but not all of them are equally relevant or feasible. The final choice of strategic options depends on the vision that most value chain actors and stakeholders reach consensus upon, and also on the recommendations emerging from the conflict-sensitivity assessment of strategic options (see section 5.3).

5.2. Vision

Based on the findings of the value chain analysis (summarized in the value chain map, value chain heatmap and SWOT matrix), the value chain team drafts a vision for the value chain. The value chain analytical findings, core strategic options and the vision are discussed with value chain actors and stakeholders during a **validation workshop**.

A vision for the value chain consists of a short vision statement that is linked to an inter-related set of concrete intermediate and final goals. A good vision statement:

- ➔ inspires;
- ➔ is shared;
- ➔ promotes the Sustainable Development Goals (SDGs);
- ➔ is realistic and entails concrete goals; The concrete goals have to be **SMART: Specific, Measurable, Achievable, Relevant, Time-based**.
- ➔ aligns with national development plans;
- ➔ deals with potential trade-offs.

The vision needs to reflect what a majority of the value chain stakeholders can and want to achieve in the next ten to fifteen years. This is critical to ensure the accountability of the upgrading strategy. Because of the greater vulnerability of the population in conflict-prone and conflict-affected contexts (to extreme poverty, inequity, food insecurity, forced displacement, sexual and gender-based violence and natural disasters), it is strongly recommended that a vision be formulated that explicitly contributes to reducing these vulnerabilities.

An example of a vision and corresponding SMART targets is:

"In 10 years, the coffee of the value chain is considered a reference on the international markets in terms of taste and ecological quality and contributes locally to the establishment of a social and solidarity economy".

- Export value of x USD
- Equitable distribution of value added among the value chain (score 4)
- x farms with appropriate plant health measures in place
- Over x jobs created, including x jobs for internally displaced people

As value chain stakeholders typically have divergent opinions of what direction to take, the vision, and associated strategic options are to be discussed with and subsequently adapted as deemed necessary by them and will result in a compromise. The value chain team should be aware that a workshop typically gathers stakeholders with different levels of experience, knowledge, and social status, which inevitably leads to a bias in the opinions being expressed. The stakeholders considering themselves as being less experienced, knowledgeable and socially recognized will tend not to express their views, despite being generally the most vulnerable (e.g., the extreme poor, or women). It is essential that the value chain team uses inclusive facilitation methods (e.g., alternating membership of focus group discussions and plenary sessions including focus groups disaggregated by relevant categories) to ensure that the vision also reflects the aspirations of the most vulnerable.

Trade-offs are unavoidable, as it is rarely, if ever, possible to align the different domains of sustainability through an intervention perfectly. Similarly, while resilience is a precondition for sustainability, the two do not automatically go together. Trade-offs may occur between different dimensions:

- **Between Economic, social, environmental sustainability dimensions.** For example, by focusing on exports to increase profits (economic sustainability), the value chain actors that are already well endowed with physical, human, natural, social and financial assets may be favoured while the most vulnerable remain excluded of such remunerative opportunities (social sustainability). By processing coffee beans directly in modern washing stations to increase their quality, the usual intermediaries are circumvented and lose their livelihoods. By increasing the cultivated area of coffee, the intervention may generate conflict over land use or even contribute to land degradation if agricultural practices are based more on profit maximization than on the sustainable use of natural resources (environmental sustainability).
- **Between sustainability dimensions and resilience** (FAO, 2021b):
 - » **Diversification/economic efficiency:** diversifying targeted markets, commodities, activities, and suppliers assists in mitigating risks associated with market volatility, but it foregoes the principle of economic specialization that allows a firm to accumulate experience and gain a comparative advantage. For instance, encouraging coffee growers to embrace agroforestry practices means increasing the diversity of products grown and marketed (e.g., coffee trees associated with cocoa and banana trees in complex agroforestry production systems). The diversification logic can be pushed to non-agricultural or semi-agricultural activities such as agri-tourism. It reduces coffee growers' vulnerability to fluctuating coffee/agricultural prices, but simultaneously requires that they develop skills in other activities.
 - » **Redundancy/inclusiveness:** duplicating the critical elements or functions of a value chain assists in mitigating risks associated with the destruction of productive assets and infrastructure, but it requires significant investments that may be unachievable for small and medium firms. These firms may be forced out of business either because they cannot cope with shocks, or because they are no longer competitive with larger firms more able to do so. Without adapted mechanisms, increasing the resilience

of a value chain can come with social costs (job and income losses). These may in turn drive conflict in and beyond the value chain. One example duplicating the warehouses to ensure the storage of coffee cherries in optimal conditions despite the destruction of some warehouses during a violent attack or an extreme weather event requires high investments that may be out of reach for small and medium wholesalers.

→ **Between different levels of sustainability and resilience.** For example, the Crop Intensification Program (CIP) implemented by the Rwandan Government in the early 2000s encouraged the production of 6 specific commercial crops (maize, wheat, potato, cassava, rice, and beans) by defining regional specializations, by making approved seed types and subsidized chemical fertilizers available, and by setting strict time-scale targets to achieve the desired level of production. The significant results in poverty alleviation allowed Rwanda to be recognized as a "shining example of successful economic and social development" (Dawson, Martin and Sikor, 2016). However, this "monetization of the agrarian economy" was made at the cost of a higher vulnerability to food insecurity at household level, since farmers were forced to move from using mixed crop systems (beans, cassava and corn) to monocropping systems, thus depriving them of a part of the production intended for their own consumption, and making them dependent on volatile food prices to meet their food needs.

If not addressed effectively, trade-offs may alter the value chain actors' and stakeholders' adhesion to the upgrading strategy (e.g., if they were not aware of all its negative aspects from the outset), and even trigger conflict in and beyond the value chain.

Trade-offs invite the value chain team to refine the envisaged strategic options. For example, how can the future upgrading strategy ensure that the most vulnerable can also access remunerative markets? How will it ensure that the value chain remains competitive on international markets while embracing agroforestry practices at production level? What alternatives will the future upgrading strategy offer to the intermediaries that are no longer required?

Dealing with trade-offs is a challenging exercise and is context-specific. The final choice must consider the balance between costs (economic efficiency losses, social and environmental externalities) and benefits (higher revenues and reduced damage and losses from potential disturbances) over time and at different scales (FAO, 2021b). Although resilience-building incurs additional costs in the short term, these should be offset by increased benefits as the value chain becomes more resilient to disturbances. Trade-offs should be explicitly considered and analysed from a conflict-sensitive perspective, as building resilience potentially entails winners and losers (disgruntled actors) (see section 5.2). The important point is to improve the functioning and performance of the value chain as a whole in the face of disturbances, while minimizing negative effects through a set of coherent measures all along the value chain. For example, if the construction and maintenance of additional warehouses is chosen as a measure to improve value chain redundancy, then some complementary measures are required at production and distribution level to do it in an inclusive and efficient way. At distribution level, the promotion of public investments and/or a guaranteed access to adapted bank loans will ensure that small and medium firms also benefit this measure. At production level, the formalization of cooperatives and the establishment of contract-farming will help streamlining the supply of the new warehouses while creating new market outlets for producers.

Finally, dealing with trade-offs may require the use of complementary tools to inform the decision-making (e.g., in-depth analysis to gather evidence on the side effects, role-playing games to help key value chain actors and stakeholders explore these negative effects and help them make up their own opinions). Annex 11 provides a non-exhaustive list of additional resources on trade-offs.

5.3. Conflict-sensitivity assessment of the strategic options

This section aims to reduce the risk of unintended negative impacts brought about by the value chain upgrading strategy on conflict dynamics, while strengthening the opportunity of contributing to peace dynamics and social cohesion. This section focuses on understanding the potential impact of the strategic options on the development trends of the previously identified conflict dynamics (context and value chain related), with the aim of identifying any potential, unintended negative impact that requires preventive/ mitigating action. The final outcome is the formulation of conflict-sensitive programming recommendations to upgrade the value chain.

The strategic options proposed to the value chain actors and stakeholders during the validation workshop are examined in four steps, adapted from FAO's methodology of the Programme Clinic.

Step A. participatory review of the peace and conflict drivers. This initial step allows the workshop's participants to become familiar with the peace and conflict drivers identified in the context analysis and in the value chain level conflict analysis. It is essential for participants to understand these drivers, as they will be requested to assess the impact of the strategic options on these drivers (STEP C). The participatory review of the peace and conflict drivers also offers the opportunity to enrich the analysis with participants' perspectives.

Step B. identifying and analysing the disgruntled/potentially disgruntled actors and stakeholders within the value chain. Building on the actors' and stakeholders' mapping results, this step identifies and analyses who amongst them might oppose the envisaged value chain upgrading strategies. Their opposition may be due to their unresolved grievances and needs, their exclusion or marginalization, or because of competing interests not yet served. Table 13 offers examples of guiding questions for the identification and analysis of the disgruntled value chain actors and stakeholders, as well as for the identification of engagement strategies that can generate positive/negative reactions from them. The list is not exhaustive and needs to be adapted to each country and value chain context.

Table 13. Guiding questions for the identification and analysis of disgruntled actors and stakeholders

Disgruntled actors/stakeholders	Engagement strategy with actors/stakeholders
<ul style="list-style-type: none"> » Who are those value chain stakeholders who would oppose the strategic options? » Are there excluded/marginalized individuals/groups that would oppose these options? Who are they? 	<ul style="list-style-type: none"> » What types of value chain interventions/ activities have created more opposition with these actors/stakeholders in the past? » What was the reason for opposition in the past? » How did this opposition manifest visibly?

Source: authors, based on FAO. 2019b. *The Programme Clinic: Designing conflict-sensitive interventions - Approaches to working in fragile and conflict-affected contexts. Facilitation guide.* Rome, FAO. www.fao.org/3/ca5784en/CA5784EN.pdf

Step C. conflict and peace impact assessment. This step overlays the strategic options with the conflict and peace drivers identified in the context analysis and the value chain-level conflict analysis, so that negative and positive impacts can be pinpointed and analysed. Table 14 provides guiding questions to conduct the conflict and peace impact assessment.

Table 14. Guiding questions for the Conflict and peace impact assessment

	Strategic option 1	Strategic option 2	Strategic option 3	Strategic option – N
Drivers identified in the context analysis	» Does the strategic option strengthen the identified conflict drivers/ contribute to the emergence of similar drivers (negative impact on the conflict drivers)?			
Drivers identified in the value chain-level conflict analysis	» Does the strategic option weaken the identified conflict drivers/ contribute to their resolution (positive impact on the conflict drivers)?			
	» Does the strategic option weaken peace drivers, eroding social cohesion? (negative impact on the peace driver)			
	» What does this negative/positive impact look like? What changes will happen in the identified conflict and peace drivers?			
	» What element(s) from the value chain strategic option is/are contributing to this identified impact?			

Source: authors, based on FAO, 2019b. *The Programme Clinic: Designing conflict-sensitive interventions - Approaches to working in fragile and conflict-affected contexts. Facilitation guide.* Rome, FAO. www.fao.org/3/ca5784en/CA5784EN.pdf

Step D. development of conflict-sensitive programming recommendations. Once there is a clear understanding of the peace and conflict impacts as a result of value chain upgrading strategic options, a list of recommendations is developed. These recommendations focus on the design of upgrading activities that should be included in the upcoming strategy in a manner that avoids, mitigates or positively transforms the identified conflict drivers, and maximizes the peace drivers (positive feedback loop). Table 15 offers examples of guiding questions for this exercise that can help in the development of the recommendations.

Table 15. Guiding questions for the identification of conflict-sensitive programming recommendations

General questions	
<ul style="list-style-type: none"> » What needs to be aligned/adjusted in the value chain upgrading strategy to ensure that the value chain upgrading activities will not negatively affect the identified conflict and peace drivers and stakeholder concerns? » What needs to be aligned/adjusted in the value chain upgrading strategy to ensure that the value chain activities will strengthen peace opportunities? 	
Source of findings	Guiding questions
Conflict-sensitivity assessment of the strategic options	<ul style="list-style-type: none"> » What recommendations would you make to minimize the risk of any negative impact the value chain upgrading strategy would have on conflict drivers? » What recommendations would you make to maximize the opportunities of positive impact on the peace drivers? » Is there a need for further information in order to better understand these potential impacts and how best to address them? If so, where/how can this information be obtained?
Disgruntled actor/stakeholder analysis	<ul style="list-style-type: none"> » What issues emerge from the stakeholder analysis that should be taken into consideration in the design of the value chain upgrading strategy? » Could decisions on the value chain upgrading design and implementation be improved to minimize the risk of producing or aggravating disgruntled actors and maximizing broader inclusion and ownership? » What other strategies, if incorporated in the upgrading design, could help strengthen the conflict-sensitivity of this intervention?

