

Guideline for integrating agroecological principles into rapid value chain analyses



INITIATIVE ON
Agroecology

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June 2024



The CGIAR Initiative Transformational Agroecology across Food, Land, and Water Systems develops and scales agroecological innovations with small-scale farmers and other food system actors in seven low- and middle-income countries. It is one of 32 initiatives of CGIAR, a global research partnership for a food-secure future, dedicated to transforming food, land, and water systems in a climate crisis.

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Guideline for integrating agroecological principles into rapid value chain analyses

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1. Background information

CGIAR's Agroecology Initiative (AE-I) has the objective of testing agroecological approaches across different socioeconomic, political, and geographic contexts, and using the learnings on what agroecological innovations work, where, and for whom, to craft replicable agroecological transition models that can subsequently be applied to the food, land, and water systems of other low- and middle-income countries.

One of the proposed avenues for accelerating the transition is addressed by the AE-I's Work Package Three (WP3), Inclusive business models and financing strategies, which aims at facilitating the adoption and scaling of agroecological principles through the co-development and upgrading of business models at key segments of agrifood systems (Atta-Krah et al., 2021). The latter requires a general knowledge of the actors, products, and their interactions within their corresponding value chains, as well as an understanding of their current alignment with agroecological principles.

For this reason, in this guideline, we present a framework that integrates traditional value chain analysis methodologies with the agroecological principles proposed by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE, 2019) (Table 1), which include interventions and practices across various levels of value chains and food systems.

The framework has been designed to provide a rapid and systematic approach for (a) identifying opportunities, bottlenecks, and promising business models across different value chain levels; (b) identifying the extent to which agroecological principles are currently being incorporated along value chains; and (c) assessing the scaling potential of agroecological innovations currently in place in value chains, with the aim of improving their overall performance and catalyzing their agroecological transition.

Table 1. HLPE consolidated a set of 13 agroecological principles (HLPE, 2019).

Principle	FAO's ten elements	Scale application*
Improve resource efficiency		
1. Recycling. Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass.	Recycling	FI, FA
2. Input reduction. Reduce or eliminate dependency on purchased inputs and increase self-sufficiency.	Efficiency	FA, FO
Strengthen resilience		
3. Soil health. Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and enhancing soil biological activity.		FI
4. Animal health. Ensure animal health and welfare.		FI, FA
5. Biodiversity. Maintain and enhance diversity of species, functional diversity and genetic resources and thereby maintain overall agroecosystem biodiversity in time and space at field, farm, and landscape scales.	Part of diversity	FI, FA
6. Synergy. Enhance positive ecological interaction, synergy, integration and complementarity among the elements of agroecosystems (animals, crops, trees, soil and water).	Synergy	FI, FA
7. Economic diversification. Diversify on-farm incomes by ensuring that small-scale farmers have greater financial independence and value addition opportunities while enabling them to respond to demand from consumers.	Part of diversity	FA, FO
Secure social equity/responsibility		
8. Co-creation of knowledge. Enhance co-creation and horizontal sharing of knowledge, including local and scientific innovation, especially through farmer-to-farmer exchange.	Co-creation and sharing of knowledge	FA, FO
9. Social values and diets. Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally and culturally appropriate diets.	Parts of human and social values and culture and food traditions	FA, FO

Principle	FAO's ten elements	Scale application*
10. Fairness. Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights.		FA, FO
11. Connectivity. Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.	Circular and solidarity economy	FA
12. Land and natural resource governance. Strengthen institutional arrangements to improve, including the recognition and support of family members, smallholders and peasant food producers as sustainable managers of natural and genetic resources.	Responsible governance	FA, FO
13. Participation. Encourage social organization and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food systems.		FO

*Scale adaptation: FI = field; FA = farm, agroecosystem; FO = food system.
Source: derived from Nicholls et al., 2016; CIDSE, 2018; FAO, 2018c.

