A Training Manual for Extension Staff and Trainers on Participatory Teaching Methods Applicable to Wood-based Value Chain Actors in Ethiopia

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Cover photo: A timber landing site in Hawassa, Ethiopia (© K. S. Hintz)

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1 Preface

The WoodCluster project (2017-2021) focused on national bio-economies based on farm wood production in East African Countries. The project consortium was a South-South-North network with partners from Ethiopia, Tanzania, Uganda and Germany. In the project, the dynamics and resulting problems of an increasing wood supply gap, and possible solutions were investigated. The project had two main components: research and teaching. As an output of the teaching component, this trainer manual was developed for wood-based value chain actors in Ethiopia.

This trainer manual aims to combine the theory of value chain development with participatory teaching methods and integrate this approach into extension services linked to wood-based value chain actors in Ethiopia, thereby supporting their sustainable development. It especially intends to provide these trainers with insights into value chain development (VCD) tools and participatory knowledge transfer methods. The focus will be on participatory VCD approaches relevant to wood-based value chain actors.

With the trainer manual, officers and trainers will be able to apply participatory VCD trainings to wood-based value chain actors in a Training of Trainers (ToT) session. Since these value chains and actors can vary depending on the regional setting, the raw material or end-product of interest, the defined scope, or the value chain development goals, the ToT will teach several approaches on the basis of which the officers and trainers can design suitable participatory VCD workshops.

The trainer manual serves as a reference guide for trainers, who conduct participatory trainings, and extension agents linked to wood-based value chains in Ethiopia. The manual is constructed and arranged in such a way, so that a wide range of trainers with different skill levels and capacities may apply the participatory training in different conditions. Rather than presenting one appropriate teaching method, the manual presents several that allows the trainer to adapt the overall training approach based on the target group and conditions of the training.

2 Introduction

The rapid economic growth in Ethiopia is an opportunity for the forestry sector. Driven by the population's increasing purchasing power, several growing sectors, such as the construction sector or wood-based manufacturing sectors, are raising the demand for raw and processed wood-based materials (MEFCC 2017). Such market trends have the potential to make larger contribution to economic growth, provide diverse employment opportunities, as well as support Ethiopia in achieving the implementation of the Climate-Resilient Green Economy (CRGE) development strategy. Creating attractive wood-based market linkages is an important factor for stimulating the protection and rehabilitation of forests. Protected and productive forest landscapes thereby reduce GHG emissions, sequester carbon, reduce the vulnerability of rural populations to exogenous shocks, and limit damaging impacts to biodiversity, water and soil resources (MEFCC 2018b).

Yet, the current state of Ethiopia's forest resource base and the linked value chains are inadequately developed and thus, do not sufficiently serve growing demand trends as well as social and environmental development goals. Rapid deforestation remains an ongoing issue, thereby threatening livelihoods and valuable natural capital embodied by biodiverse forests as well as further propelling an instability of domestic wood supply markets. At present, the wood supply gap is projected to impede the forest sector's potential economic growth. In order to counter these challenges, Ethiopia must further enact a diverse set of forest sector development action plans. This includes enhancing sustainable forest management practices, the expansion of plantations and agroforestry systems, high-value creation in the processing subsectors through means of innovation and resource efficiency, upgraded and coordinated forest-linked value chain activities, as well as creating a supportive policy framework (MEFCC 2017).

Wood-based value chains in Ethiopia are multifarious and thus, require widespread and dynamic solutions. Wood production occurs throughout varying systems and flows into various processing sectors and markets. In general, wood-based value chains in Ethiopia can be differentiated by three main subsectors, namely woodfuel, construction, and furniture. Woodfuel demand includes fuelwood and charcoal products and is one of the more essential subsectors, as many households need woodfuel for cooking and heating. The construction sector is gaining importance due to expanding urban areas and the growing housing sector, which includes demand for traditional and modern house construction. The furniture subsector is also enduring rapid market expansion coupled with the population's strengthened purchasing power. A majority of this subsector is made up of small-scale enterprises (MEFCC 2017). The following figures visualize the wood flows linked to the different subsectors.

Figure 1: Wood flows in the fuelwood and charcoal subsector (based on MEFCC 2017)

Figure 2: Wood flows in the construction subsector (based on MECC 2017)

Figure 3: Wood flows in the furniture subsector (based on MECC 2017)

The overlying issue of these value chains is the imbalance between supply and demand. With Ethiopia's growing population and the simultaneous development of the economy, demand for wood-based products is projected to increase significantly. The current domestic supply capacity comes short in satisfying these demand trends due to a weakened forest resource base as well as inefficient wood supply chains. To meet growing demands, Ethiopia needs to close existing and forecasted supply gaps by enhancing sustainable wood production systems, improving wood supply chains, and promote value-adding processing sectors. Potential solutions can be elaborated on the basis of the challenges faced by some of the actors participating in wood-based value chains (FSR report).

2.1 Natural forest

Due to worrisome trends of deforestation and degradation, large areas of Ethiopia's remaining natural forests are under strict conservation protection. Furthermore, the felling and transportation of native tree species require permits from local authorities. Yet, many local communities still depend on forest resources for livelihood support, which is why the state recognizes several forest ownership and management practices (Haile Gebremariam et al. 2009).

The **Forest Development, Conservation and Utilization Proclamation No. 1065/2018** differentiates between four types of forest ownership:

- Private forest

- Community forest
- Association forest
- State forest

Gaining momentum and importance are community forest developers, which allow members of a local community to voluntarily engage in participatory forest management practices. The members thereby *“share benefits generated from the natural forests surrounding them without affecting their sustainable existence”* (FDRE 2018; Proclamation No. 1065/2018).

Community forest developers operate as Forest User Groups (FUG) (legally formed as cooperatives) and commonly apply participatory forest management (PFM). Many of these groups still have many opportunities for improvement. Challenges are mainly faced in regard to groups’ institutional arrangements as well as the monitoring and commercialization of forest resources. Often, FUGs struggle to implement management procedures, such as regular meetings and the involvement of members in operational processes and have been observed to induce discrepancy amongst members due to a lack of transparency and the unfair distribution of benefits. Also, these groups lack the tools to systematically monitor the inventory and condition of forest resources. Often, capacity and knowledge limitations lead the responsible forest experts to roughly estimate the state of the managed forests over time. Timber felling, use, and selling activities by FUG members are regulated with permits. Yet, the permits are often distributed with limited overview of the state of forest resources and members are rarely required to conduct compensatory forest regeneration practices. Furthermore, after the withdrawal of external support for the FUGs, many had difficulties in maintaining stable institutional arrangements. Persisting stability often depends on the continued support from local authorities and a strong recognition of FUG ownership rights (Ameha et al. 2014).

2.2 Woodlots

Woodlots are mostly owned and managed by small-scale farmers. In total, the farmers’ woodlots contribute the highest volume of domestic fuelwood and roundwood supply. As the demand for wood continues to follow an up-surging trend, the role of smallholder farmers in supplying timber products will continue to be a crucial one (MEFCC 2017).

Yet, smallholder farmers are faced with market imperfections, which are for the most part caused by limited adoption of silvicultural practices, inadequate access to price information, low bargaining power, and restricted access to wood product markets. Tree-growing farmers often do not have sufficient access to market information, thus remaining unaccustomed to demand trends as well as selling wood products below market prices. Furthermore, the dispersed and copious nature of small-scale farming effectuates high transaction costs with input and output markets. These issues limit the value that is captured on the production level, thereby restricting the stimulating effect strong market signals can have on tree-planting behaviour (Munuyee 2018; Tefera et al. 2017).