Source: FAO. 2019b. *The Programme Clinic: Designing conflict-sensitive interventions - Approaches to working in fragile and conflict-affected contexts. Facilitation guide.* Rome, FAO. www.fao.org/3/ca5784en/CA5784EN.pdf

5.4. Upgrading strategy

Once the vision and strategic options have been agreed upon, the upgrading strategy is developed by the value chain team following the conflict-sensitive programming recommendations. The upgrading strategy is the chosen integrated approach to simultaneously tackle all constraints through system-based solutions so as to realize the vision. The integrated strategy should target:

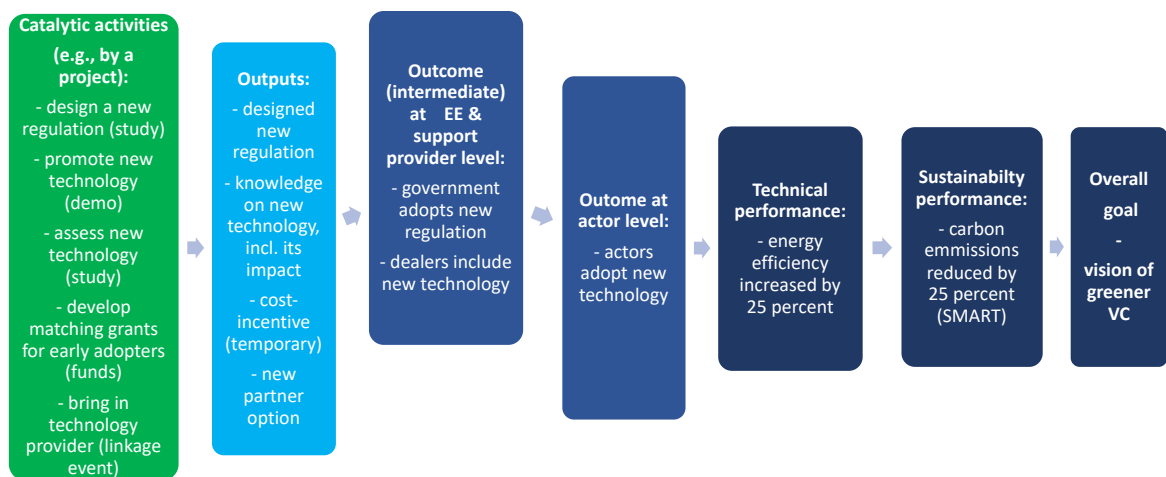
- ➔ the agreed vision;
- ➔ the most promising market opportunities;
- ➔ the actors and stakeholders most likely to implement the strategy;
- ➔ the upgrading opportunities across the four layers of the value chain where upgrading will have the biggest impact relative to the vision (i.e., the leverage points and root causes of bottlenecks).

In practice, complexity can hinder success. Consequently, the chosen strategy should be as clear and simple as possible. The question that needs to be asked to identify the best strategy is, 'of all the identified strengths, weaknesses, opportunities and threats (covering all the bottlenecks, leverage points and upgrading opportunities), which are the most important to realize the vision?'

5.5. Theory of change

The upgrading strategy is then evaluated against a theory of change. The theory of change is a graphic representation (Figure 16) clearly demonstrating how changes made in the existing **structure** (outputs, e.g., incentive mechanisms) result in changes in **behaviour** (outcomes, e.g., adoption of new practices), ultimately leading to an improved **performance** of the value chain (impact, e.g., increased resilience). The theory of change relies on the structure-conduct-performance paradigm and helps identify system-based solutions. It seeks to establish which catalytic interventions will bring about self-sustained mechanisms that improve the value chain performance and how that will be achieved.

Figure 16. Stylistic illustration of the theory of change (new greener technology)



Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of 2030 Agenda – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

Note: EE = Enabling Environment.

5.6. Upgrading activities

The upgrading strategy entails three types of upgrading activities:

1. The **upgraded business models** (at individual firm level). These compare the current business models with the proposed new models for core actor types (e.g., different scales or technologies to be used in production or processing. Examples include embracing agroforestry production systems, implementing different standards or utilising different markets and/or supporting providers.
2. The **upgraded enabling environment** (e.g., policy, legal or regulatory change, public investment, government capacity building). This proposes improvements that strategically address critical weaknesses (bottlenecks) in the enabling environment. An example is the implementation of price incentive mechanisms to foster the adoption of agroecological production practices and/or to mitigate the vulnerability towards market volatility).

3. **The upgraded governance (at system level) strives to improve the relationships between value chain stakeholders. Examples include:** developing contract-farming between coffee growers and international buyers; strengthening the cooperatives so that they can progressively assume the role of the modern coffee washing stations and, building umbrella organizations of cooperatives to reflect the multi-product approach from the agroforestry field to the sale and thus better share the risks associated to market volatility throughout the value chain.

A non-exhaustive list of examples tailored to suit the specific constraints of conflict-prone or conflict -affected contexts is provided in Annex 7.

5.7. Sustainability impact

To complete the upgrading strategy development, the upgrading strategy is linked back to the sustainability impact it is expected to have. Three dimensions must be aligned.

1. Will the strategy lead to the realization of the vision and deliver impact at scale?
2. Will the strategy generate important positive or negative economic, social or environmental externalities?
3. How will any negative externalities be mitigated?
4. Will the strategy increase the sustainability and resilience of the value chain?

In terms of value chain report development, this section will reflect the outcome of an iterative process (going back and forth between stakeholder consultation and technical finalization). This is the appropriate step for checking that the conflict-sensitive programming recommendations arising from the context analysis, the value-chain level analysis and the conflict-sensitivity assessment of strategic options are reflected in the final upgrading strategy.

5.8. Upgrading plan development

The last step in the process is to translate the core strategy into a concrete plan of action for implementation. The recommended activities are not independent solutions to individual problems but, taken together, constitute an integrated implementation plan to simultaneously tackle the constraints obstructing the achievement of the established vision and goals. The role of the project is a catalytic one, where phased-out vouchers, demo-activities, matching grants, linkage facilitation, one-off analytical work, amongst other matters, are used to stimulate systems-based solutions and thus the sustainable development of the value chain.

The implementation plan presents how the consensus achieved following individual stakeholder contributions will lead to the realization of the vision. It has four main components:

1. Overall logical framework for value chain upgrading
2. Overall action and investment/financing plan
3. Facilitation project modalities
4. Risk analysis and mitigation

To seek the buy-in of a critical mass of value chain actors and stakeholders and to develop an initial plan on how investments will be financed (implying the participation of financial services providers and investors), the implementation plan is presented and discussed in the planning workshop, the final stakeholder workshop of the value chain analysis process.

5.8.1. Overall logical framework for value chain upgrading

The logical framework is derived from the theory of change. For each expected impact and associated outcomes and outputs, the logical framework provides some indicators of achievement, as well as the corresponding sources and means of verification and assumptions (Table 16).

Table 16. Example of a value chain development log-frame (tuna value chain in the Republic of the Marshall Islands)

Impact	Impact indicator 1	2019 baseline	2025 target	2031 target	Assumptions
Increased exports, value addition and job creation in the tuna purse seine (PS) VC in RMI	Annual value in USD of exports from RMI PS vessels	10 823 503	39 175 558	55 182 344	n/a
	Means of Verification (MoV) (): MIMRA records				
	Impact indicator 2	2019 baseline	2025 target	2031 target	
	# of FTE jobs in tuna purse seine core VC in RMI (gender disaggregated)	177 (47 women)	313 (80 women)	410 (102 women)	
	MoV: survey of VC actors				
...	
Outcome 1	Outcome indicator 1	2019 baseline	2025 target	2031 target	Assumptions (to achieve impact)
PS fishing companies adopt containerization for sale to canneries	Annual volume of PS-caught tuna leaving RMI in containers	16 000	75 000	110 000	Container shippers can provide the numbers of empty reefer containers. Containerizing product makes financial sense given reefer transport cost and fish prices paid by canners/traders. Labour availability is not constrained.
		MoV: MIMRA records			
Output 1.1	Output indicator 1.1	2019 baseline	2025 target	2031 target	Assumptions (to achieve outcome)
Star loader technology demonstrated based on feasibility study, grant, purchase and demo.	Completed star-loader demo	0	1	1	A containerization company will confirm interested in co-financing a star loader with the with the project.
		MoV: Feasibility study. Grant. Star loader delivery docs. Demo report.			
...

The logical framework is developed at value chain level, as opposed to project level. Consequently, it includes outputs that are delivered by the facilitation project itself, but also by relevant value chain actors and stakeholders who act as 'catalysts' and/or as financing sources (see action and investment tables in Table 17 and Table 18). The logical framework feeds into the **MEAL framework**. In conflict-prone or conflict-affected contexts, this framework must include:

1. **Intervention indicators**, i.e., the usual output/outcome/impact indicators included in the logical framework that provide information on the successful implementation of an activity. They are used for **monitoring** and **evaluation**, but also for **learning** purposes. For instance, if an initial small-scale change is introduced in the structure (e.g., a specific form of training), the indicators provide information on the outcomes (such as the adoption of a new practice by actors). If outcomes are as expected, the change-activity is scaled up. If the support activity is not having the desired outcomes, the cause is investigated and the activity (or set of activities) is redesigned.
2. **Context indicators**, i.e., indicators that provide information on changes in the conflict-prone or conflict-affected situation independent from the project implementation, but that might affect it (e.g., number of violent conflicts in the area of intervention). Annex 8 provides a non-exhaustive list of context indicators, and Annex 11 provides a non-exhaustive list of useful sources and links to inform context indicators.
3. **Conflict-sensitivity indicators, which are divided in two groups:**
 - **Mainstreaming indicators:** these have a role in assessing whether the value chain development process, from analysis to implementation, has integrated conflict-sensitive programming elements. Put another way, have the recommendations arising from the conflict-sensitivity assessment of the strategic options been integrated in the upgrading strategy? The indicators on **accountability** to affected populations mechanisms fall under this category (e.g., number of stakeholder consultations);
 - **Interaction indicators:** these have a role in assessing whether:
 - » the intervention has caused changes in the context (**intervention → context**) (i.e., do the value chain actors and stakeholders consider that the upgrading activities improve social cohesion, or at least do not degrade it?);
 - » the context dynamics have changed the intervention (**context → intervention**) (i.e., how many times was the upgrading strategy readapted as a result of changes in the context?).

It is important to build and analyse the indicators in an integrated way. For example, worsening or improving trends in context indicators may indicate that an aspect of the intervention is contributing to the observed trends (Goldwyn and Chigas, 2013). Table 29 in Annex 8 provides a more detailed list of examples for each type of indicator.

5.8.2. Overall action and investment/financing plan

The overall value chain development plan includes the set of strategic actions all value chain actors and stakeholders must engage in together and indicates which change leaders will implement them, when they will implement them and the anticipated cost. It is composed of an action table and an investment table.

The action table

The value chain development action table (Table 17) lists all the actions that need to be implemented by the value chain actors and stakeholders, both public and private, and possibly including other development partners as well as those from the facilitation project, to generate the outputs and outcomes that are needed to realize

the vision. The table thus depicts the critical interplay between the project and the value chain stakeholders and should highlight the roles played by 'change champions' or 'catalysts'. This may be a particular Ministry or a lead firm in the value chain.

Table 17. Format for the overall value chain development action plan

Outcome 1: PS fishing companies adopt containerization for sale to canneries		Funding source	Est. total cost (USD)	Type of cost	Timing (completion date)
Outputs	Activities				
Output 1.1 Star loader technology demonstrated based on feasibility study, grant, purchase and demo.	Activity 1.1.1 Conduct feasibility study and develop grant mechanism for acquiring container stuffing machines (star loader)	SFVC project	25 000	Facilitation/ studies	Jun 2022
	Activity 1.1.2 Purchase container loading machines with 50/50 matching grant allocated.	SFVC project and private sector	900 000	Plant and equipment	Mar 2023
	Activity 1.1.3 Demo the star loader, train container engineers, link to technical support provider	SFVC project	25 000	Event and training	April 2023
Output 1.2 HACCP plans for containerization prepared	Activity 1.2.1 Prepare HACCP plans for containerization	SFVC project	25 000	Facilitation/ studies	Sep 2022
Output 1.3 Infrastructure linking support provider PII site to main port is upgraded	Activity 1.3.1 Conduct inspection and determination of need for upgrading transport infrastructure linking shore-based facilities	Government (Ministry of Works)	150 000	Facilitation/ studies	Dec 2022
	Activity 1.3.2 If necessary, complete civil engineering works to ensure structural integrity of transport infrastructure linking shore-based facilities	Government (Ministry of Works)	300 000	Infrastructure	Dec 2024
Outcome 2: PS fishing companies channel more fish through the RMI to higher value markets					
Outputs	Activities				
...

Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

The investment table

The investment table (Table 18) provides an overview of the investments needed to realize the vision and how these investments are expected to be financed. The table also illustrates how blended finance strategies can be applied to fund investment in the upgraded business models identified in the value chain strategy. Annex 10 provides some good practices to efficiently use public funds and subsidies in conflict-prone and conflict-affected contexts.

In addition to the upgrading activities, the financing plan must integrate the costs of implementation of the MEAL framework, the costs of implementation of the conflict-sensitive programming recommendations to mitigate the negative impacts and also the contingency resources for unforeseen incidents.

Table 18. Example of an investment needs and financing table (USD 000,000)

Use of funds	Source of funds				Totals by use
	Private funds		Public funds		
	Private equity	Private lending	Public investment	SFVC project grant	
Technical assistance and grants	0	0	2.3	1.78	4.08
Loan support facility	0	0	0	0.47	0.47
Working capital and capital expenditures at farm level	2.9	1.9	0	0	4.80
Working capital and capital expenditures for post-harvest handling, processing and input and support functions	3.4	0.6	0	0	4.00
Totals by source	6.3	2.5	2.30	2.25	13.35

Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

5.8.3. Facilitation project modalities

The specific modalities of the facilitation project are worked out in three parts. First, key steps for project implementation start-up are provided. Second, the project activities are fleshed out further. Third, an expenditures-by-year overview is provided to facilitate the project's budget management.

The key steps for project implementation start-up may include, for example, obtaining approval from key stakeholders on the final value chain development plan, negotiating contractual arrangements, recruiting project staff and consultants, completion of project launch activities (i.e. inception workshop), implementation of low-hanging fruit activities identified in the overall value chain development plan, etc.

The project activities plan (Table 19) focuses on fleshing out concrete project activities for the outputs indicated in the overall value chain development log-frame (Table 16). It describes the role of the project in the implementation of the overall value chain development plan. For each of the activities, the project activities plan needs to briefly describe the activity, indicate the required resources, partners and pre-conditions (links to the sequencing of activities), provide an estimate of the costs and set out a tentative timing.

Likely activities to be included:

- the creation or development/strengthening of a commodity stakeholder platform;
- further analytical work (e.g., detailed feasibility studies, in-depth analysis of certain system components);
- measuring outcomes and impacts (e.g., technology adoption rate, inclusion rate for women);
- the communication of lessons learned and success stories;
- financial support mechanisms (e.g., matching grants, vouchers or loan guarantees);
- capacity building demonstrations and study tours;
- bilateral linkage facilitation (e.g., mentorships, coaching, partnerships)

Table 19. Example of a project action plan

Outcome 1: PS fishing companies adopt containerization for sale to canneries		Funding source	Est. total cost (USD)	Type of cost	Timing (by when)
Outputs	Activities				
Output 1.1 Star loader technology demonstrated based on feasibility study, grant, purchase and demo.	Activity 1.1.1 Conduct feasibility study and develop grant mechanism for acquiring container stuffing machines (star loader)	SFVC project	25 000	Facilitation/ studies	Jun 2022
	Activity 1.1.2 Purchase container loading machines with 50/50 matching grant allocated.	SFVC project and private sector	900 000	Plant and equipment	Mar 2023
	Activity 1.1.3 Demo the star loader, train container engineers, link to technical support provider	SFVC project	25 000	Event and training	April 2023
Output 1.2 HACCP plans for containerization prepared	Activity 1.2.1 Prepare HACCP plans for containerization	SFVC project	25 000	Facilitation/ studies	Sep 2022
Output 1.3 Infrastructure linking support provider PII site to main port is upgraded	Activity 1.3.1 Conduct inspection and determination of need for upgrading transport infrastructure linking shore-based facilities	Government (Ministry of Works)	150 000	Facilitation/ studies	Dec 2022
	Activity 1.3.2 If necessary, complete civil engineering works to ensure structural integrity of transport infrastructure linking shore-based facilities	Government (Ministry of Works)	300 000	Infrastructure	Dec 2024
Outcome 2: PS fishing companies channel more fish through the RMI to higher value markets					
Outputs	Activities				
...

Source: FAO. 2022. *Operationalizing pathways to sustaining peace in the context of Agenda 2030 – A how-to guide*. Rome, FAO. <https://doi.org/10.4060/cc1021en>

To aid with implementation and planning, an expenditures-by-year table needs to be developed for the project budget.

5.8.4. Risk analysis and mitigation

Risk analysis and mitigation is another tool contributing to the broader MEAL effort, as it allows the upgrading strategy to be reoriented according to sudden or gradual changes in the context.

The risk assessment (Table 20) answers the following questions:

what risks, namely trends, events, and their perceptions by particular value chain actors and stakeholders, may reduce the relevance, efficiency or effectiveness of the upgrading strategy? How likely are such risks to occur (likelihood), and how damaging would they be for the project implementation (severity)? What can be done to mitigate such risks (i.e., reduce the likelihood and severity of the risk, or increase the coping capacity)?

The risks may be related to weaknesses, threats, shocks and stressors identified during the value chain analysis phase, and/or to assumptions made in association with the activities, outputs and outcomes in the logical framework (e.g. the commitment of value chain actors and stakeholders in the implementation of the overall development plan).

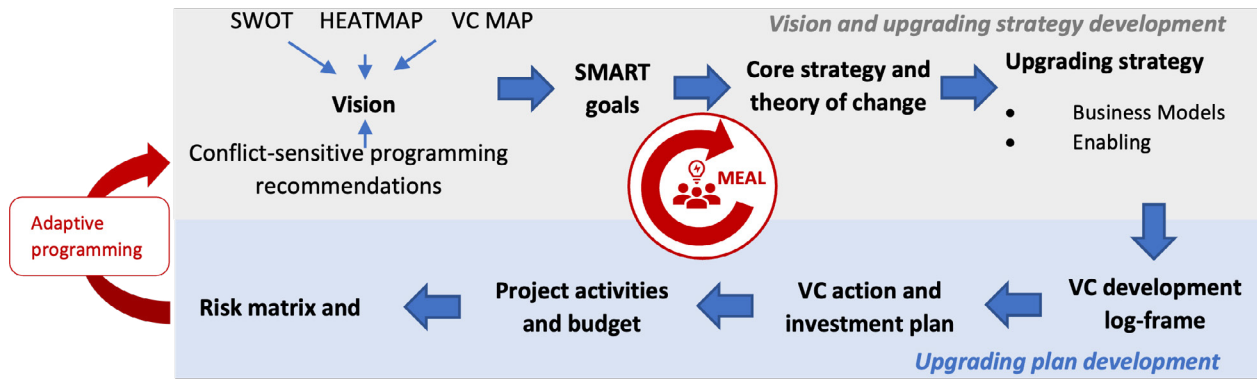
For each risk identified (i.e., those that can be anticipated), it is important to define an indicator revealing any materialization of the risk. This includes context indicators (e.g., rising number of violent conflicts in the implementation area or threats of trade sanctions by a head of state or an intergovernmental organization) but could also be related to intervention indicators (e.g., if the value chain actors and stakeholders do not adopt a particular technology).

Mitigation measures are proposed for each of the identified risks and should, so far as is possible, be integrated in the overall value chain action plan (i.e., from the outset or as a result of an adaptive programming effort). The risk matrix is the last step in the process from analysis to design and planning (see an overview on the process in Figure 17).

Table 20. Risk matrix

Risk	Risk description	Risk level Likelihood*severity	Indicator and source	Mitigation measures
Name of the risk	Concrete description of the risk(s)	Likelihood: low (1); medium (2); high (3) Severity: low (1); medium (2); high (3)	What would demonstrate that the risk is materializing? Where can the information be sought?	Description of proposed mitigation measures
Lost access to the targeted end-market resulting from international sanctions	As the conflict situation evolves, an export embargo is enacted by the international community, thus compromising access to one of the targeted export market.	6=3*2	Sanctions are envisaged/enacted by the international community Press/interviews with key informants	Diversification of targeted end-markets (i.e., distinct export markets, national and regional markets); technical assistance of local authorities to build an advocacy strategy

Figure 17. The steps from analysis to design



Adaptive programming

Beyond the MEAL framework itself, it is essential to design its governance throughout the implementation phase: Who will oversee informing the context and interaction indicators (e.g., M&E expert)? When, how, and at which frequency will the indicators be analysed and discussed (e.g., quarterly update of the indicators)? When and at which frequency will the upgrading strategy and implementation plan be reviewed to account for such analytical findings (e.g., annual update)? How far is it possible to involve value chain actors and stakeholders in this process and at which level of decision-making (i.e. information, consultation, concertation, or co-decision as explained in annex 8)? The MEAL framework feeds into an adaptive programming effort, i.e., the continuous review and adaptation of the upgrading strategy and its implementation plan to ensure its relevance and effectiveness in highly volatile environments such as conflict-prone or conflict-affected contexts. In such contexts, adaptive programming is not only about reorienting the intervention based on the MEAL indicators or about anticipating the risks that could lower the intervention's relevance and efficiency. It is also about reacting to unforeseeable events, which may significantly impact the relevance, efficiency and even feasibility of the value chain upgrading intervention. All project stakeholders (value chain team, value chain actors and stakeholders, donors, partners) should be reminded of this possibility and adjust their expectations and approaches accordingly.

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Glossary

- **Conflict:** an inevitable aspect of human interaction, conflict is present when two or more individuals or groups pursue mutually incompatible goals. Conflicts can be waged violently, as in a war, or non-violently, as in an election or an adversarial legal process. When channelled constructively into processes of resolution, conflict can be beneficial (Snodderly, 2011).
- **Conflict-affected contexts:** for this guide's purposes, 'conflict-affected contexts' means those environments where fragility is coupled with visible manifestations of conflict, whether sporadic in nature or widespread. In the absence of adequate mechanisms to below reduce or mitigate fragility causes and consequences, fragility can lead to an accumulation of grievances with no sustainable solutions. In the medium to long term, these unaddressed grievances can erode various elements of human security, social ties and the capacity or willingness of various societal actors to collaborate for solutions in a constructive manner. This in turn can lead to the emergence of conflicts, and in extreme cases, war.
- **Conflict drivers:** conflict drivers are negative factors in a community or society that increase tensions between individuals and/or groups, and reduce their willingness and ability to resolve conflicts (e.g. disputes, disagreements or tensions) in a constructive and transformative manner (Haider, 2014). Conflict drivers can originate in governance, politics, the economy, broader society, the environment/natural resources and in the safety and security spheres. They can be cross-referenced into five categories: systems and institutions; attitudes and actions; values and interests; experiences, and symbols and occasions (FHI 360, 2022).
- **Conflict fault line:** a conflict fault line "is an incompatible position or objective adopted by two or more stakeholders" (FAO, 2019a, p.15).
- **Conflict-sensitivity:** this has been defined as follows: to be conflict-sensitive is to apply a contextual understanding across all ... interventions to reduce potential unintended negative side-effects and, whenever possible, accentuate positive impacts in the community. Interventions that are not conflict-sensitive risk reducing the effectiveness of projects, reversing the desired impacts of improving food security, livelihoods and resilience, and even exacerbating conflict, violence and instability (FAO, 2022, p. 7).
- **Conflict triggers:** a sudden event that precipitates the escalation of a conflict from one phase to another (i.e. from a latent conflict to an emergent one, and from an emerging conflict to an active one with sporadic violent incidents and progressing later to all-out war).
- **Development:** defined as "long-term efforts aimed at bringing improvements in the economic, political and social status, environmental stability and quality of life of the population especially the poor and disadvantaged" (International Alert, 2004, p. 4). In the sustainable food value chain (SFVC) framework, behavioural change is considered as a key driver of development. It is encouraged through catalytic interventions that sustainably change the incentives and capacities of value chain actors and stakeholders, so as to improve the functioning and performance of the value chain as a whole.
- **Disturbances:** in this guide, shocks and stressors are referred to as disturbances. A disturbance can take the form of a stressor (e.g., increased climate variability) or a shock (e.g., drought episodes). However, the distinction between stressors and shocks is not always clear (e.g., recurring drought-episodes) (USAID, 2019).