2. Methodology

Multiple tools are available for conducting in-depth value chain analyses (VCAs), and we do not attempt to reproduce or replace any of them with this guideline. Instead, our goal is to integrate an agroecological lens into a rapid VCA framework, while limiting its scope to the achievement of the Initiative's outcomes. For this purpose, we have adopted and simplified elements from various well-established VCA guidelines, mainly *Participatory market chain analysis for smallholder producers* (Lundy et al., 2007), *ValueLinks 2.0. Manual on Sustainable Value Chain Development* (Springer-Heinze, 2018), *Making value chains work better for the poor* (M4P, 2008), and *MarketLinks* (USAID, n.d.), which we suggest using as complementary references. It is important to note that these guidelines use different terms for similar concepts; therefore, we have included in the Annex a glossary of the terms employed in this document to avoid ambiguities and facilitate its use by VCA practitioners with different training.

Although all the actors in a value chain (VC) should be considered when carrying out a VCA, the work in WP3 focuses mainly on the actors and potential partners identified for the establishment of the Agroecological Living Landscapes (ALLs), based on the AE-I's WP1 Guiding Principles for engaging with national and local stakeholders. This set of actors will be henceforth referred to as core stakeholders. Accordingly, the starting point for the analysis should be the group of farmers or farmer associations from a prioritized region and its current trading partner(s), or an enterprise that has operations in the region of interest and demonstrates a solid commitment to adopting agroecological principles (i.e., current exporters, processors, local market representatives, and institutional market representatives, among others). During the assessment process, the group of core stakeholders will most likely be expanded as other relevant actor groups are identified.

In view of the above, this document offers a general framework and guidelines for the development of three subproducts (which can also function as the report sections):

1) Rapid value chain analysis:

A rapid VCA provides a visual diagram accompanied by a written description of the value chain actors, products, and information flows within it.

This includes a VC map, which is a graphical depiction of the VC structure displaying the different processes, actor groups, and product flows along the value chain. VC maps are living products that can and should be permanently updated to, for example, include newly identified actors and changes in prices, volumes, number of actors, etc.

A VC characterization presents a detailed description of each VC element, including quantitative and qualitative information on the number and type of actors in each stage (the generic stages being production, aggregation, processing, commercialization, and consumption), their main characteristics, activities, input and product flows, market demand and prices, types of business relationships, and relevant information on value chain governance. It thus complements the VC map by providing contextual information on each value chain stage.

Finally, a VC diagnostic presents underperformances, opportunities, and bottlenecks, which will be the foundation for determining key intervention points for upgrading at the enterprise or governance level.

2) Value chain agroecological assessment:

The VC agroecological assessment presents information about the activities and elements along the VC that relate positively or negatively to the HLPE's (2019) three agroecological operational principles: (i) improvements in resource efficiency, (ii) resilience strengthening, and (iii) securing social equity and responsibility, as well as the identification of gaps and opportunities for improvement and scaling.

3) Stakeholder map:

This document (typically a spreadsheet) contains strategic information on the actors currently involved in the VC at the micro, meso, and macro levels (see definitions in the Glossary). Besides the actors currently involved in the core VC, the stakeholder map should include information on actors along the VC that might be of interest because of their potential agroecological alignment with the Initiative or that could significantly influence the Initiative (i.e., among others, potential customers, producers, input and service providers, and NGOs that are, or have expressed interest in, applying agroecological principles in their operations/consumption).

2.1. Considerations for the data collection and analysis process

Although the different sections in this guideline present the three subproducts mentioned above separately, the data collection and analysis activities are deeply interlinked and many occur simultaneously. Most of the primary data collection will be carried out through semi-structured interviews, focus groups, and workshops; therefore, the VCA country teams should plan and prepare the activities and adapted tools in advance to avoid duplication of efforts and respondents' fatigue. In the Annex, we provide examples of the tools, which should be adjusted for each specific context. In addition, the country teams should look out for potential collaboration and/or synergies between Work Packages. *Such potentials for collaboration and synergies are highlighted in italics throughout this document.*

To achieve the objectives of WP3, we suggest limiting the assessment to the core stakeholders and the actors directly relevant to their upstream and downstream operations, as a full value chain analysis might be considerably larger and time- and resource-consuming. Some actors identified during the mapping process will likely be engaged with other actors (e.g., suppliers, producers, and trading partners) beyond the operations that immediately concern the core stakeholders. The team might nonetheless be interested in delving deeper into a particular VC stage (e.g., when presuming inefficiencies that can be turned into opportunities). This is particularly important as root causes for inefficiencies and key binding constraints might emerge from different stages and levels of the value chain.