2.3 Trading wood products

Smallholder farmers rely to a great extent on middlemen and traders for marketing their standing trees. These actors often organize logging, semi-processing of timber, transport to markets, as well as selling to processors (Haile Gebremariam et al. 2009). The majority of woodfuel is supplied by wood traders (MEFCC 2017).

In Ethiopia, the logging and transporting of native wood require permits, which is often challenging for traders to acquire, inducing a high extent of informality in this sector (Haile Gebremariam et al. 2009). Other challenges include limitations in regard to storage facilities, capital shortages due to the

low profitability of the business (cycle of buying and selling, with limited value-adding activities), as well as infrastructural limitations (Munuyee 2018).

2.4 Sawmilling and furniture production

Sawmilling activities in Ethiopia take place at industry levels but also in small-scale businesses. These businesses usually own a small table saw, with which semi-processed lumber is further process into lumber boards with clear-cut dimensions. Actors from the construction sector mainly buy their wood raw materials from sawmillers, including those for private house construction. A further important wood-based subsector is the furniture sector. It consists mainly of small-scale enterprises and relies to a great extent on native lumber as a raw material. With Ethiopia's growing population and economy, these subsectors are of great importance (Haile Gebremariam et al. 2009; MECC 2017; MECC 2018a).

Challenges faced by these actors are mainly linked to market and government failures. As these mainly operate in urban landscapes, the main challenge is the spatial and land limitations. With populations rising and with it, the demand for residential areas, such small-scale businesses are exposed to rising rent costs as well as inappropriate and confined production facilities. Urban residence and traffic are thereby often obstructed by e.g. furniture production that spills out onto the street or sawdust that pollutes the air. Furthermore, these enterprises have difficulties finding and purchasing appropriate machinery and spare parts. Enterprises often rely on their social network to gain technical repair skills or to lend tools and machinery (Gebreeyesus et al. 2018; Haile Gebremariam et al. 2009; Koch 2020).

Government-provided business development services are intended to help small-scale enterprises overcome the locked-in state at early development stages. Microcredits, trainings, public procurement and even a cluster development programme are in place in some regions of Ethiopia. Nevertheless, the capacities of these services are limited, and access is often obstructed by selective bias (Gebreeyesus et al. 2018; Koch 2020). For example, the cluster development programme, which clusters similar enterprises in an industrial district in order for these to make use of sharing resources and enable development, mostly only offers a limited number of spots (Ali et al. 2016; Koch 2020).

2.5 The need for value chain development tools

The brief introduction to the main wood-based actors and sectors shows that these face many challenges hindering the sustainable development of important actors of the bio-economy. Issues hinder the sustainable management and extraction of timber resources, limit the transparency and fairness of supply chains as well as limit the value-adding potential of processing subsectors. These barriers need to be overcome in order to achieve important economic, social, environmental and forest sector development goals.

Value chain development (VCD) is a tool that displays the intertwined social, technical, economic, institutional and environmental factors of development and thus, allows the establishment of systematic and inclusive sustainable development strategies. Value chains are interconnected systems with many actors depending on each other in order to reach more rewarding value chain positions. Applying value chain analyses and subsequent development can help understand the constraints of value chain actors as well as the impact of value chain activities. Yet, applying such a development tool cannot be successful without the participation of the relevant value chain actors (Springer-Heinze 2018a). **This Training of Trainers manual, and the overall training programme, aims to combine the theory of value chain development with participatory teaching methods and integrate this approach into extensions services linked to wood-based value chain actors in Ethiopia, thereby supporting their sustainable development.**

3 Value Chain Development (VCD)

A value chain is defined as “the sequence of related business activities from the provision of specific inputs for a particular product or product range to primary production, transformation and marketing, up to the final sale of the particular product to the consumer” (Springer-Heinze 2018a, p.21). A visualized structure of the value chain presents the participating actors, the activities these actors are engaged in, the linkages they have with other actors, as well as the external environment that indirectly regulates and shapes the value chain structure. In general, it takes on the following shape.

Figure 4: A visualized structure of a value chain (taken from Poschen et al. 2014, p.150)

The value chain approach allows one to describe the realities linked to a product of interest. It gives an overview of all the involved actors and their positions, thereby showing the proportion of stakeholders that depend on an end-market to be stable and successful. At the same time, it shows how these actors interact in order to reach the end-market as well as what external regulations and forces affect their position (M4P 2008).

Value chain development has the intention to identify the challenges the value chain actors are facing and to subsequently address these challenges by proposing and implementing upgrading strategies. Thus, value chain development encompasses the overcoming of certain barriers, followed by the shift to higher value-adding and more rewarding value chain positions (Koch 2020, p.16). There are four strategies that have the potential to enable upgrading:

1. **Improving the process:** This involves setting up more efficient production processes and reducing negative externalities, which can be achieved by e.g. reducing wastage, improving operational management, or simply increasing output volumes with steady input volumes.

2. **Improving the product:** This means upgrading a product, which in turn enables an enhanced value per unit. Such product development is achieved through e.g. improving quality, fulfilling certain standards, extending the durability and so on.
3. **Changing and/or adding functions:** This occurs when value chain actors engage in new and/or adopt further functions or activities. A value chain actor could thereby take up activities otherwise performed by preceding or succeeding value chain actors.
4. **Improving the value chain coordination:** Coordinating value chain activities can take place either vertically or horizontally:
 - a. *Vertical coordination:* This involves improving the relationships a value chain actor has with buyers, meaning preceding or succeeding value chain actors. It could for example mean moving from spot market relationships, which involves often involves bargaining purchases at central markets, to contract relationships, which stabilizes a buyer-seller relationship and thus reduces transaction costs.
 - b. *Horizontal coordination:* This occurs when value chain actors of the same value chain position (i.e. actors engaged in similar activities) cooperate in order to increase their value chain performance. For example, smallholder farmers could collectively participate in a cooperative to obtain market information and therefore, sell their produce at a fairer price (Bolwig et al. 2011).

These value chain upgrading strategies typically interact and it is important to have an overview of how these strategies interact. This is illustrated in the following figure.

Figure 5: Types of value chain upgrading strategies and their interaction (taken from Bolwig et al. 2011, p.37)

For example, value chain coordination can support the achievement of functional or process upgrading. When cooperating horizontally, value chain actors share market information or technical skills, which may lay the foundation for improving production processes or learning new skills required to diversify operational activities. On the other hand, improving a product can, for example, increase the likelihood of engaging in beneficial contracts, as the improved product fulfills a wider range of buyer requirements (Bolwig et al. 2011).

This handbook focuses on the application of **value chain development (VCD)** to wood-based sectors in Ethiopia. The Introduction Chapter has already provided some examples of challenges faced by certain wood-based value chain actors. It thereby focused on actors that are especially susceptible to changes often due to the small-scale nature of their economic activities. Supporting these actors, such as smallholder tree-growing farmers, small-scale wood traders, or micro and small-sized furniture enterprises, is an important component of Ethiopia's National Forest Sector Development Program (MEFCC 2018a, 2018b). Several upgrading opportunities are discussed in the following passages.