- **Fragility:** this is defined as: The combination of exposure to risk and insufficient coping capacity of the state, systems and/or communities to manage, absorb or mitigate those risks. Fragility can lead to negative outcomes including violence, poverty, inequality, displacement, and environmental and political degradation (OECD, 2020).
 - » While conflict-affected contexts are usually characterized by a high-level of fragility and sporadic or widespread outbreaks of violence, fragile contexts themselves do not necessarily have to experience widespread violence.
- **Humanitarian assistance:** this has been defined as “activities designed to rapidly reduce human suffering in emergency situations, especially when local authorities are unable or unwilling to provide relief” (International Alert, 2004, p.4).
- **Human security:** it means safety from the constant threats of hunger, disease, crime and repression. It also means protection from sudden and hurtful disruptions in the pattern of our daily lives-whether in our homes, in our jobs, in our communities or in our environment (UNDP, 1994).
- **Linkages:** for this specific guide's requirements, horizontal and vertical linkages are defined at both value chain and societal level. At value chain level, horizontal linkages occur among value chain actors performing the same function (e.g., producers), whereas at societal level, horizontal linkages are those between various non-state groups (e.g., communities). At value chain level, vertical linkages occur between value chain actors performing different functions (e.g. producers and distributors), whereas at societal level, they refer to linkages between non-state actors and their government (e.g. elections, one-sided violence).
- **Local regional procurements:** “the purchase of foods for food assistance in or near an affected region” (Upton and Hill, 2011, p. 3)
- **Peace drivers:** peace drivers are the opposite of conflict drivers, and represent those community or societal factors that reduce tensions between individuals and/or groups, and enhance their willingness and ability to “improve cohesion and promote constructive collaboration” (Haider, 2014, p. 4). As in the case of conflict drivers, peace drivers can originate in governance, politics, the economy, broader society, the environment/natural resources and in the safety and security spheres. They too can be cross-referenced into five categories: systems and institutions; attitudes and actions; values and interests; experiences, and symbols and occasions (USAID and FHI 360, 2023). These are factors that promote fair and equitable rights, representation, access to resources, etc. to all members of a community/ society, regardless of their identity and affiliation.
- **Post-violence contexts:** post-violence contexts refer to the phase occurring after the signing of a peace agreement or a ceasefire. In post-violence contexts the risk of violence has been considerably reduced as a consequence of the agreement(s) being signed, however the causes and drivers of the conflict remain present. Reaching a genuine post-conflict situation requires engaging with and resolving these causes and drivers in a sustainable manner, thus eliminating the risk of the conflict re-escalating. Post-violence contexts are affected by changed dynamics among communities (USAID, 2016). Examples include the return of internally displaced people and refugees to their communities, or the return of former combatants to civilian life.
- **Protracted crises:** these are situations “characterized by recurrent natural disasters and/or conflict, longevity of food crises, breakdown of livelihoods and insufficient institutional capacity to react to the crises.” (FAO, 2010, p. 12).

- **Resilience:** FAO defines resilience as: the ability to prevent and mitigate disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving livelihoods systems in the face of threats that impact agriculture, food and nutrition (and related public health) (FAO, 2013a, p. 91).
- **Risks:** refer to the possibility of significant damage due to a shock or a stressor. For this damage to occur three factors come into play (FAO, (forthcoming)b):
 - » **Exposure:** the shock or stressor is possible and can reach the value chain actors;
 - » **Severity:** the shock or stressor will generate much damage if not mitigated;
 - » **Vulnerability:** the value chain actors have limited capacity to mitigate the shock or stressor. The greater their capacity to mitigate, the more resilient they are considered to be.
- **Shocks:** these are defined as "sudden events that impact on the vulnerability of the system and its components" (Malkowsky *et al.*, 2022, p. 5). Shocks can also be defined as "external short-term deviations from long-term trends, deviations that have substantial negative effects on people's current state of well-being, level of assets, livelihoods, or safety, or their ability to withstand future shocks" (Malkowsky *et al.*, 2022, p. 5).
- **Social capital:** this has been defined as
 - » relationships between individuals and between and within networks, which are built on norms of reciprocity and trust. Evidence shows that social capital can break down during conflict. Evidence also shows that social capital can reinforce existing power imbalances, increase inequality and be used to incite violence (Hegazi and Seyuba, 2022, p. 3).
- **Stressors:** These are mid- and "long-term trends that undermine the potential of a given system or process and increase the vulnerability of actors within it" (Malkowsky *et al.*, 2022, p. 6). Stressors can also be defined as "long-term pressures ... that undermine the stability of a system ... and increase vulnerability within it." (Malkowsky *et al.*, 2022, p. 6).
- **Structural causes of conflict:** "The systemic or foundational causes of disputes, divisions and conflict" (FAO, 2019a, p. 9). Structural causes can be found at the deepest level of our culture (e.g., historical stereotypes, divergent and/or marginalizing core values or outlooks on life, belief systems that promote segregation in the society, amongst others). They are woven into the systems of our society and community. Examples include laws that discriminate or forbid access to persons or groups based on their political beliefs, ethnicity, religious faith or gender affiliation.
- **Sustainable agrifood value chains:** the full range of farms and firms and their successive coordinated value-adding activities that produce particular raw agricultural materials and transform them into particular agrifood products that are sold to final consumers and disposed of after use, in a manner that is profitable throughout, has broad-based benefits for society and does not permanently deplete natural resources (adapted from FAO, 2014, p. 6).

Annexes

Annex 1: roles and responsibilities in the value chain team

Table 21. Roles and responsibilities in the value chain team

Expert	Roles and responsibilities
Core value chain team	
Team leader (International value chain expert)	<ul style="list-style-type: none"> » Supports the set-up of the value chain team. » Leads the value chain team, distributes tasks and ensures timely delivery of contributions. » Assures the quality of the value chain report, is the overall lead author and processes writing contributions from the team. » Plans the data collection process and is directly involved in primary data collection. » Leads the economic analysis, including investment-planning and the development of upgraded business models. » Prepares and co-facilitates the four value chain stakeholder workshops.
SFVC methodological expert	<ul style="list-style-type: none"> » Leads in establishing the value chain team. » Principal co-writer and overall editor of the report. » Provides methodological support and quality control on the SFVC approach. » Captures and incorporates methodological lessons learned from the field. » Prepares and co-facilitates the four value chain stakeholder workshops.
National value chain expert	<ul style="list-style-type: none"> » Leads the establishment of a value chain stakeholder representatives group and coordinates communication with them. » Reviews and processes reports, articles, secondary datasets, etc. » Supports the team leader in planning the data collection process » Coordinates the implementation of the data collection process. » Conducts the functional and socio-economic analyses. » Makes key contributions to the analysis and report writing. » Co-facilitates the four value chain stakeholder workshops.

Expert	Roles and responsibilities
Core value chain team	
Commodity Experts (with environmental expertise)	<ul style="list-style-type: none"> » Reviews the data collection methods, analysis, and report drafts, integrating commodity-specific technical insights as necessary. » Reviews and processes reports, articles, secondary datasets, etc. » Supports the report-writing process, main writer for the environmental sustainability section and key contributor to the functional analysis and strategy sections, particularly the current and upgraded business models for value chain actors and support providers. » Carries out the environmental sustainability analysis » Co-facilitates the three value chain stakeholder workshops (all except value chain selection). <p>International expert:</p> <ul style="list-style-type: none"> » Shares commodity-specific lessons learned from other countries. » Provides technical expertise remotely, as needed. » Conducts missions to the field to provide in-person technical expertise as needed, and participates in the primary data collection. <p>National expert:</p> <ul style="list-style-type: none"> » Brings knowledge of value chain actors and facilitates linkages to value chain stakeholders. » Directly implements the primary data collection for the environmental analysis.
Conflict-sensitive programming specialist	<ul style="list-style-type: none"> » Leads the conflict analysis exercises (i.e., the context analysis, value-chain level conflict analysis, conflict-sensitivity assessment of the strategic options) and is the main writer of the corresponding sections of the report. » Reviews the data collection tools/methods, analysis and report writing process, integrating conflict-sensitive programming insights as necessary. » Reviews and processes reports, articles, secondary datasets, etc. » Makes key contributions to incorporating conflict-sensitive programming activities into the value chain upgrading strategy. » Co-facilitates two value chain stakeholder workshops (validation and planning) and focuses on conflict-sensitive programming insights. » Provides technical expertise (remotely), as needed.
Extended value chain team	
International and national experts (optional)	Brings analytical expertise to the team on a short-term basis to support specific in-depth analysis (e.g., safety and security risks, gender, youth, finance, technology, markets, processing, business modelling).

Annex 2: examples of changes induced by the conflict-prone or conflict-affected context in the value chain

Table 22. Examples of changes induced by the conflict-prone or conflict-affected context in the value chain

Structure	
End-market	<ul style="list-style-type: none"> » Reduction/increase in market size » Quantitative/qualitative demand shocks (e.g., as a result of population displacement) » Supply shocks (e.g., as a result of fighting and destruction of productive assets) » Price volatility
Extended value chain	<p>Support providers</p> <ul style="list-style-type: none"> » Physical input suppliers: supply shortages and access restrictions (e.g., import bans, security risks, disrupted transport infrastructure, illegal fees) resulting in increased selling prices to downstream actors, disruption or discontinuation of activity, uneven access to these services for value chain actors » Financial and risk management services providers: withdrawal of capital, closure of branches in high-risk areas, stricter credit conditions » Other service providers (research, extension, transport, storage, repair, information and communication technologies etc.): disruption or discontinuation of activity, uneven access to these services for value chain actors <p>Factor markets (land, water, energy, labour)</p> <ul style="list-style-type: none"> » Price increase (energy) » Intentional degradation or disruption of strategic resources in the context of a conflict (e.g., water contamination, scorched-earth policy, power outages) » Quantitative/qualitative supply shock as a result of population displacement or disrupted training systems (labour)

Structure	
Societal environment	<p>Policies and institutions</p> <ul style="list-style-type: none"> » Shift of priority in the political agenda, as well as in the level and composition of public expenditure beneficial to the value chain (e.g., defence vs agriculture) » Removal/introduction of subsidies (e.g., as a result of upcoming elections) » Modification of tax regimes (e.g., reductions/exemptions, collection of illegal taxes and fees by occupying forces) » Removal/introduction of tariffs, market and trade regulations (e.g., import/export bans applying to specific inputs or agrifood products, ban on the marketing of urea due to its potential use in explosives) » Weakened capacity to provide basic public services throughout the territory (education, healthcare, security, justice) <p>Socio-cultural elements</p> <ul style="list-style-type: none"> » Misalignment of value chain practices with certain cultural/religious norms (e.g., animal slaughtering, interest rates, etc.) » Changes in values affecting the linkages in the value chain (e.g., from solidarity to individualism; from tolerance to intolerance, or vice versa) » Higher incidence of bribery, extortion, fraud and theft affecting the transactions in the value chain <p>Infrastructure</p> <ul style="list-style-type: none"> » Inaccessible or destroyed transport/electricity/communication/marketing infrastructure (or infrastructure controlled by one party to the conflict) <p>Organizations and cooperation</p> <ul style="list-style-type: none"> » Shift of priority in the type of support provided (e.g., emergency vs long-term development) » Disruption or discontinuation of projects

Structure	
Governance	<p>Vertical-external linkages</p> <ul style="list-style-type: none"> » Reduced access to reliable information » Changes in levels of cooperation versus competition » Poor/uneven enforcement of law/regulations/standards/protocols related to access to resources, environmental protection, product quality, food safety » Lost or new partnerships <p>Horizontal linkages</p> <ul style="list-style-type: none"> » Changes in levels of cooperation versus competition » Restricted access to collective organizations (e.g., barriers to entry for certain groups) <p>Market power</p> <ul style="list-style-type: none"> » Shift in power relationships (e.g., smaller players becoming large/influential actors) » Increased asymmetries in size, knowledge, or financial means as a result of conflict » Intertwining of business and political interests (e.g., politization of cooperatives, war economies beneficial to particular actors thus reinforcing their aura, rent-seeking resource management system, nepotism) » Exclusion of certain actors from access to markets, inputs, technology and services <p>Trust</p> <ul style="list-style-type: none"> » Breakdown of trust » Erosion of peaceful conflict resolution mechanisms and their legitimacy » Lower transparency <p>Social capital</p> <ul style="list-style-type: none"> » Increased dependency on certain actors for access to markets, inputs, technology and services » Obligations towards the parties to the conflict (e.g., giving them a share of the profits or production in exchange for their protection) <p>Formal and informal rules</p> <ul style="list-style-type: none"> » Emergence of parallel markets obeying specific rules (e.g., related to the type of currency or bank notes being used, the exchange of currency, the application of taxes and fees)