Based on the principles of synergy and economic diversification, farmers are probably involved in more than one value chain or may incorporate additional crops/products in their farming systems as part of their agroecological transition strategy (i.e., integrated crop-livestock farming systems). It is therefore important to conduct a rapid VCA and agroecological assessment for each VC that is (or will be) commercially relevant for ensuring farmers' income and food security. Crops and products destined exclusively for self-consumption should thus not be included in this analysis.

Finally, VCA results are generally used as the basis for the co-creation of a common value chain vision. In turn, this common vision serves as a guide for the co-development of VC and business model upgrading strategies. These activities are not included in this guideline, but more information on how to conduct them can be found in the VCA methodologies referenced above.

Potential synergies from the overall rapid VCA: A common VC vision can be co-created in collaboration with the AE-I's WP1, which in its activity plan includes the "application of participatory methods to build collectively a vision of the desired agroecological transition pathway(s) in each ALL."

3. Description of subproducts

3.1. Rapid value chain analysis

3.1.1. Value chain mapping

A VC map is a visual representation of the analyzed VC and the foundational element of VCA. It provides a panoramic view of the value chain by illustrating the different value chain stages, identifying the position of the value chain actors, visualizing product flows, and indicating linkages among VC actors. VC mapping is an iterative process in which the design can undergo updates as more information is found throughout the analysis.

A round of consultations with key informants should be carried out to prepare the VC map. The informants should have knowledge of the structure of the value chain, product flows, actor types, end markets, governance mechanisms, input and service provision, and enabling environment. To this end, semi-structured interviews should be carried out, starting with representatives from the core value chain, followed by their key input and service providers, and other sectorial experts if necessary.

With the information obtained through the semi-structured interviews, the following steps can be followed to develop a value chain map:

1. **Determine end products**, distinguishing between characteristics such as fresh, processed, conventional, organic, etc.
2. **Identify end markets**, determining different end-market segments (e.g., domestic vs. export market).
3. **Identify the successive value chain stages**, starting with production and ending with consumption.
4. **Identify actor types** per value chain stage by categorizing businesses into meaningful groups (e.g., organic vs. conventional producers, small vs. large producers, industrial vs. artisanal processors, etc.).
5. **Visualize product flows**: the product flow from production to consumption should be indicated using arrows.
6. **Identify main channels**: based on the end markets and the different actor types involved at each stage, it is useful to further differentiate the value chain, thereby showing different distribution channels (e.g., informal vs. formal channels, fresh vs. processed channels, etc.).
7. **Map the indirect actors**: using a separate map that shows only the value chain stages, include the input and service providers as well as governance institutions that play a key role in each step.

Because VC mapping is an iterative process, we recommend carrying out the seven steps listed above in the following three phases:

- Using information collected from the desk research (e.g., literature review) and the current knowledge of the sector, draw an initial draft map illustrating stages, direct actors, indirect actors, and relationships in the value chain. The assessment team should not be excessively concerned about the accuracy and level of detail during this phase.
- After the fieldwork phase, update the map using the collected data and insights.

- As a third step, the VC map should be validated with key informants that have a broad overview and knowledge of the value chain. This can be done either in a multistakeholder workshop or through individual meetings and interviews with key informants.











The *ValueLinks methodology* (Springer-Heinze, 2018) proposes a useful set of conventions (see Figure 1) that can be employed to illustrate the different elements of the value chain. In their conventions, value chain operators correspond to the direct actors, which, in our case, would be limited to the individuals and enterprises performing the core functions within the VC of interest (i.e., the core stakeholders). The value chain supporters and enablers correspond to the indirect actors at the meso and macro levels, which in our exercise should be limited to those directly affecting the core value chain.

The map can use various types of arrows to display relevant differences in business linkages (i.e., primary vs. secondary channels, formal vs. informal business linkages, commodities vs. processed products, etc.).