Table 1: Potential upgrading strategies for wood-linked value chain actors in Ethiopia

Wood-based value chain actor	Potential development strategy
Forest user groups	<ul style="list-style-type: none"> • Strengthen collective action by making meetings more frequent and purposeful • Initiate social learning by sharing e.g. experiences with permits, knowledge of forest regeneration practices, technical skills • Vertical contracting with downstream wood-demanding actors (e.g. sawmills) to secure commercialization avenues
Smallholder farmers	<ul style="list-style-type: none"> • Establish a smallholder farmer cooperative to strengthen bargaining power with traders and share market information
Wood traders	<ul style="list-style-type: none"> • Form a wood trading cooperative to organize supply streams better and enhance customer outreach • Share factors of production, such as land (e.g. market space), labor, tools, and other capital • Vertical contracting with upstream (e.g. wood producing farmers) and downstream (e.g. furniture enterprises) value chain actors • Offer transport and processing services
Small-scale wood processing enterprises (e.g. sawmillers or furniture producers)	<ul style="list-style-type: none"> • Form a woodworking enterprise association to advocate interests before the state and reduce transaction costs with business development service providers

These are just some potential solutions that could help the value chain actors develop, mainly revolving around the notion of value chain coordination. Diverse extension services in Ethiopia already exist to encourage such development strategies. Extension services mainly include trainings, which aim at enhancing the knowledge and skills of value chain actors and therefore, improve and/or extend their operational, functional, and production activities. Nevertheless, such extension services are often transferred in a very top-down manner, impeding learners to practice what is taught. Participatory learning approaches can help overcome such learning barriers.

4 Supporting Wood-based Value Chain Actors in Ethiopia

4.1 Extension services for rural development

In Ethiopia, the governmental extension is mandated to reach to the local community (Domke 2018). The rural extension service is one of the institutional support services that plays a pivotal role in transformation processes (Albore 2018), and characterized by a vertical and hierarchical structure (Domke 2018). The extension structure is embedded in the agricultural offices, who also guide the extension activities. The Growth and Transformation Plan (GTP) II stated that the extension service plays a role to share technical support and knowledge while mobilizing community for tree planting and forest management (Tolera 2021).

The content and materials of extension services are developed at the regional and national level, organized based on the sector, i.e. crop, animal sciences, and natural resources. The extension materials constitute training units and are delivered to the local communities through the zone, district (*Woreda*), village (*Kebele*), as illustrated in Figure 6. Households in a village are typically organized into the so-called development groups, and they receive extension training together as a development group. The key actors at the intervention level are the Woreda offices and Development Agents. Up to three agricultural Development Agents serve and stay as extension officers in the village, who are employed by the district offices for agriculture. Each of the development agent is specialized in one of the three focus fields (crop, livestock, natural resources). Development agents specializing in land administration and environmental protection are only present in certain regions (Domke 2018).

Figure 6: Extension system structure and stakeholder at the implementation level (Domke 2018, p. 58)

4.2 Current challenges of extension services in Ethiopia

The implementation of multi-level stakeholder interaction remains as a challenge due to state dominance, weak institutions, and human capacity (Domke 2018; Tolera 2021). Especially in remote areas where electricity and mobile network infrastructure are weak or non-existent, communication and information transfer face obstacles (Domke 2018). Extension work is in its nature not participatory due to the little consideration given to farmers' experiences and knowledge (Belay and Abebaw 2004). Several studies reported low level of skills of extension workers (Albore 2018; Domke 2018; Tolera 2021). Farmers face difficulties in acquiring appropriate tools as well as adequate quantity and quality of inputs for tree planting. All these factors combined, therefore, lead to the low adoption of technology and innovation, particularly in the forestry and wood sector (Tolera 2021).

4.3 Value Chain Development through participatory trainings

The above-mentioned challenges suggest the need to foster a collaborative interaction between extension workers, farmers, and wood-based actors, which can considerably enhance the diffusion of innovations (Darr and Pretzsch 2008 in Tolera 2021). Domke (2018) revealed the three extension methods favored by local communities, namely group discussion, oral meeting, and demonstrations. Those three methods provide a safe space for participants to discuss, exchange ideas, and ask questions (Domke 2018). Not only that they are participatory, but also inclusive to participants across various literacy levels and skills. In order to advance the adoption and diffusion of technology and innovation, thereby developing the wood-based value chain, participatory trainings need to be enhanced. Participatory approaches in trainings refer to approaches where participants are

encouraged to actively contribute to teaching and learning, rather than merely passively receiving information (Guijt et al. 2002).

5 Planning and Initiating Participatory VCD

5.1 Setting the objective

The planning phase is when the facilitator makes preparations before conducting the participatory VCD training. At this stage, it is important to reflect upon the role of the facilitator, meaning looking at the role and responsibilities the facilitator has, and what impact can be achieved. The facilitator may ask themselves the following questions in order to define the objectives of the training.

- Why are you going to conduct this training? What is its purpose?
- What is the core content of the training?
- Who are you going to train?
- What are the expected outcomes?
- What are the possible expectations of the potential participants? (Chambers 2012; Guijt et al. 2002)

Generally, the objective of participatory VCD training will be to stimulate the thoughts of the participants and ultimately motivate them for action. The participants will create an image of their own value chain, derive constraints and causes of these constraints, and collectively envision and plan solutions for VCD. Adding to this general objective, several specific objectives need to be defined, which mainly guides the different sessions of the trainings.

5.2 Defining the value chain scope and selecting participants

The desired outcome will define who will need to participate. Say, for example, the facilitator wants to encourage and support smallholder farmers in further integrating native tree species into farming systems. The farmer could benefit from the resilience such an agroforestry system provides as well as from the income gained when selling the logged wood. At this point, the facilitator needs to ask the questions: What actors need to participate in the participatory VCD training in order to achieve this objective? What are the system boundaries of the value chain analysis i.e. the value chain scope? Defining a value chain scope beforehand will decide what actors could participate in the workshop (Springer-Heinze 2018a). Using the example above, there are several possibilities in regard to the participating actors and the scope of the value chain analysis. This is visualized in the following figures.

Figure 7: Option 1 – Workshop is conducted only with the smallholder farmers; Development opportunities are explored within the scope seedling provided to wood trader

Figure 8: Option 2 – Workshop is conducted with the seedling providers, smallholder farmers, wood traders and furniture enterprises; Development opportunities are explored within the scope seedling provided to furniture traders. This supports the smallholder farmer by, for example, enabling vertical coordination opportunities.

Figure 9: Option 3 – Workshop is conducted with the smallholder farmers, wood traders and furniture enterprises. Development opportunities are explored within the scope of a farmer to a woodtrader. This focuses on the timber commercialization route, starting with the wood producer.

Different scopes and extents of involved actors may lead to different workshop outcomes. For example, Option 1 could lead to more farmer-focused coordination opportunities, whereas Options 2 and 3 may lead to market-based solutions, as wood buyers are involved. Based on the defined objective, the scope, and the potentially participating actors, the facilitator can now define underlying objective as well as a structure for the workshop.

It might then be important to conduct an initial survey with potential participants in order to understand their perception towards the workshop and whether they would even be willing to participate. This can also then be utilized to further assess the training needs of the target group. With this in mind, the facilitator will also have to do some personal research so that the learning session can be effectively implemented, and the trainer is prepared for any questions the participants might have (Guijt et al. 2002).

5.3 Logistical preparations

Next, the facilitator needs to choose a venue where the workshop will be held. It is important that the venue is accessible to all the potential participants and that the workshop materials needed can be applied at that venue. Workshop materials should be organized beforehand as well. Furthermore, the participants will need to receive invitations, possibly in advance so that they can plan their participation better. Once the day comes closer, it may be good to remind them about the workshop. This can be done in combination with the provision of extra information, such as the schedule of the workshop (Guijt et al. 2002).

5.4 Designing and planning VCD workshops

Designing a VCD can be initiated by defining the individual sessions and placing these into a schedule. For each session, it would be best, to begin with some background information and a demonstration of the exercises. The different sessions will probably require different lengths of time. Keep the background information part short, as it is not interactive, and it might be hard to keep the participant concentrated (Guijt et al. 2002).

It also important to predict how easy it will be to communicate or teach certain topics to the participants. Knowing the participants is therefore crucial and will define how information is transferred. Knowing what participants already know will define the lengthiness of a session and the materials needed to effectively communicate the content of the sessions. For example, some farmers may be illiterate, which is why in such a case visual aids can be a more effective learning tool (Guijt et al. 2002).