Natural environment	» Depleted natural resources
Behaviour	
Core value chain	<ul style="list-style-type: none"> » Changed dietary habits (e.g., as a result of diminished purchasing power of regular consumers, or the arrival of new populations with different diets) » Fewer trips to the markets (e.g., as a result of disrupted transport infrastructure and services, or physical insecurity/fear of attacks, or discrimination) » Firm decision-making altered by uncertainty » Reduction of the share of production intended for sale in favour of self-consumption » Evolution of the production system (e.g., animal feeding instead of grazing to avoid livestock theft, reduction in/abandonment of areas cultivated, reduction in/abandonment of use of inputs, disrupted technical itineraries, abandonment/ adoption of new crops or animal productions) » Reduction/disruption/discontinuation of activity (e.g., partial or total shift to war-related activities)

Performance	
Technical performance	<ul style="list-style-type: none"> » Declining volumes and yields » Degraded quality
Sustainability performance	<p>Economic</p> <ul style="list-style-type: none"> » Profitability: profit levels are insufficient to incentivize the actors in the value chain (e.g., value chain actors living below poverty lines) » Employment: the value chain actors do not generate significant and remunerative employment opportunities » Value added: the value added generated by the value chain is insignificant » Effects in the national economy: the value chain has little impact in the national economy » International competitiveness: the value chain is not competitive on the international market » Value for end-consumers in the domestic market: consumers pay higher prices for lower quality products (e.g., as a result of the increased prices and inefficiencies all along the value chain, themselves a consequence of higher input prices, transportation costs, additional taxes and fees, disrupted infrastructure, etc.) <p>Social</p> <ul style="list-style-type: none"> » Inclusiveness: changes in the value-added distribution (e.g., increased inequalities, a shift in who gains/who loses, etc.) » Gender equality: equality between men and women is not assured as regards access to productive resources and decision areas » Food security, safety and nutrition: the value chain fails to sustainably deliver quality food products to all potential customers » Decent employment: the value chain does not ensure safe and secure working conditions » Social and cultural capital: the linkages in the value chain contribute to eroding social and cultural capital in society » Institutional strength: the value chain does not ensure fair and sustainable access to finance, natural resources, information and knowledge <p>Environmental</p> <ul style="list-style-type: none"> » Further depletion, or conversely, mitigation of degradation of natural resources (e.g., reduction of fishing pressure as a result of reduction of fishing activities due to security reasons).

Source: authors, based on interviews with key informants; (Walker, DeMatteis and Lienert, 2021); (Gündüz and Klein, 2008); (International Alert, 2005); (FAO, 2016); (FAO, 2013b); (FAO, 2019a); (FAO, 2019b).

Note: the list is non exhaustive.

Annex 3: additional value chain selection criteria in respect of peace and conflict

Table 23. Value chain selection criteria in respect of peace and conflict feasibility

Peace and conflict feasibility
<p>Safety and security risks (mandatory)</p> <ul style="list-style-type: none"> » Is it possible to conduct an intervention (e.g., data collection, workshops, field visits, implementation of activities, etc.) in compliance with the safety rules of the organization and its partners? » If a conflict escalation or recurrence of conflict is likely to happen, would an intervention remain possible? Which zones are affected/unaffected by insecurity, and how severely? What value chain activities are implemented there? Are they interrupted or maintained in case of conflict escalation or recurrence?
<p>Value chain governance</p> <ul style="list-style-type: none"> » Do/did the value chain structure and dynamics, or a particular component(s) or actor(s) within, contributed to any resentment or grievances (whether due to the broader conflict-prone or conflict-affected situation or because of inherent factors within the value chain itself)? » Has this conflict been expressed in violence or could it be? » What attempts are or have been made to overcome any resentment and grievances and what was the outcome? Can the outcome negatively affect cooperation in the value chain?

Source: authors, based on interviews with key informants; (Walker, DeMatteis and Lienert, 2021); (Gündüz and Klein, 2008); (International Alert, 2005); (FAO, 2016); (FAO, 2013b); (FAO, 2019a); (FAO, 2019b).

Table 24. Selection criteria on peace and conflict impact

Peace and conflict impact
Economic drivers
<ul style="list-style-type: none"> » What is the potential for creating decent self-employment and job opportunities? » What is the potential for increasing profits? Is this likely to create viable alternatives to engagement in violence?
Social drivers
<ul style="list-style-type: none"> » What is the potential for empowering the most vulnerable (e.g., the poor, women, youth, internally displaced people, ex-combatants, etc.) through value chain upgrading (e.g., the creation of self-employment and job opportunities, ensuing access to finance, natural resources, services, decision-making institutions, etc.)? » Is value chain upgrading likely to reinforce divisions between communities? Are some of its segments located in a sector that is dominated by a certain group or in a specific region only, without benefit for others? » Would value chain upgrading exacerbate or help mitigate socio-economic inequalities in any way (e.g., by changing the value-added distribution)? » Who will likely be able to access the newly created jobs and who will not? » Who will be affected by job losses? What alternative options (e.g., including training and re-employment in another value chain segment) can be proposed to the affected workers? » What is the potential for avoiding/mitigating human rights violations (e.g., sexual and gender-based violence, forced labour, child trafficking, etc.)?
Governance drivers
<ul style="list-style-type: none"> » Are there any overlaps between value chain actors and conflict actors? » Are increased tax revenues likely to benefit the war effort? » Could value chain upgrading directly or indirectly contribute to funding the war effort? » Would certain dominant groups be reinforced, or, conversely, would they be penalized as a result of value chain upgrading? » Is value chain upgrading likely to create/re-establish/strengthen new or existing collaborative and mutually beneficial links between value chain actors and across conflict divides?

Security-related drivers

- » Do the conflicts present in the value chain (whether related to the broader conflict-prone or conflict-affected situation or inherent to the value chain itself) hold the potential to become violent in the future?
- » Which actors are using (or are likely to use) violent means to achieve their goals in the broader conflict-prone or conflict-affected situation? Do they participate in the value chain directly or indirectly? How would they be affected by the value chain upgrading intervention and how might they react?

Environmental drivers

- » What is the potential for improving natural resources management in terms of sustainability and equitable use?
- » Who will be affected positively and negatively?

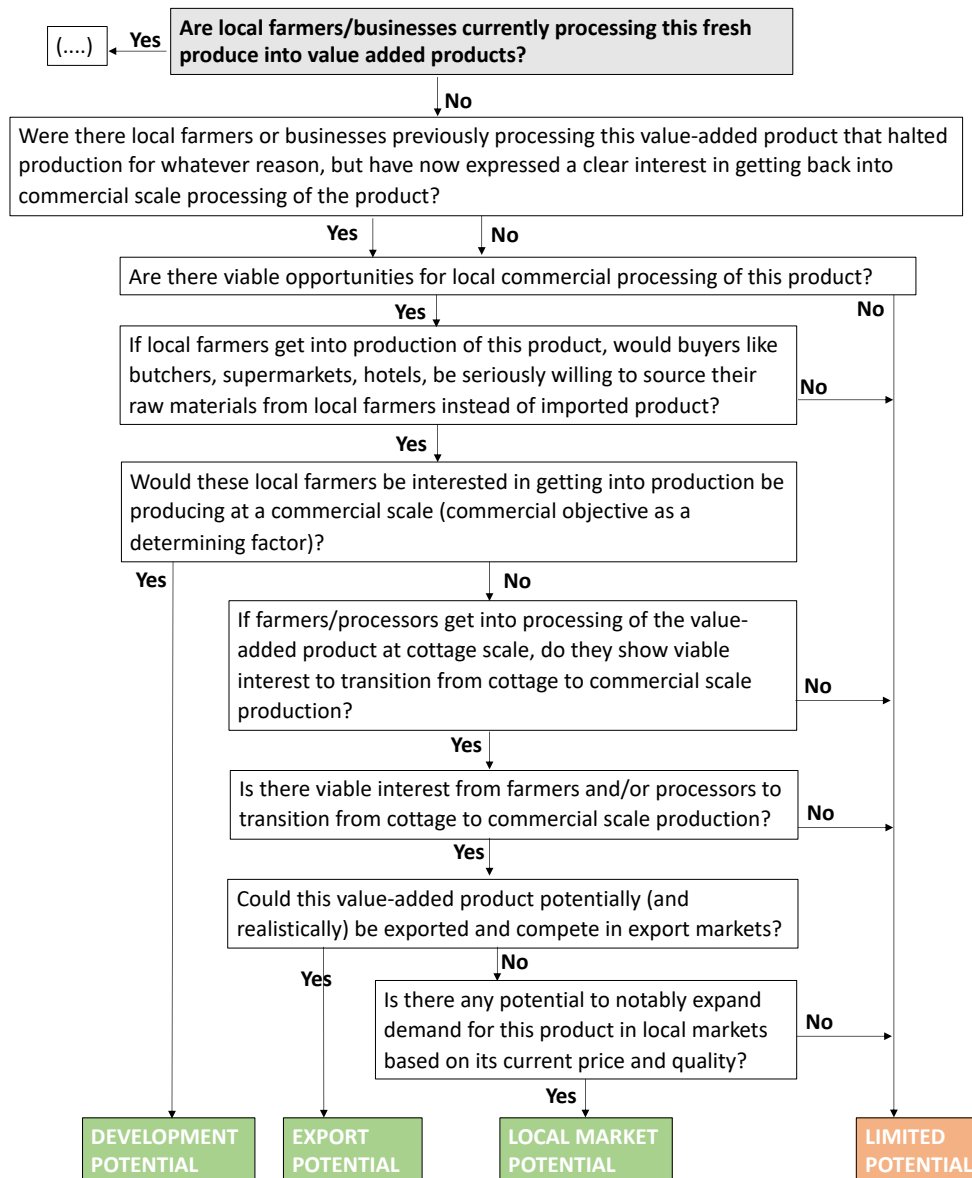
Conflict – value chain dynamics (mandatory)

- » What is the potential for avoiding/minimizing/positively transforming the conflict drivers through value chain upgrading?

Source: authors, based on interviews with key informants; (Walker, DeMatteis and Lienert, 2021); (Gündüz and Klein, 2008); (International Alert, 2005); (FAO, 2016); (FAO, 2013b); (FAO, 2019a); (FAO, 2019b).

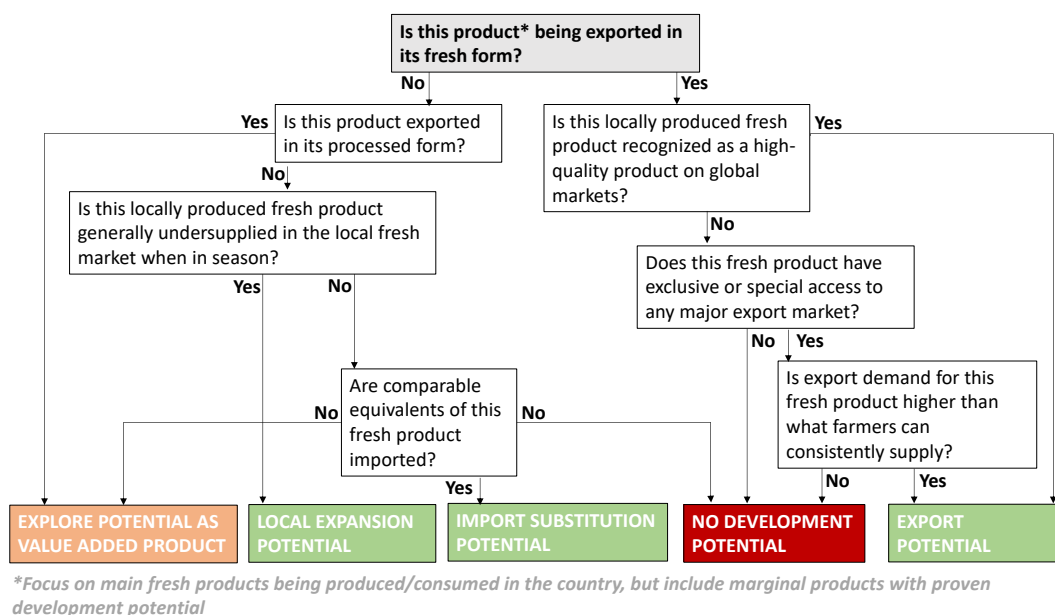
Annex 4: decision trees (FAO’s standardized value chain selection tool)

Figure 18. Decision tree for initial value chains screening (processed products – part 1)



Source: Authors' own elaboration.