Example of a VC map

The VC map should depict the end market (and different market channels, if applicable), VC stages (the generic stages being production, aggregation, processing, commercialization, and consumption, depicted in Figure 2 as hollow arrows), actors, and business linkages. The end markets (depicted as hollow circles at the top of Figure 2) subdivide the VC into different sequences of business operations (i.e., subvalue chains or market channels), highlighting the different supply flows and their corresponding actor types involved in each channel. In the case of production systems with multiple products, we recommend drawing a map for each VC, as many of the actors and channels will differ.

Figure 1. ValueLinks value chain mapping symbols (Springer-Heinze, 2018).

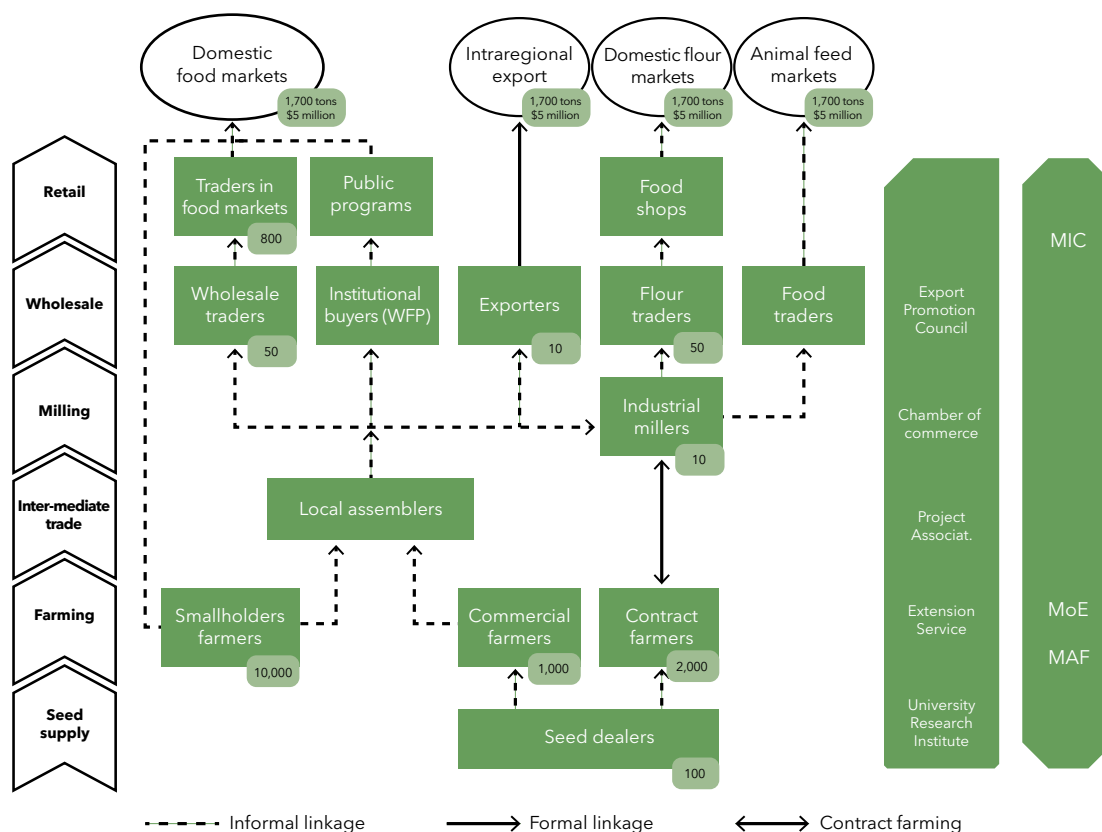
Card shapes/color code	Micro level of the VC	Card shapes/color code	Meso & macro level
	Value chain stage		Value chain supporter
	Specific business activity		Value chain enabler
	Value chain operator		
	End market of value chain		
	Informal business linkages		
	Formal business linkages		
	Subcontracting linkages		
	Service linkages		

The following example depicts a maize value chain map from a whole region, with a first channel leading to a domestic food market, a second channel to an intra-regional export market, a third channel to domestic flour markets, and a final channel leading to the animal feed market. It is important to note that, in our case, the VC map will be a more simplified version, as the channels will be differentiated according to only the end markets reached by the products of our core stakeholders.