Then, it is important to define the training methods of each session. What teaching tools will be used? What exercises can be used to react to predicted participant behaviour (e.g. conflicts)? These tools are shown in the chapters below. All in all, the facilitator will have to define the structure and concept of the workshop based on the uniquely defined objective.

6 Implementing Participatory VCD workshops

6.1 Introductory Session

6.1.1 *The life cycle of groups*

The core principle of participatory workshops or trainings is to collectively work towards solutions. The success rate and impact of collective learning depend on the performance as a group. To heighten the output of group activities, the trainer must understand what participation is required and in what constellation groups can perform well. The “Life Cycle of Groups” helps understand what stages a group must endure in order for these groups to eventually perform well:

1. **Forming stage:** At this stage, the members of the group still perceive themselves as individuals, all of which most probably have a personal motivation and agenda for joining the workshop.

Differing expectations and expertise will most probably be in place. Group forming is therefore a stage in which group members get to know each other and explore common interests. The trainer's role at this stage is to foster the discovery of common ground.

2. **Storming stage:** Group storming occurs while participants further become acquainted with each other. Individual values and personal interests come to light, which may either be challenged or supported. Participants thereby position themselves in the group and their prospective role starts to become more visible. This may lead to conflicts and the trainer needs to provide an environment for conflict-resolution and consensus. Reminding the participants about the common purpose of the training may help achieve this.
3. **Norming stage:** Norming characterizes the stage at which the group members advance to gain a good overview of member roles and how these roles interact. This allows a shared vision to be established. Individual norms and interests evolve to become collective norms and interests.
4. **Performing stage:** Once participants reach consensus as well as establish and agree upon a common purpose, it can focus on achieving the common goal. This focus allows a group to be productive in generating qualitative ideas and solutions.

Aspects of these stages may be visible throughout the different sessions, yet it is most desirable to already reach aspects of the performing stage before entering the session 1 to 3, as throughout these stages group performance is critical. The introductory session functions to move the group dynamics closer to this state. (Chambers 2012, p.20; Guijt et al. 2002, p.49)

6.1.2 Getting to know each other: Workshop introduction and warm-up methods

A simple "meet and greet" session is an effective way for participants to start to get to know each other. This simply involves participants walking around in an open room and greet other participants. It would be good for the participants to have nametags, so they can be greeted in a more personal manner. The trainer should indicate how long this will take but also participate in the meet and greet. If anyone seems not to be taking part, the trainer should engage them to participate by greeting themselves and/or matching them with other participants (Chamber 2012; Guijt et al. 2002).

After the meet and greet session, it may be useful to kick-off the workshop with some introductions of the participants. Some introduction exercises are listed below. This can help break some of the tension that exists at the beginning and will make participants feel more comfortable with each other.

The Seed Mixer

The participants are each given one bean (or other seed) for each participant of the workshop, including the facilitator. The participants then go around introducing themselves to everyone, thereby giving one bean to the other person and also receiving a bean from the other person. Each participant will have two containers, either their pocket or a cup, one for the beans to distribute and the other for the received beans. At the end the cup with the received beans should be full, meaning the participant has introduced themselves to everyone else (Guijt et al. 2002, p. 140)

Who are we?

The facilitator asks the participants to raise their hands when they feel addressed by the questions the facilitator poses. For example, the facilitator may ask "Who is a small-scale farmer?", through which the participants who are small-scale farmers raise their hand. Other participants may at this point look around those addressed, so they can know who they might want to talk to later on. If some participants don't raise their hand after all questions have been expressed, ask "Who's left?" (Guijt et al. 2002, p. 142).

Bicycle chain

Form two rows of participants facing each other. Each participant in a pair introduces themselves. Then they move away from each other in opposite direction to meet the next person. This movement continues until all participants have met each other. Participants reaching the end of a line, turn around and face the person that was previously next to them. The facilitator may set a time for each introduction (Chambers 2012, p. 22)

6.1.3 Guiding group dynamics: Resolving conflicts

Participants of a value chain development workshop will often initially have diverse perspectives towards certain issues. This might lead to conflicts, especially when participants have varying interests. This may be the case when conducting a workshop with participants from a broad value chain scope. It is important to prevent such conflicts from emerging, and if they emerge, to react, resolve and re-establish group dynamics.

The facilitator needs to be aware of the life cycle stage the group is in and react accordingly to guide the group towards more effective interactions. The facilitator can always take breaks where necessary in order to reflect upon the group dynamics. The exercises listed below can be conducted to enhance group dynamics. The purpose of these exercises is for participants to recognize the impact of working in groups, look past one's conflicting interest, and give in to a collective objective (Guijt et al. 2002).

Cooperative squares

The participants are split into groups. For this exercise, the facilitator must prepare some materials beforehand, namely, five envelopes for each group containing cut-up squares. The squares should be cut up in the shapes seen in the image below.

The objective of the game is for each group to form five squares of even sizes. It is important to state that no one may talk to each other during the exercise and that pieces in the participants' envelope can only be given and not taken. The exercise is supposed to demonstrate the importance of successful group cooperation (Guijt et al. 2002, pp. 171-172).

Postcard or jigsaw puzzle

The facilitator must prepare several pictures for this exercise. These pictures should be cut up into complex puzzle pieces. The number of puzzle pieces should match the number of group members. Each member gets one puzzle piece. The group is then asked to complete the puzzle without talking to each other (Guijt et al. 2002, pp. 173-174).

My corner

This exercise is very short and can be conducted in-between or even during sessions. The participants are asked to form a circle while holding hands. Everyone then chooses a corner in a room or a landmark on an open-space and decides it is “theirs” without letting anyone else know. The objective of the exercise is for every participant to visit their corner or landmark without the circle being broken (Guijt et al. 2002, p. 177).

6.1.4 Guiding group dynamics: Picking up the pace

Often, there will be moments when the participants’ energy begins to decline, and the group dynamic begins to drag. At such moments, the facilitator may react by taking a break from a current exercise in order to reanimate the participants. Energizing exercises can be quite useful. Some of them are listed below.

Fruit salad

Ask the participants to form a circle. The facilitator begins the game by standing in the middle. Starting at one point of the circle (a random participant) ask them to name a fruit and continue around with the neighbour in the circle until 3-5 fruits have been chosen, depending on the group size. The next person in the circle then takes the fruit mentioned by the first person, and so on, until everyone has a fruit. The facilitator then calls out certain fruits. All the participants of that fruit have to change seats. The person in the middle will also try to get a seat. One person will always be left in the middle. When “fruit salad” is called out, all participants need to change seats (Guijt et al. 2002, pp.143-144).

Streets and avenues

Ask the participants to form four to five rows by holding their hands. The rows are parallel to each

other, forming “streets” or “avenues” in between them. When the facilitator calls out “avenue”, each of the participants turns at a 90-degree angle to the left and holds hands with the person beside them.

When the facilitator calls out “streets”, the participants go back to their initial row. Two volunteers will play as cat and mouse, with the cat having to catch the mouse. These cannot break through a row. The facilitator tries to keep the cat away from the mouse by calling out “streets” or “avenues” to shift the formation of the rows (Guijt et al. 2002, p. 149).

Countdown

The facilitator asks the participants to form a circle. The facilitator explains that a short game will be played (ca. 5 mins) and explains the instructions. The participants should count to fifty but not to say the number seven or any multiple of seven. Instead of those numbers, participants should clap their hands. When someone claps their hand, the participants should start to countdown instead of up. If someone says one of the forbidden numbers, the group starts counting from the beginning, best at with another participant (Guijt et al. 2002, p. 154).