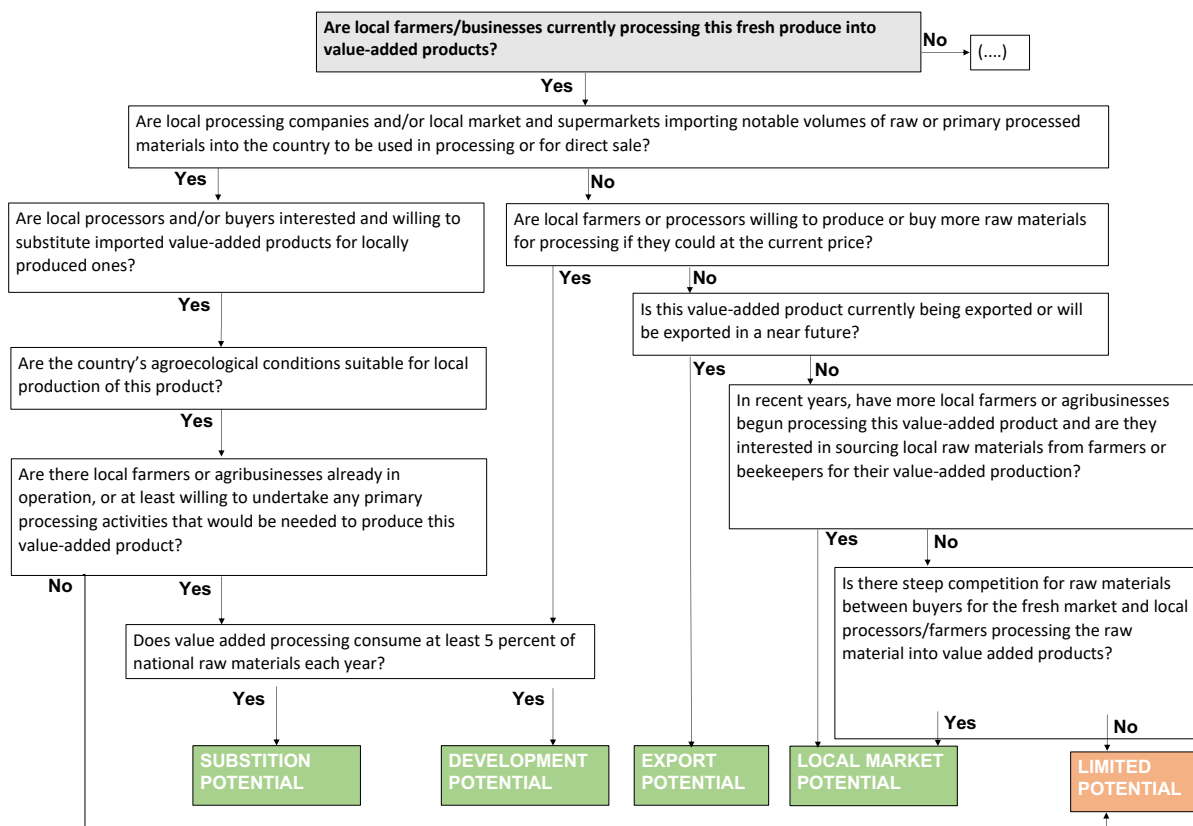
Figure 19. Decision tree for initial value chains screening (fresh products)



Source: Authors' own elaboration.

Figure 20. Decision tree for initial value chains screening (processed products – part 2)

Source: FAO's standardized value chain selection tool



Source: Authors' own elaboration.

Annex 5: local and regional procurements as an end-market opportunity

Local and Regional Procurement (LRP), namely the local or regional sourcing of food aid in or near affected regions may present an interesting end-market opportunity, although there remains little evidence to support or refute this claim (Upton and Hill, 2011). Food purchases can occur either in a country affected by conflict or another shock (local purchase) or in a third country (regional or triangular purchase). One example is buying food in Uganda for refugee camps in Rwanda and food crises in the Democratic Republic of Congo. The World Food Program (WFP) is the largest player within LRP, although some other organizations are starting to engage with it, for both emergency and non-emergency programs. Whereas traditional food assistance induces a shock to food supply in the receiving area, LRP induces a shock to demand in the supplying area. Evidence from maize traders in Uganda has led to interesting findings, although they are specific and cannot be transposed to every context (Upton and Hill, 2011).

- LRP in Uganda has accentuated price speculation among traders who had greatest access to outside buyers (WFP being the largest single buyer in Uganda). This occurred not so much because WFP purchases had an effective impact on volumes and prices, but mostly because traders believed that WFP purchases had an impact on prices. They were thus speculating on prices and stocking food in anticipation of price increases.
- The large traders who could access WFP contract systems, or who at least knew about them, were able to use this as an argument to increase their credibility to potential lenders, thus improving their access to formal and informal sources of credit.
- Few actors could meet transactional conditions and quality requirements for agency purchases (forward contracting, search costs, provision of grain in advance of receipt of money, specific quality standards). At farm gate, this occurred mostly because of asymmetric information and lack of liquidity, further encouraging market concentration for the benefit of largest traders.
- Trader entry at several levels in the maize value chain was challenging because of unbalanced market power. This severely limited the possibility for the increased consumer prices to result in increased competition at wholesale level that would push farmgate prices upwards.
- Increased sales at wholesale level did not translate into increased self-employment or employment opportunities. In Uganda, trading operates mostly on a trust basis. This is more intense within family and ethnic groups and thus reduces opportunities for outsiders to enter this segment. Furthermore, some types of traders, for example, brokers, require low labour intensity and are able to absorb increases in demand without hiring workers.
- LRP operations do not necessarily result in a 'race to the top' and general improvement in quality standards. In Uganda, they rather resulted the disintegration of equilibrium, with high-quality maize destined for WFP on the one side, and low-quality maize destined for the local market on the other.

Annex 6: examples of conflict drivers throughout the value chain components

Table 25. List of non-exhaustive examples pertaining to the various driver categories relevant for the value chain-specific conflict analysis

Value chain components	Political/ Governance/ Drivers	Economic drivers	Social drivers	Environmental drivers	Safety & security drivers
End-market	<ul style="list-style-type: none"> » Sanctions/ bans affecting access to export markets or imported inputs » Humanitarian aid distorting prices of agricultural products. 	<ul style="list-style-type: none"> » Emergence of parallel/ black markets; » Unjustified increase of agricultural products' prices » Population displacement causing sudden increase/ decrease in demand, resulting in prices volatility. 	<ul style="list-style-type: none"> » Discrimination in accessing the market » Food insecurity (quantity/quality) based on group affiliation » Change of dietary habits or consumers' boycott 	<ul style="list-style-type: none"> » Increased vulnerability to natural disasters and diseases causing supply shocks » Natural shocks driving up product prices uncontrollably. 	<ul style="list-style-type: none"> » Permanent fear of attacks reducing mobility (access to markets from supply and demand side) » Theft of live animals leading to increased sells and reduced prices.

Value chain components	Political/ Governance/ Drivers	Economic drivers	Social drivers	Environmental drivers	Safety & security drivers
Core value chain	<ul style="list-style-type: none"> » Rapidly changing policy environment creating confusion » Lack of transparency and reduced access to decision-making » Eroded mechanisms of conflict resolution 	<ul style="list-style-type: none"> » Scarcity of raw materials » Reduced cultivated areas use of inputs 	<ul style="list-style-type: none"> » Discriminatory access to different segments of the value chain, based on affiliation with particular social/identity groups » Core value chain activities excluding certain traditional livelihood activities 	<ul style="list-style-type: none"> » Scarce resources being depleted by various segments/activities of the value chain. 	<ul style="list-style-type: none"> » Unsecure/uncertain market access contributing to the cost of production due to coping mechanisms (animal feeding instead of grazing, or increased rearing periods) » Permanent fear of attacks reducing mobility (access to agricultural land) » Direct targeting of value chain actors by warring parties (i.e., kidnapping, harassment, etc.); » Death of value chain actors in violent confrontations » Increased theft/destruction of cash crops, food products

Value chain components	Political/ Governance/ Drivers	Economic drivers	Social drivers	Environmental drivers	Safety & security drivers
Extended value chain	<ul style="list-style-type: none"> » Absent or weak institutions failing to provide research and extension services to the overall society or to certain segments of it » Wartime restrictions on the use of certain inputs (e.g., urea). 	<ul style="list-style-type: none"> » Reduced availability and increased price of inputs » Disrupted input distribution networks » Financing opportunities accessible only for certain groups in the society (e.g., exclusion of women) » Destruction of equipment and production assets (grazing lands) 	<ul style="list-style-type: none"> » Population displacement contributing to the demographic shifts that influence the identity (ethnicity, gender, religious faith, etc.) composition of the labour market 	<ul style="list-style-type: none"> » Increased price of input resources (water, land) and reduced access to natural resources. 	<ul style="list-style-type: none"> » Disruption of extension services and pervasive extortion of value chain -related businesses and support services (transport, banks), leading to their withdrawal » Fear of retribution.
Value chain governance	<ul style="list-style-type: none"> » Shifting power relations » Absent or weak institutions and rule of law bodies to enforce compliance of agreed rules equally among all market participants » Erosion of peaceful conflict resolution mechanisms 	<ul style="list-style-type: none"> » Market shocks introducing uncertainty and disrupting existing links among the value chain 	<ul style="list-style-type: none"> » Survival-oriented priorities and coping mechanisms » Overall breakdown of trust affecting cooperation in the value chain » Access to social capital segregated based on various identity groups, leading to a lack of social mobility within the value chain 	<ul style="list-style-type: none"> » Repeated environmental shocks depleting the authorities' resources to respond consistently, leaving the population to fend for themselves. 	<ul style="list-style-type: none"> » Violent conflict between value chain actors and stakeholders » Looting of cooperatives.

Value chain components	Political/ Governance/ Drivers	Economic drivers	Social drivers	Environmental drivers	Safety & security drivers
Societal environment	<ul style="list-style-type: none"> » The corruption of the good governance principles, leading to repressive rules of the value chain, restricted access to decision making, selective access to information that can help to increase profit, etc. 	<ul style="list-style-type: none"> » Tax revenues financing war effort » Illegal taxes set by occupying forces. 	<ul style="list-style-type: none"> » The unequal distribution of profits and wages reinforces existing divisions and marginalization (widows, single women households, elderly, IDPs). 	<ul style="list-style-type: none"> » The exploitation of scarce natural resources for the war effort depleting resources for the civilian consumers » The use of violence to ensure control over and/or access to scarce natural resources 	<ul style="list-style-type: none"> » State violence geared towards certain population groups/ value chain actors; » Increased gender-based violence.
Natural environment	<ul style="list-style-type: none"> » Weak or rent-seeking resource management system, resulting in inequitable access to and sustainable use of natural resources 	<ul style="list-style-type: none"> » Allowing foreign actors to exploit scarce natural resources for a higher profit than national exploitation would offer, leaving local communities with less and more expenses resources 	<ul style="list-style-type: none"> » Unequitable access to natural resources » Conflicts over access to land when IDPs return to their homeland 	<ul style="list-style-type: none"> » Increased scarcity or degradation of natural assets (water, land) 	<ul style="list-style-type: none"> » Looting of natural resources (i.e., water contamination, scorched-earth policy, etc.).

Source: Authors' own elaboration, based on interviews with key informants; (Walker, DeMatteis and Lienert, 2021); (Gündüz and Klein, 2008); (International Alert, 2005); (FAO, 2016); (FAO, 2013b); (FAO, 2019a); (FAO, 2019b).

Annex 7: example of upgrading activities in conflict-prone/affected contexts

Table 26: examples of upgrading activities related to the business models

Upgraded business models
Principle: diversifying and mitigating risks rather than maximizing returns
<p>» Adapt business models to the suboptimal business environment (including degraded security context) and move to increasingly sophisticated products and markets as the enabling environment becomes more supportive.</p> <p><i>Example: promoting home-gardening and sale of vegetable baskets to consumers in the acute phases of violence in Syria (protracted crisis).</i></p> <p><i>Example: encouraging small ruminant rearing in closer proximity to farmers' residences in Mali after the conflict escalation in 2012 (Kimenyi et al., 2014).</i></p> <p><i>Example: Vegafruit's company was founded by two Bosnian Muslim refugees at the height of the Bosnian conflict in 1994. Within a 10-year period, the two brothers shifted from artisanal processing of locally sourced semi-dried plums in jam to standardized production procedures and the export of high-quality juices. The initial business model required few investments and was tailored to the founders' difficulty in accessing to loans as refugees. The products (fruit preserves) were also well adapted to the poor road and cooling infrastructure. The transition to a higher investment/higher returns model company was eased by a financial (favourable lending terms) and institutional (standardization and quality control) support from USAID. (Stokes, Jones and Cavanaugh, 2008).</i></p>
<p>» Create business models that allow for local input and equipment supply (or repair in case of conflict-induced damages) and use alternatives to costly and exogenous energy sources.</p> <p><i>Example: The project "Market-oriented and sustainable high value crops development in the West Bank and Gaza Strip" (OSRO/GAZ/207/NET) supported two agricultural nurseries to install, operate and maintain a locally manufactured heating machine fuelled by olive milling wastes (olive pomace) to replace the traditional, high energy consumption heating machine that used diesel fuel. The economic and environmental added value of the new machine includes an annual savings of up to 80 percent in nursery heating costs (FAO, Unknown year).</i></p> <p><i>Example: In Yemen, a project conducted by FAO supported the creation of community-based seedling centres in remote areas in Yemen to circumvent access difficulties to seedling providers located in towns. The seedling centres are managed by farmers groups and thus allow them to diversify their activities and securing outlets for their production.</i></p>

Upgraded business models

Principle: creating decent job and self-employment opportunities as an alternative to violence

- » Ensure the training and reemployment of workers and value chain actors who would see their activity discontinued as a result of value chain upgrading.

Example: USAID implemented interrelated projects⁸ to upgrade the coffee value chain in post-conflict Rwanda in the 2000's. Traditionally, farmers de-pulped and washed their coffee cherries by hand before selling them to traditional exporters of semi-washed coffee. The ADAR project encouraged them to sell their coffee cherries directly to modern washing stations, as these stations allowed to process the cherries much faster and more efficiently with modern equipment. The side effect of it was that the various intermediaries between farmers and exporters were not needed any more. The SPREAD project assisted them to become washing station owners with support of extension services and financial loans provided by the Development Bank of Rwanda. This was intended to avoid inequality in the community ultimately causing conflicts.

Example: Establish groups of employers (e.g., in form of associations) to identify job and employment needs across one or several value chains at local or national level, as well as to facilitate the training and employment process.

- » In post-conflict contexts, working on integrating ex-combatants into agribusiness firms and farms.

Example: in the Philippines, "FAO has worked closely with UN peacebuilding and peacekeeping actors to reintegrate former combatants as part of a Disarmament, Demobilization, and Reintegration (DDR) programme. Most of the combatants in the Philippines belong to farming and fishing households and those wanting to return to a life of peace could not do so, owing to a lack of access to land and the capital required to restore their livelihoods. FAO interventions supported smallholder farmers and marginal fishers by enhancing their capacity to jumpstart their livelihoods. This project illustrates FAO's engagement on working both in and on conflict by addressing livelihood needs, contributing to social cohesion, and building the capacities of ex-combatants" (FAO, 2018b).

Principle: Mainstreaming/co-constructing the upgraded business models with relevant value chain actors and stakeholders to agree on an acceptable level of risk.

- » Use the upgraded business models as an information tool: this will convince value chain actors and stakeholders of the relevance of proposed changes. It is also the opportunity to collect their feedback on upgraded business models and adapt these to the level of risk that value chain actors and stakeholders are willing to take. However, this requires minimum skills in finance management on the part of value chain actors and stakeholders.
- » Use the upgraded business models as a financial education tool: the upgraded business models can be used as pedagogical tools in the framework of broader financial education programs.

Example: GIZ project on Promotion of agricultural finance for agri-based enterprises in rural areas (giz.de) helps these enterprises acquire business management and financial skills, while raising awareness. It also advises and supports the expansion of financial institutions into the agricultural sector and assists them with developing adapted financial services.

⁸ Agribusiness Development Assistance to Rwanda (ADAR) Project; Sustaining Partnerships to Enhance Rural Enterprise and Agribusiness Development (SPREAD) project; Partnership for Enhancing Agriculture in Rwanda through Linkages (PEARL) project

Table 27. examples of upgrading activities related to the enabling environment

Upgraded enabling environment
Principle: Showcasing and developing local skills to build resilience towards human and climatic shocks and stressors
<p>» Enhance experience-sharing locally and internationally (via videoconferencing and online seminars if movements are restricted) across similar value chains and contexts to show value chain actors and stakeholders that despite all existing constraints value chain upgrading is feasible and rewarding.</p>
<p>» Establish partnerships with existing local universities, vocational training centres, etc., to enhance the local offer of education and trainings that support value chain upgrading in a rapidly changing context.</p> <p><i>Example: Establish a partnership with a local university or training centre to diagnose and monitor the needs of the training offer; support the partner institution in developing a sustainable business model for this training offer. The training offer should meet long-term demand for skills that are relevant to upgrade the value chain but also anticipate and respond to short-term needs in the value chain. For example, in Mali, there was an increase in demand for meat in the regions most affected by conflict as of 2012, because the diets of the insurgents were mainly based on meat. As a result, "many new but unskilled butchers entered the profession to serve the insurgents' demand for meat, so the quality of meat has suffered" (Kimenyi et al., 2014). The training institution should be able to detect and address such quality issues rapidly through a dedicated and targeted training, as it may cause a threat to public health.</i></p>
<p>» Strengthen capacities of cooperatives and collective organizations' to delivering services to their members (e.g., input and loan provision, marketing services, trainings, etc.).</p> <p><i>Example: in Ivory Coast, the FISH4ACP project aims at developing the farmed Nile Tilapia VC. A range of activities is dedicated to the structuring of cooperatives. They are expected to serve as a mutualized tool for their members to better access markets, inputs, loans, knowledge, and other services (e.g., cooling infrastructure). The structuring is encouraged through the realization of a comprehensive diagnosis of existing cooperatives to assess their financial and human resources; the formalization of regional umbrella organizations (in view of moving towards a national union); and the training of focal points in specific technical areas (finance, feed, environment, governance, etc) under a "training-of-trainer" scheme. In conflict-prone and conflict-affected contexts, if the cooperatives are to play an important role in the upgrading strategy, it is important to conduct a specific stakeholder analysis at cooperative level, to ensure that the existing power structures and relationships ensure equitable access to the proposed range of services.</i></p>
<p>» Promote 'grass-roots labs' to ensure a sustainable symbiosis between traditional and new knowledge.</p> <p><i>Example: Farmer Field School is an approach based on people-centred learning, covering a wide range of topics such as agricultural practices, adaptation to climate change, farm business and link to markets. Local knowledge and outside scientific insights are tested, validated and integrated in the context of local ecosystem and socio-economic settings, contributing to long-term acceptance and appropriation of relevant new knowledge.</i></p>
<p>» Establish training paths to develop and certify employees' skills across several value chains (e.g., in support services branches) and beyond project duration.</p> <p><i>Example: The GIZ "green cooling initiative" supports training centres for cooling technicians in setting up courses for further training. It also promotes certification mechanisms for handling natural refrigerants.</i></p>

Upgraded enabling environment

Principle: Strengthening and systematizing linkages between emergency and development interventions

» Partner with relevant financial institutions such as IFAD to support early recovery efforts. See: [IFAD Guidelines for Disaster Early Recovery - World | ReliefWeb](#) (IFAD, 2011)

Example: rehabilitating the financial systems and financial sector infrastructure such as money transfer mechanisms, but also restoring minor rural infrastructure such as rural road, recovery/rebuilding of agricultural assets, etc.)

» Implement a FAO cash for work intervention to boost short-term income for rural families while improving community productive assets (e.g., irrigation canals, water harvesting systems, etc.) and restoring agricultural activities through reforestation, land rehabilitation, etc. The preconditions to be met for a cash for work intervention include:

- Identified humanitarian needs, gaps and target groups
- Functioning market
- Reliable and safe payment system
- Political acceptance and community preference
- Cash-for-work activities will not interfere with the community's main livelihood strategies
- Potential risks identified and mitigation plans in place
- Assets and infrastructure to be built or rehabilitated will meet the basic needs of the target population, are useful to the community and can be maintained (Food Security Cluster, 2019)

» Bind social assistance programmes (e.g., cash transfers or in-kind resources) with public procurement (e.g., school feeding programmes) and/or productive support (e.g. inputs, irrigation equipment, credit) (FAO, 2021b)

» Provide low-interest loans at favourable terms to absorb the shock-induced increase in production costs.

Example: support the purchase of feed through subsidized loans in cases where farmers are forced to keep their herds in buildings because of insecurity.

Principle: Reducing price volatility through price monitoring and price regulation

» Invest in creating price information systems (FAO, IFAD, UNICEF, WFP and WHO, 2017)

» On domestic markets, advocate for "stricter rules on food commodity speculation and the institutionalization of grain reserves to stabilize prices in times of crisis" (FAO, IFAD, UNICEF, WFP and WHO, 2017)

Upgraded enabling environment
Principle: Strengthen formal and informal financial services Promote alternative sources of credit
<p>» Where formal banks and microfinance institutions are not present, conduct an in-depth study on existing Rotating Savings and Credit Associations (ROSCA), their territorial presence, target users, operating rules, strengths and weaknesses, etc., and work together with financial (local and international) experts to improve/expand the scope of their services (e.g., digital services, setting up of partnerships with formal banks and microfinance institutions to access larger loans, etc.).</p> <p><i>Example: Village Community Banking (VICOBA) is a community-based microfinancing system where people combine their savings to create a community-based bank providing credit to low-income people.</i></p>
<p>» Where formal banks and microfinance institutions are not present, mobilize diaspora remittances for rural investment: see IFAD's guidebook for mobilizing inclusive remittances for rural investment (IFAD, 2018)</p> <p><i>Example: In Uganda, FAO supported the launch of the Ugandan Diaspora in Agribusiness Network (UDAN). UDAN an independent diaspora member-based agribusiness network that acts as a bridge between Ugandan diaspora and migration and rural stakeholders in Uganda. One of the network's goals is to facilitate diaspora financial and non-financial contributions of the diaspora to the agrifood sector of Uganda.</i></p>
<p>» Where formal banks and microfinance institutions are present, use donors' investment funds to strengthen their financial capacity.</p> <p><i>"The AgriFI Kenya Challenge Fund is a European Union initiative to support productive and market-integrated smallholder agriculture through the provision of financial support to agri- enterprises. The Challenge Fund is funded by the European Union and co-funded by SlovakAid. The European Investment Bank (EIB) – under the AgriFI Kenya programme – is providing long term local currency financing to Equity Bank (Kenya) Limited for on-lending to eligible food and agriculture sector projects. Match funding is also available for successful applicants. Self Help Africa and Imani Development Limited are the Challenge Fund Managers.</i></p>
Principle: Ensuring access to productive resources for the most vulnerable
<p>» Propose alternative energy sources to reduce hazards to both the environment and vulnerable people</p> <p><i>The resource recovery and reuse (RRR) project is implemented by the International Water Management Institute since 2019 in six refugee settlements and their host communities in dryland areas of Ethiopia, Kenya, and Uganda. "The RRR project works with local partners to recycle biological waste into fuel briquettes, which can be used for cooking, so that women do not need as much firewood, thereby protecting both the environment and a vulnerable population". (FAO, CGIAR and CARE, 2022, p. 7)</i></p>
<p>» Advocate for inclusive land tenure</p> <p><i>"Colombia is the only country in the world that has implemented a land restitution policy amid conflict. Valuable lessons can be drawn from this, in particular regarding how to ensure the safe and sustainable return of land, beyond just securing the victims' land titles. Colombia possesses a solid legal framework to support the populations displaced as a result of conflict, helping to sustain peace by restoring not only land to people, but also their dignity. The land restitution and territorial rights policy for ethnic peoples and communities is not isolated from the country's other current or planned social and political processes related to rural areas" (FAO, IFAD, UNICEF, WFP and WHO, 2017, p. 59).</i></p>
<p>» Propose financial products tailored to the most vulnerable.</p> <p><i>Example: "In some countries (Uganda, Tanzania), central banks have created 'land loans' specifically for women who face more challenges in accessing property. With this product, women can purchase property or land that can later be used as collateral for loans" (FAO, 2018c, p. 74).</i></p>