6.1.5 Gathering expectations

At the invitation of the workshop, the participants will have already received an introduction to the purpose of the training. This will have allowed participants to form certain expectations for the outcomes of the training. To allow participants to express these expectations, do a discussion round regarding this at the beginning of the workshop, and encourage them to mention not only their hopes, but also their concerns. This can be an open discussion with all participants; or, when the number of participants is large, it can be done through group exercises, with each group having a note-taker who later expresses the expectations to the rest of the workshop participants (Chambers 2012).

6.1.6 Stating objectives and introducing Value Chain Development (VCD)

After the participants have expressed their expectations, the facilitator may state the objectives of the training and introduce the concept of participatory value chain development. The format of this introduction is up to the facilitator and depends on the types of participants. This could incorporate several matters.

- Background, problem statement and justification
- Introducing participatory value chain development as a solution
- The goals and objectives of the workshop

- The outcomes that can be expected by the participants
- A schedule for the entire workshop
- An introduction to each of the sessions, with reference to an example that can help explain them (e.g. for session 3, show some examples for collective actions, as participants may not be aware of these)

6.2 Session 1: Value Chain Mapping

The value chain map is the first step for a more value chain development process. It aims to visualize the structure and thereby reduces its complexity. The visual structure allows participating actors to better understand the wider system of the value chain and is the basis for identifying strategies for systematic value chain development. The following steps are based on the guidelines described in Springer-Heinze 2018a and M4P 2008. The case study is taken from Munuyee 2018.

6.2.1 Value Chain Mapping

Mapping a value chain essentially allows one to visualize the value chain structure. A value chain map consists of six core elements, three of which are internal elements and three of which are external.

Table 2: The six core elements of a value chain mapping exercise

Internal	External
(1) Core processes	(4) Geographical distribution
(2) Value chain actors	(5) Support service providers
(3) Flow of products	(6) Regulatory framework

The elements are to be consecutively mapped in a flow diagram and linked to geographical locations. As described in Chapter 5, one needs to initially define the scope of the participatory value chain development exercise. This involves determining the end-product or group of products that are of interest. The value chain scope can then be further focused by either concentrating on certain value chain actors or even geographical settings. In general, this Trainer Manual focuses on wood-based value chains, meaning that the horizon of the value chain is limited to processes that involve wood-based materials as well as the direct inputs and outputs linked to these processes.

Step 1: Mapping the core processes

With the end-product(s) defined, one can start to map the core processes that lead up to the creation of the end-product(s). The core processes are the main activities that bring raw material from its source to a final market. Each process is depicted as a hollow arrow and placed in a sequence that represents the actual progression of the products. This is visualized as follows with some general processes.

Figure 10: Map of the core value chain processes

This illustration is greatly simplified, and most value chains take on a more complex arrangement, as raw materials usually stream into multiple different markets and therefore, different processing stages. It is important to initially include all overlying core processes, under which the different flows of relevant products between value chain actors can be displayed.

Step 2: Mapping the value chain actors

Mapping the actors involves identifying people and businesses that participate in the value chain in question and showing how these actors are linked. Actors are shown in boxes and the relationships that facilitate transactions between these actors are illustrated with arrows. The following diagram shows how this is visualize based on an example of the *Eucalyptus* pole and fuelwood value chain.

Figure 11: Value chain map with the process and the value chain actors as well as their linkages

With the core processes and value chain actors defined, it is at this stage useful to define the specific activities that the actors are engaged in. These are listed in a table underneath the value chain structure constructed thus far. An example based on the *Eucalyptus* pole and fuelwood value chain is presented in the following table.

Table 3: Value chain actors and their activities

Actors	Input providers	Seed suppliers	Tree grower	Middlemen, wholesalers and retailers	
				Fuelwood	Poles
Activities	Retailing equipment and farm inputs required for tree growing	Seed production, collection and distribution	Land preparation, planting, weeding, hoeing, thinning and fencing	Harvesting, debranching, splitting, loading, unloading, storing, marketing and distribution	Harvesting, debranching, loading, unloading, sorting, storing, marketing and distribution

Step 3: Mapping the flow of products and services

Mapping the flow of products essentially gives an overview of the input-output streams of each value chain stage. Within the core processes, value chain actors' activities take place to transform and utilize inputs in order to produce outputs that can act as inputs for subsequent value chain stages until the product reaches its end market. Relevant inputs are classified into the factors of production land, labour, energy, materials, and physical assets. Mapping the flow of products is demonstrated with the *Eucalyptus* pole and fuelwood value chain as follows.

Table 4: Value chain activities and linked inputs and outputs

Activities	Retailing equipment and farm inputs required for tree growing	Seed production, collection and distribution	Land preparation, planting, weeding, hoeing, thinning and fencing	Harvesting, debranching, splitting, loading, unloading, storing, marketing and distribution	Harvesting, debranching, loading, unloading, sorting, storing, marketing and distribution
Input	Marketspace, labour	Land, fertilizer, seeds, labour, farm tools	Land, fertilizer, seeds, labour, farm tools	Labour, harvesting and processing tools, marketspace	Labour, harvesting and processing tools, marketspace
Output	Farming tools and equipment	<i>Eucalyptus</i> seeds and seedlings	<i>Eucalyptus</i> standing trees	Fuelwood from <i>Eucalyptus</i>	<i>Eucalyptus</i> poles

Step 4: Mapping the geographical distribution

Once the internal processes of a value chain are adequately defined, the external settings and structures are determined. First, the value chain processes need to be linked to geographical locations. This can be done with a geographical map or on the value chain map itself. With a geographical map, locations where core value chain processes occur, are simply marked. Using the value chain map, the core process are linked to names of regions, cities, towns, districts etc. As core processes usually occur within and across multiple geographical locations, this is done by using bar sketches. This is demonstrated in the following figure, using the *Eucalyptus* value chain reaching from Chefasine district to markets in Chefasine, Tulla town and Hawassa city in the Sidama Regional State of Ethiopia).

Figure 12: Value chain map including a geographical distribution

Step 5: Mapping value chain support services

Value chain support services are services provided by indirect value chain actors, which intend to develop or upgrade the position of direct value chain actors. In Ethiopia, examples of support services include microfinances, training, or industrial cluster development programs. The services vary depending on the precise value chain actor. Relevant service actors are mapped with rectangle chipped on one corner, as shown in the following diagram using *Eucalyptus* value chains as an example.

Figure 13: Value chain map showing support services

Step 6: Mapping the legal framework

Adding to that, external actors that perform regulatory functions are mapped. These are outlined in rectangles with all corners chipped, as seen in the following example.

Figure 14: Value chain map showing the legal framework

After completing all these steps, the value chain is mapped, showing the core processes, the value chain actors and their activities, the flow of products, geographical locations, support services and the regulatory framework. The following figure shows a value chain map in its entirety, using the *Eucalyptus* pole and fuelwood value chain in a region of Ethiopia as an example.

Actors	Input providers	Seed suppliers	Tree grower	Middlemen, wholesalers and retailers	
				Fuelwood	Poles
Activities	Retailing equipment and farm inputs required for tree growing	Seed production, collection and distribution	Land preparation, planting, weeding, hoeing, thinning and fencing	Harvesting, debranching, splitting, loading, unloading, storing, marketing and distribution	Harvesting, debranching, loading, unloading, sorting, storing, marketing and distribution
Input	Marketspace, labour	Land, fertilizer, seeds, labour, farm tools	Land, fertilizer, seeds, labour, farm tools	Labour, harvesting and processing tools, marketspace	Labour, harvesting and processing tools, marketspace
Output	Farming tools and equipment	<i>Eucalyptus</i> seeds and seedlings	<i>Eucalyptus</i> standing trees	Fuelwood from <i>Eucalyptus</i>	<i>Eucalyptus</i> poles

Figure 15: A complete depiction of the value chain map

As mentioned, this is the first step for developing a value chain. It gives insight into the diverse stages, linkages, product flows, internal and external actors, activities, and geographical distribution. This is necessary for identifying causes for key challenges and thus, for identifying strategies and entry points for upgrading the participators' value chain position. The following segment shows how a mapping exercise is applied in a participatory manner.