Table 28. examples of upgrading activities related to the governance

Upgraded governance
<p>Principle: Identifying 'community builders', e.g., lead actors, companies or firms that can provide leadership and build trust along the value chain.</p>
<p>This could be an end-buyer or processor that creates linkages and facilitates cooperation along the value chain. In situations of fragility and conflict, lead actors might be better able to withstand shocks, manage risks, and ensure the functioning of the VC operations by offering temporary financing and moving the commodity to markets.</p>
<p>Principle: Building and strengthening value chain organizations, cooperatives, associations and mechanisms that provide space for dialogue for overcoming distrust and identifying a way forward. Value chain organizations can ensure information flow, access to market and funding and provide social safety net in the absence of insurance and in periods of shocks.</p>
<p><i>Example: USAID sought to attract and retain private sector investment and presence in the conflict-affected municipality of Tumaco in Colombia, a hub for coca cultivation and cocaine shipping. This was particularly challenging after the main cacao buyer left the area in 2013. "After discussing several options, it was decided that USAID would intervene by helping to establish a marketing consortium named Chocolate Tumaco that would bring together the various Consejo Comunitarios (Afro-descendent collective landholdings) that are the political and social anchors in the region. Faced with the choice of whether to structure the marketing consortium as a non-profit association or a business enterprise, it was decided that the former would best align with producers' needs. (...) More specifically, the structure associated with a non-profit organization provided member organizations with the quickest way to learn about efficient business operations and contribute toward building a productive business climate. Also CELI N/S's due diligence of the regulatory environment concluded that it would take months if not years to properly structure the consortium as a business enterprise, which furthermore had the potential to create rivalries and jealousy between the members as well as opportunities for corruption" (USAID, 2021).</i></p> <p><i>Example: Through FAO Dimitra clubs, community members, including marginalized ones, collectively address their common problems while improving their listening and expression skills.</i></p>
<p>Principle: Working together with local governance structures (traditional leaders, community chiefs)</p>
<p>Security: traditional leaders must not be overlooked in conflict-prone and conflict-affected contexts. In some cases they play a central role in the security of their community and are the only ones who can communicate with the different parts of a conflict.</p> <p><i>Example: The Brookings Institution's Africa Growth Initiative (AGI) and a group of interdisciplinary researchers conducted a joint study on the impact of conflict and political instability on agricultural investments in Mali and Nigeria. The authors (Kimenyi et al., 2014, p. 25) report that "In Nigeria, researchers were able to maintain linkages to serviced communities via traditional leaders. Well-respected local village chiefs are able to afford protection from insurgents. In the Boko Haram conflict, specifically, traditional leaders are not viewed as targets, unlike state structures and institutions"</i></p> <p>Land access: identify and work together with local systems of land management (e.g., Consejos Comunitarios in Tumaco in Colombia; more generally community members, local leaders, landowners, and government) to find equitable ways of ensuring land access of returnees or displaced people. Land access is generally a complex issue and relying solely on the central Government is insufficient (Locke and Goeldner Byrne, 2008).</p>

Annex 8: examples of MEAL indicators

Table 29. Examples of MEAL indicators relevant for conflict-sensitive implementation of the value chain intervention

Conflict-sensitivity mainstreaming indicators	
Purpose: assessing the mainstreaming of conflict-sensitive programming in the value chain intervention	
Examples:	
<ul style="list-style-type: none"> » # of consultations held with various stakeholders on: local needs/how the project will be implemented/how beneficiaries will be selected » # of conflict analysis conducted/updated to inform project design » # of programme clinics held » # of project staff trained to conflict-sensitivity » # of beneficiary feedback & complaint mechanisms in place 	
Interaction indicators: intervention conflict dynamics and context	
Purpose: assessing the evolution of conflict dynamics and context as a result of the implementation of the value chain intervention	
Output indicators	Outcome indicators
Examples:	Examples:
<ul style="list-style-type: none"> » Percent of (vulnerable) persons trained in techniques that enhance their economic opportunities (e.g. production methods, technical skills, access to information on markets...) » Percent of households lacking tenure security (e.g., female-headed households, displaced populations) or have gained formal tenure documentation (title deeds, documented usufruct rights/legitimation of adverse possession) through project facilitation » Percent of community members (men, women and youth) represented in conflict management structures as a result of the project » Percent of community platforms or clubs established for intra-community collaboration and problem solving (e.g., Dimitra clubs) 	<ul style="list-style-type: none"> » Percent of (vulnerable) persons reporting an increase in income derived from agriculture (production, processing, trade) » Percent of vulnerable households (e.g. female-headed households, displaced populations) with increased access and ownership to land and other productive assets » Percent of respondents who consider that the project has create household level conflicts related to gender roles » Percent of community members (men, women and youth) perceiving the conflict management structures as effective and fair » Percent of beneficiaries reporting improved trust and interaction with other groups as a result of the project » Percent of community members perceiving the natural resource governance mechanism as effective and fair » Percent increase in perception of marginalized groups that they are treated on equal terms with other social groups

	<ul style="list-style-type: none"> » # of initiatives by groups composed of actors from different social groups to address drivers of conflict » Percent of community members reporting a reduction in competition for and pressure on the natural resources (tailored to specific groups that are in competition) » Percent of households whose key assets have been protected during the current crisis » Percent of households reporting that, if not for the assistance received, they may have had to turn to negative coping mechanisms (e.g., selling of assets or doing something illegal or otherwise harmful) » Fair enforcement of regulatory frameworks approved or amended being increasingly people-centred, conflict-sensitive and gender-sensitive (describe relevant clauses)
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Interaction indicators : context intervention

Purpose: assessing the impact of conflict dynamics and context on the implementation of the value chain intervention

Examples:

- » # of instances when changes in conflict dynamics have jeopardized the implementation of activities
- » # of activities adjusted due to the changing nature of the implementation context dynamics
- » # of instances when target areas needed to change due to security risks
- » # of instances when access was limited by authorities or conflict actors
- » # of budget realignments needed due to market volatility
- » Percent of re-tenders due to asset destruction/ theft/ diversion

Context indicators

Purpose: assessing the evolution of the conflict dynamics and context, which is unrelated to the implementation of the intervention

Examples:

- » # of incidents of inter-group violence, including physical attacks, and attacks on property
- » Percent of displaced people as a result of violence
- » Percent of minority in responsible positions in local government/rule enforcing bodies
- » # of efforts/initiatives to reduce inter-group violence and address its root cause(s)
- » # of localized incidents over cattle raising/ limiting access to scarce natural resources
- » Percent of community members who report tensions with other groups in the target area
- » # of local efforts offering livelihood opportunities for youth and women
- » # of local conflict resolution initiatives

Source: FAO (forthcoming)a. 2021c.

Annex 9: good practices for successful stakeholders' involvement

- Before involving value chain actors and stakeholders, understand their fears, needs and conditions to participate and engage with each other (stakeholder analysis). Monitor stakeholder relationship dynamics and adapt the participatory process accordingly.
- To avoid a certain 'workshop fatigue', define the levels of involvement that are expected from stakeholders at different stages of the process, and make this level explicit to them so that they have commensurate expectations. Four levels can be distinguished (Lisode, 2017):
 - » **Information:** stakeholders are made aware of the decisions taken (e.g., a value chain project is going to be conducted)
 - » **Consultation:** stakeholders are invited to give their opinion but do not take the final decision (e.g., vote for preferred upgrading strategy)
 - » **Concertation:** stakeholders are invited to produce a proposal but do not take the final decision (e.g., co-construction of a shared vision for the value chain that might be readapted by the value chain team)
 - » **Co-decision:** stakeholders have decision-making power (e.g., co-construction and adoption of the final vision for the value chain)
- Acknowledge that facilitating stakeholder involvement is time consuming (even more in conflict-prone and conflict-affected settings) and may require additional/specific skills, staff and financial resources.
- In divided communities where value chain actors could potentially be targeted by their own communities for working with another group, e.g., by buying a product from another community at conflict, identify activities that would bring the wider community together such as community-wide and value chain targeted dialogue and mediation programs.
- Prioritize involvement by defining clearly which interventions require the involvement of value chain stakeholders to be successful (active players), and which do not (beneficiaries). Make sure that value chain actors and stakeholders who have the ability and interest to impede an intervention, as well as to make it happen, are involved in the process.
- Rationalise involvement. When drafting the upgrading strategy, practitioners should think of sequential milestones that actors and stakeholders will have to work on to realize the vision. Their participation should be targeted and explicitly goal-oriented, rather than a goal in itself.
- Always communicate clearly with regard to the intended results, incentives, but also risks and long-term efforts related to stakeholder involvement to minimize potential deceptions and disgruntlement.
- Identify private-sector champions, e.g., end-buyers, processors, that have the potential to provide leadership in the value chain and build trust, while ensuring that such lead actors are accepted by all value chain actors and do not create tensions.

Annex 10: good practices for efficient use of public funds and subsidies in conflict-prone or conflict-affected contexts

Public funds and subsidies can be used as an incentive for involvement in the value chain but also as a risk reduction measure. Parker (2008) identified four principles to follow when upgrading a value chain in a conflict-prone/affected context:

1. using public funds to facilitate information flow through the value chain, creating linkages and access to market (non-direct investment);
2. using public funds to address bottlenecks, e.g., investing in a processing facility necessary to move the product further along in the value chain;
3. using public funds to restart participation in the value chain through subsidized inputs, equipment or asset replacement, particularly targeting poorer and marginalized actors;
4. using public funds strictly with a plan for withdrawal from the onset of intervention, while clearly communicating this plan.

The goal of every value chain development effort should be the ability to operate in the market without the support of public funds and subsidies, thus any intervention should be planned as a temporary solution, at least until it is determined that the situation has improved and no longer requires the use of public funds and subsidies.

Annex 11: useful sources and links

Context monitoring:

- FAO geospatial data platform: <https://data.apps.fao.org/>
- Famine early warning systems network: <https://fews.net>
- Fund for peace: <https://fragilestatesindex.org/country-data/>
- World Bank - Governance: <https://info.worldbank.org/governance/wgi/Home/Reports>
- OECD:
 - » report on states of fragility: <https://www.oecd.org/dac/states-of-fragility-fa5a6770-en.htm>
 - » Fragile states database: <http://www3.compareyourcountry.org/states-of-fragility/countries/0/>
- Crisis Group: <https://www.crisisgroup.org/>
- Coface: [Economic Studies - Coface](#)
- ACLED: <https://acleddata.com/>
- Human Rights Watch (France): <https://www.hrw.org/fr>
- Council on Foreign Relations: <https://www.cfr.org/global-conflict-tracker/>
- Uppsala University's political Violence Early Warning System (ViEWS): <https://viewsforecasting.org/resources/#reports>
- The Economist Intelligence Unit: <http://country.eiu.com/allcountries.aspx>
- ODI – The Centre for war economies: <https://odi.org/en/about/our-work/the-centre-for-war-economies/>

Market assessment:

- Cash Learning Partnership (CaLP) Resources Library: <http://www.cashlearning.org/resources/library>
- Seep: Resilience Networks <https://seepnetwork.org/Resources-Markets-in-Crisis>
- Emma: <https://www.emma-toolkit.org/reports>

Stakeholders' involvement:

- USAID: Learning Lab: [Engaging Stakeholders | USAID Learning Lab](#)
- Lisode : Guide to Public Participation and Facilitation [Guide_Lisode_version_finale_EN_publication.pdf](#)

Dealing with trade-offs:

- Navigating Complexity: A digital report linking wellbeing & resilience: <https://www.navigating-complexity.com/home>

Complementary value chain approaches:

- ILO guide on value chain development for decent work: [wcms_434362.pdf \(ilo.org\)](#)
- ILO-UNHCR guide to market-based livelihood interventions for refugees [wcms_550036.pdf \(ilo.org\)](#)
- SFVC guide on gender-sensitive value chain analysis and design: [Developing gender-sensitive value chains: A Guiding Framework \(fao.org\)](#)
- SFVC guide on youth-sensitive value chain analysis and design: Guidelines for Practitioners [Youth-sensitive value chain analysis and development \(fao.org\)](#)
- IFAD Operational Guidelines on pro-poor value chain development: https://www.ifad.org/documents/38714170/42266596/propoor_vc_guidelines.pdf/10bcbf35-36bc-a0a0-2d0b-f4a9bd3c5e5f?t=1616421969633



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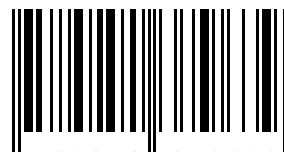
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