6.2.2 Participatory exercise: Value Chain Mapping

The steps followed for a participatory mapping of the value chain are equivalent to those listed in the previous segment. The method and materials, on the other hand, may vary depending on the participating value chain actors. These actors are given with the defined value chain scope (selection procedure shown in Chapter 5).

Value chain mapping takes place in a group exercise with all participating actors. The goal is to collectively visualize a map of the value chain in which participators are involved in. The role of the facilitator is to convey background information, explain each step of the value chain mapping exercise, and guide and stimulate the group discussion to come to an end-result, which is a value chain map. Furthermore, the facilitator writes the results that are agreed upon amongst the participators on centrally placed boards or posters visible to all participants. The steps for the participatory value chain mapping are as follows:

- 1. Introduction of the mapping exercise:** this is meant to give the participants the necessary background information for conducting the exercise as well as an overview of the steps of the exercise.
- 2. Question round:** this gives the participants the chance to clarify what was explained in step 1.
- 3. Participatory value chain mapping:** collectively going through the 6 steps of value chain mapping exercise and documenting/visualizing results on a poster or board.
- 4. Summarizing and discussing the results:** the facilitator summarizes the results and gives the participants a final chance to present and discuss the different elements of the value chain map.

6.2.3 Arrangement and materials

The seating of the group needs to be set-up in such a way, that all actors can be heard and can actively participate. The best seating arrangements for an open and participatory discussion are circle or semi-circle seating, as depicted in the following diagrams.

Figure 16: Seating arrangement options for a participatory value chain mapping exercise

The precise participating actors also determine the setting in which the participatory workshop will take place, which also somewhat prescribe the materials the seating arrangement of the participants as well as the materials to be used. For example, if the scope of the value chain is focused on the tree production stages, the workshop will most likely have to take place in a rural area, close to the farms of the tree growers. In such settings, the posters may be placed on the floor, table, or hung up on available objects, as shown in the following image.

Figure 17: Arrangement of posters in a participatory exercise within the WoodCluster project

The required materials include posters or boards on which the map will be drawn and visualized on multi-coloured markers, glue or tape, multi-coloured paper or post-its, and different visual aids. The shapes of the value chain elements are represented on differently coloured paper shapes or directly drawn on the poster or board. The necessary shapes are shown in the following table.

Table 5: Necessary shapes for a value chain mapping exercise using a poster

Pre-step	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
End-product(s)	Core processes	Value chain actors	Flow of products	Locations	Support services	Legal actors

Each of the shapes is filled with a description and placed on the poster or board. Sometimes, e.g. when illiterate participants are involved, visual aids are more appropriate. The activities of the core processes can be drawn out. This should be done before the start of the workshop. Examples of drawings are as follows, with each image representing a core process of a value chain (taken from Stein and Barron 2017, p.8).

Figure 18: Examples of drawings depicting the core process of a value chain (Stein and Barron 2017, p. 8)

6.2.4 Group learning dynamics

Each of the elements of the value chain map must result from a collective learning process of all participants. The facilitator's role is not to give the participants the answers, but simply initiate and guide the discussion as well as enable active group dynamics.

The poster / board acts as documentation of the group discussion and therefore, as a reference point and a visual tool for explanations. The facilitator should encourage participants to use visuals on the poster / board to strengthen an argument or explanation. Participants should interact with this tool by having close access to or by coming up to the poster / board. The value chain map should be utilized across all sessions. Such activity is seen in the following images.

Figure 19: Participants interaction with a visual tool (Guijt et al. 2002, p. 71, p. 77; Chambers 2012, p.9)

The facilitator needs to help the group to reach a level that allows the group to function well and productively reach the goal of the exercise. It is thereby important to be aware of the life cycle of groups as presented in Chapter 6.1.1 and reaching strongly performing group dynamics.

6.2.5 Summarizing and final discussion

Before Session 2, the results of Session 1 are summarized and conclusively discussed. It would be good for the participants to summarize the different elements of the value chain map themselves. Each element should be linked to contextual factors, e.g. explaining what a specific actor's role is in the value chain, what linkages it has, what activities it conducts, what resources it requires and creates, as well as its possible impact on other actors. This gives all participants a final overview of structures and activities along the entire value chain and thus acts as the basis for identifying constraints and development opportunities.

6.3 Session 2: Challenges and Upgrading Options

6.3.1 Value chain challenges

A critical aspect of the value chain development process is uncovering the precise challenges faced by the value chain actors. Once the value chain has been mapped, the next step for the participants is to identify their challenges. These challenges could be socio-technical and institutional barriers that stand in the way of upgrading the position of affected actors. Revealing the challenges is thus key for initiating a value chain upgrading strategy. In addition, to effectively identify possible areas of intervention, the root causes of these challenges need to be investigated. The following will present possible participatory methods for identifying value chain constraints and their root causes. On this

foundation, potential upgrading strategies can be determined and pursued (Abtew and Auch 2016; Herr and Muzira 2009; Bolwig et al. 2011).

6.3.2 Participatory exercise: Identification of value chain challenges

In a participatory workshop setting, there will be many different actors that will all potentially face a wide range of challenges. When conducting participatory VCD with broad value chain scope, involving actors from diverse value chain stages, such as production, trading, processing and marketing, it is likely that many actors have different perceptions and issues that might need to be addressed. At this point, it is important to refer back to the objective defined by the facilitator. The objective of the workshop is meant to allow for a focused structure that reduces complexity and avoids an accumulation of diffused challenges. The clearer and more central the determined challenges are, the more effective the derived upgrading strategy will be. In this sense, participants should be clear about the collective objective of the participatory value chain development exercise. It is important to perceive the exercise as one that will develop the value chain as a whole and from which all participating actors will gain benefits.

The exercise should be conducted by organising the participants into groups. Depending on the value chain scope defined by the facilitator, there may be different group arrangements for determining the challenges of participating value chain actors. In essence, the groups should be evenly divided, with each group having from 3 to 6 participants. Each group should have either a facilitator or a group leader, who notes down the challenges that are discussed. The participants should thereby be grouped into their functions in the value chain, for example, groups of producers, traders, processors, and marketers (Abtew and Auch 2016).

The objective for the groups is to identify the precise problems that affect the performance of the value chain. The groups should be given 1 to 2 hours to discuss these. During this group brainstorming session, each group's facilitator or group leader writes down the challenges discussed. The challenges could be written down on cards (1 challenge per card). After the groups have completed this exercise, the challenges noted down on the card could be posted on the central board or even underneath the valuechain map. The cards can be either grouped according to their central ideas or according to the value chain stage in which the challenge is in effect (depends on the ranking exercise chosen by the facilitator; see segments 6.3.4 and 6.3.5). Each group should select a group member to briefly present its results to the plenary, also allowing for some time for clarification questions (Abtew and Auch 2016; Herr and Muzira 2009).

At this stage, the participants come back to their initial seating arrangements and the facilitator can present the results posted on the board. The participants then start prioritizing the challenges discussed. The method for a participatory prioritization of challenges may depend on different factors, such as the workshop setting, knowledgeability of participants, or available workshop tools and materials. Several methods are presented below.

6.3.3 Participatory exercise: Matrix scoring

The objective of the matrix scoring exercise is to prioritize the challenges listed by the participants. If the workshop has a small number of participants, this can be done using a pairwise ranking matrix with all participants. With a large number of participants, it may be useful to create subgroups, which each create a ranking matrix. The scores of the different groups can then be summarized to produce one ranking matrix (Abtew and Auch 2016; Guijt et al. 2002).

A pairwise ranking matrix lists the challenges along the two table axes. Each of the blank boxes compares two challenges, representing a pair. Each participant thereby compares the two challenges

of a pair, considering the trade-offs, and chooses the more pressing issue. An example of this is shown in the following table, using the challenges of small-scale furniture enterprises as an example (Abtew and Auch 2016; Guijt et al. 2002).

Table 6: Matrix scoring of constraints of the relevant value chain

Nr.	Challenge	Challenges	1	2	3	4	5	6	7
1	Spatial and land limitations	1	-	1	1	1	1	1	1
2	Limited access to financial capital	2	-	-	3	4	5	6	2
3	Limited access to inputs	3	-	-	-	3	3	6	3
4	High costs	4	-	-	-	-	4	6	4
5	Fluctuating market demand	5	-	-	-	-	-	6	5
6	Poor government support	6	-	-	-	-	-	-	6
7	Insufficient skills	7	-	-	-	-	-	-	-

In this case, the most frequent challenge seen in the matrix is Challenge 1, spatial and land limitations (prioritized 5 times), followed by Challenge 6, insufficient skills (prioritized 4 times), and so on. The frequency of the challenges in the ranking matrices determines their rank. In the case of the example above, the ranking would be as follows.

Table 7: Ranking the value chain challenges

Rank	Challenge Nr.	Challenge
1	1	Spatial and land limitations
2	6	Poor government support
3	3	Limited access to inputs
4	4	High costs
5	5	Fluctuating market demand
6	2	Limited access to financial capital
7	7	Insufficient skills

If the value chain scope is focused, meaning workshop participants only represent actors of one value chain stage (e.g. wooden furniture producers), a grouping of the challenges might be superfluous, and the ranking exercise can be initiated with all the challenges identified in the previous step. Results from a group ranking exercise can be summed up by comparing choices across pairs and registering the most frequent pairs in one summarized matrix score table.

If the value chain scope of the workshop is broad, meaning workshop participants represent actors from many different value chain stages (e.g. farmers, traders, processors), it is recommended to first group the challenges produced in the identification exercise (see 6.3.3) according to their central ideas. These grouped challenges will then be used for the ranking exercise. The ranking exercise takes place in subgroups according to the participants' function (e.g. farmer, trader, processor) which can then be merged into one table, showing the rank of each challenge allocated into participant functions. An overall rank can be derived from this. This is shown in the following table, using an example from the bamboo value chain (Abtew and Auch 2016).

Table 8: Ranking the value chain challenges of the value chain actors with different functions

Nr.	Challenge	Rank			
		<i>Producers</i>	<i>Traders</i>	<i>Craftsmen</i>	<i>Overall</i>
1	Lack of technical support	2	4	2	1
2	Poor market linkages and sales	1	1	8	4
3	Lack of innovation	2	4	3	3
4	Missing market information	6	1	11	8
5	Lack of producer awareness	5	3	4	5
6	Limited government attention	1	6	1	1
7	Limited supply coordination	6	2	8	6
8	Poor quality of raw material	5	7	6	7
9	Low demand	3	5	12	9
10	Limited credit access	6	6	9	10

6.3.4 Participatory exercise: Prioritizing challenges with a voting

An alternative ranking exercise can be carried out using a voting game. The identified challenges noted down on cards can be placed on a central board or even along with the value chain map. The participants are then given 5 votes each, which they should distribute amongst the challenges. The votes can be represented with e.g. dry beans or sticker dots. A similar exercise is shown in the image below.

Figure 20: Voting method (ILRI/B. Kawuma in Stein and Barron 2017, p. 5)

It is hereby important to re-state the objective of the workshop, namely the sustainable development of the entire value chain in question. During workshops covering a wide value chain scope with actors from several value chain stages, there may be a risk of participants segregating into functional groups. These segregated groups may strongly advocate function-specific interests, which may cause heated discussions with other value chain participants. This can be prevented by ensuring that participants have a common objective in mind and understand that the interconnected nature of their value chain position. Voting for the improvement of another actor's value chain position may indirectly have a positive impact on the voting participant.

6.3.5 Participatory exercise: Determining root causes of challenges

Once the major challenges have been identified, the workshop may proceed to determine the root causes of these challenges. Again, the participants are separated into functional subgroups, whereby each group constructs a generic problem tree for one of the identified challenges. The number of challenges examined depends on how many groups can be formed. For example, if 5 groups can be formed, a problem tree can be constructed by the top 5 identified challenges. These problem trees link causes and effects to a central challenge (Abtew and Auch 2016; Herr and Muzira 2009). The purpose of this exercise is to later be able to direct the upgrading strategies at these root causes (Bolwig et al. 2011). The following diagrams show generic problem tree, using a main challenge faced by small-scale furniture enterprises in Ethiopia as an example.

Figure 21: Generic problem tree

Once the groups have created their problem trees, they are briefly presented to all participants and the facilitator. Each presentation should be followed by a short plenary discussion.

6.3.6 Participatory exercise: Envisioning upgrading options

Following the problem tree construction, the next step would be to identify possible value chain upgrading strategies. A value chain upgrading strategy is one that enables to reach improved value chain positions, i.e. higher value-adding and more rewarding positions, by surpassing development barriers (Springer-Heinze 2018a). In order to arrive at upgrading strategies, workshop participants could first construct generic solution trees (Abtew and Auch 2016; Herr and Muzira 2009).

In groups, participants initially brainstorm and then formulate an objective derived from the challenges identified in the previous session. For example, the challenge “limited technical skill” can be turned into the objective “gaining technical skills”. Each group should work on one challenge and then briefly present their results. An example of a solution tree is seen in the diagrams below, using a common desire by small-scale furniture enterprises in Ethiopia.

Figure 22: Solution tree

The solution tree acts as a basis for formulating the upgrading strategy. The objectives and activities listed can now be linked to specific forms of upgrading. The next session demonstrates this process with collective action upgrading options.

6.4 Session 3: Value Chain Development with Collective Action

6.4.1 Collective action upgrading of value chains

This segment will demonstrate how an upgrading strategy can be selected, planned and developed. It will thereby especially focus the narrative and examples on collective upgrading strategies, which are gaining momentum in wood-based sectors in Ethiopia.

The challenges faced by small-scale value chain actors are often linked to the limited capacities, facilities and capabilities that come with operating on such a scale. Small producers, traders, or processors are thereby commonly faced with challenges such as:

- Purchasing supplies in small quantities at higher prices
- Low negotiation power with suppliers and buyers
- Weak influence on external institutions
- Missing capacities for fulfilling environmental and quality standards
- Poor market linkages
- Limited access to market information (needed for setting a fairer price)

Such barriers can often be overcome with some form of coordination and collective action with value chain actors, hence permitting an upgraded value chain position (Bolwig et al. 2011). Collective action occurs when a group of people carries out a common action in pursuit of the group's shared interest (Meinzen-Dick et al. 2004). There are two forms of collective action, namely vertical collective action and horizontal collective action.

Vertical collective action occurs when value chain actors from different value chain stages improve the coordination of their transaction and thereby benefitting from a win-win market relationship. For example, a small-scale tree-growing farmer collaborates with a wood trader in order to stabilize market access. Improved relationships with buyers or suppliers can enable better access to market information and other resources, fairer product pricing, and reduced transaction costs. Such a relationship can e.g. take shape in form of formal contracts that may enable price premiums (Bolwig et al. 2011).

Horizontal collective action takes place when value chain actors of the same value chain stage coordinate activities. For example, small-scale wooden furniture enterprises form a business association in order to lower transaction costs with supporting institutions and therefore improve the access to business development services. With horizontal value chain coordination actors can organize the supply and distribution of inputs, e.g. by collectively bulk purchasing raw materials, engage in social learning activities, reduce transaction costs with extension units and upstream and downstream value chain actors, as well as have heightened role in shaping the policy environment (Bolwig et al. 2011; Macqueen et al. 2006).

6.4.2 Possible forms of collective action

It may be relevant to present several exemplary forms of collective action, to initiate and stimulate the participant's discussion. This is important, as the forms of collective action will most probably be new to many participants. The facilitator must also be able to answer questions regarding possible implementation routes of these collective actions, which allows the participants to paint a more realistic picture of the collective action. Participants may, for example, have questions regarding the legal process of registering their enterprise as a cooperative. For the value chain actors in question, the following forms of collective action could be relevant.

Table 9: Potential forms of collective action for wood-linked value chain actors

Form of collective action	Possible functions
Forest User Groups	<ul style="list-style-type: none"> • Collective management of forest resources • Coordinating extraction and rehabilitation • Collective monitoring of forest resource status • Organizing trainings and capacity development
Cooperatives	<ul style="list-style-type: none"> • Collective marketing of tree products • Sharing market information • Collective purchase of agricultural inputs
Cooperative enterprises	<ul style="list-style-type: none"> • Sharing enterprise liability and risk • Diversifying skillsets • Wider distribution of operational activities
Associations	<ul style="list-style-type: none"> • Strengthening representation before the state and municipality • Lowering transaction costs with supporting institutions (improving access to development services)
Vertical contracting	<ul style="list-style-type: none"> • Guaranteeing fixed inputs and sales • Guaranteeing timely supply streams • Embedded services from suppliers or buyers e.g. credit • Price premiums
Horizontal coordination and contracting	<ul style="list-style-type: none"> • Sharing work or market space, enabling economies of scale • Bulk purchasing of raw materials • Sharing large product orders

6.4.3 Participatory exercise: Brainstorming collective action opportunities

Once the participants have gained some background knowledge on the topic of collective action upgrading, they may proceed to envision a collective action upgrading strategy for upgrading their value chain positions. Participants can again be split into groups for a brainstorming session. Each group tackles a challenge and objective drafted in the problem and solution trees and explores a possible form of collective action that would have the purpose of overcoming the challenge and achieving the objective. The groups should thereby first consider multiple relevant forms and then

prioritize one for a final presentation (Guijt et al. 2002; Herr and Muzira 2009). To reduce the options to one, participants could think about the following questions.

1. Which collective action should be initiated first?
2. Can the collective action also solve some of the other challenges?
3. For which collective action is the possible willingness to participate of the potential members the highest?
4. Why is the prioritized collective action most suitable as a value chain upgrading option?
5. How does it best overcome the challenge/achieve the objective?

The following case study is used to demonstrate this process. Assume the workshop participants consist of forest users and wood traders. The process of deriving one form of collective action from the identified challenges is shown in the following simplified diagram.

Figure 23: Participatory process leading up to the value chain development strategy

Once the groups have identified one potential form of collective action and considered these questions, the solutions are presented in front of the workshop participants. The facilitator then, together with the participants, analyses the solutions presented and selects those that should be further explored in the next session. If there are opposing views regarding which forms of collective actions to explore further, a ranking exercise (such as the matrix scoring exercise presented in 6.3.4 or a simple voting presented in 6.3.5) can be conducted to show the options that are most important to all participants.

6.4.4 Participatory exercise: Formulating collective action upgrading strategies and action points

The next step would then be to further specify the way forward and therefore, bring the collective

action upgrading strategy closer to its implementation. Again, participants will be split into subgroups, with each group working on one form of collective action. The members of these groups should reflect the potential members of the collective action considered. For instance, if vertical contracting between lumber traders and small-scale furniture enterprises is a selected upgrading strategy, the participants representing these functional value chain roles should be group. Another example is the grouping of small-scale farmers, whose collective action upgrading strategy is the formation of a wood marketing cooperative. In this exercise, the participants will fill out an action planning matrix as demonstrated as follows using the wood trader and forest user example mentioned earlier (Herr and Muzira 2009).

Table 10: Template for designing a value chain upgrading strategy (taken from Herr and Muzira 2009,p.163)

Functions	Systematic constraints	Upgrading proposal	Specific activities	Suggested market players	Expected outcome
Value chain actor (core)					
Supporting functions					
Regulations					

Table 11: Possible result of exercise, focusing on the example of wood traders in Hawassa, Ethiopia

Functions	Systematic constraints	Upgrading proposal	Specific activities (stepwise)	Suggested market players	Expected outcome
Value chain actor (core): Wood traders					
Wood trading in Hawassa	Supply uncertainty due to high transaction costs between buyer and seller	Forming a trader cooperative to coordinate wood supply purchasing, thereby stabilizing wood influx streams	<ol style="list-style-type: none"> 1. Social learning (network with traders) 2. Seek external support to formulate a business plan 3. Collect start-up capital from potential members; Microcredit 4. Apply for land to act as market space 5. Initiate cooperative formalization process 	Wood traders, sawmiller, furniture producers with interest in participation and contribution	An established trader cooperative
Supporting function: Extension officers from municipality					
Municipal land provision	Limited capacity of extension officers; corruption	Seeking support with a proposed business plan	<ol style="list-style-type: none"> 1. Identify relevant extension office 2. Approach with business plan 3. Apply for Land 		
Supporting function: Microfinance Institutions					

Providing microcredits	Demand collateral requirements	Providing collective collateral; Business plan	1. Creating a business plan 2. Create a network for bonding guarantees 3. Apply for microcredit		
Regulations					
Legal requirements for establishing cooperative	Limited know-how; missing documentation	Initial informal social networking to share experiences	1. Seek potential cooperative members with experience in business establishment		

The final activity can be the seed for an implemented upgrading process. This is what participants take along with them, adding to all the other insights gained from the different sessions. The workshop itself will have already created a network of interconnected value chain actors, willing to improve their position. This and the final action plan will guide these actors towards the desired upgraded state. The facilitator will have guided the participants to this stage in the development process. Yet, for the participants, this stage is an initial one in the development process, which is why several post-training activities are important.

7 Post-training Activities

7.1 Reflecting on training outcomes

Applying these workshops is a continuous learning process for the trainers. Chapter 5 shows how trainers plan workshops and set-up desired goals and outcomes. The trainers now learn from the experience, reflect, measure the workshop impacts by looking back at planned goals, and then list aspects that need to be improved in the next workshop. To initiate a critical analysis of the workshop, it might be useful to ask the participants for feedback. Note this feedback down and later differentiate between the positive and negative comments and react to these accordingly. Together with this, the facilitator may be able to judge whether the participants were able to maintain their interest in the topic as well as in the teaching methods. Also, consider the logistical and timing achievements. Were some of the sessions too lengthy? Was the venue appropriate? Did all participants arrive on time? All these issues and more can contribute to conducting better training next time (Guijt et al. 2002).

7.2 Monitoring and Facilitating Value Chain Development

The end of the workshop is the beginning of the participant's development road. Now the value chain actors have an upgrading strategy and will initiate its implementation. Such an implementation does not come without hurdles and it will be a long process for the actors to achieve their defined objectives. The facilitator's role may be to support the implementation process as best as possible. The trainer could support the action plan by linking the activities to the relevant stakeholders and development service providers. The trainer needs to have his/her own network with agents who are willing to support the initiated value chain upgrading strategy. It would be good for the trainer to stay in contact with the participants and check up on their progress and challenges. Being able to monitor the progress allows the facilitator to react to certain developments and further guide the process (Guijt et al. 2002).

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