Key input providers (such as for seeds) can be mapped at the micro level (as shown in Figure 2), together with the core stakeholders, but we recommend mapping all input and

service providers as actors representing common interests of the VC at the meso level. The VC map usually depicts meso-level actors (coded as green rectangles with the upper left corner cut off) and macro-level actors (coded as green octagonal rectangles) placed adjacent to the relevant value chain stages they serve. VC mapping can, but does not necessarily have to, include the macro level of a value chain. Relevant information can be included in the map, such as the number of actors, traded volumes, and traded values per end market, as shown in Figure 2.

Figure 2. Example of a maize value chain map. Source: Springer-Heinze, 2018.



This map displays the value chain stages (leftmost), core value chain actors (i.e., micro level; green rectangles), support actors (i.e., meso level; green rectangle with upper left corner cut off), and enabling environment actors (i.e., macro level: ministries of industry and commerce, of the environment, and of agriculture and forestry; green octagonal rectangle)

Potential synergies: The information gathered during the VC mapping and corresponding characterization exercises can include indicators that serve as a baseline for monitoring agroecological transitions. This can complement the baseline (i.e., current conditions of agricultural systems of smallholder farmers in each ALL) contemplated in AE-I’s WP2 activity plan. WP3’s VC mapping and corresponding characterization include WP2’s (predefined) metrics. Moreover, the AE-I’s WP4 activity plan foresees mapping key policy stakeholders and key food system actors in each of the ALLs, which could complement the VC map and thus be carried out in collaboration with WP3.

3.1.2. Value chain characterization and diagnostic

The objectives of the VC characterization and diagnostic are (a) to obtain a deeper understanding of each element of the value chain, (b) to identify underperformances and key binding constraints, and (c) to identify upgrading opportunities at the micro, meso, and macro levels.

Note: Given that we are interested in the core stakeholders' VC, most of the information will likely be obtained from interviews and workshops. Nevertheless, it is important to include secondary information and regional/local statistics when available on area, production, prices, practices, weather, and traded volumes, as this will provide a context for assessing and comparing the data collected from the core stakeholders. In the Annex, we provide a set of recommended questions for each type of actor to guide the VC characterization and diagnostic.

As a first step of the process, the team should conduct an end-market analysis, which provides a rough understanding of the existing and potential end markets, and should broadly cover the following items: market sizes and growth rates (i.e., a 5-10-year trend analysis), (import and export) trade flows, prices and price trends, market drivers (including demographic changes), market segments (price, quality, niche), order specifications (including standards, volumes, payment mechanism), critical success factors, unique selling propositions for domestic and competing products (competitive benchmarking), and consumer perceptions and behavior.

The characterization and diagnostic of the rest of the VC should be guided by the VC structure, including a description of the main characteristics, key challenges, and risks and opportunities for the following system's elements:

- At the micro level, for each relevant core stakeholder along the different VC stages.
- At the meso level, focusing on the provision of inputs and services with the highest strategic importance for the VC core stakeholders and for the agroecological transition.
- At the macro level, identifying actors and characteristics of the enabling environment that critically affect the VC performance, distinguishing between natural elements (climate, soil, water quantity and quality, biodiversity, etc.) and societal elements (infrastructure, institutions, organizations, and socio-cultural norms).

For the diagnostic, specific questions will be included in the semi-structured interviews and workshops to identify challenges, risks, and opportunities for improvement. Challenges and risks are identified by asking "why" questions and following up on "things are not functioning well" that might be mentioned during the semi-structured interviews (i.e., to understand the root causes of key binding

constraints). These questions might, for instance, be directed at understanding why production is low; why there is limited capacity for maintenance and access to spare parts remains a constraint, despite training and equipment endowment; and why local small-scale producers have no land titles.

3.1.3. Suggested contents and structure of the VCA

In the following, guidance is provided with regard to the sections and contents of the VCA. However, because this guideline presents a rapid appraisal approach, it is important to stress that not all listed items need to be covered, whereas it is important to focus on the challenges and risks.

When discussing the different topics listed below during key informant interviews, you are likely to quickly find out which of them are critical for a more sustainable functioning of the value chain and should, therefore, be studied in more detail. On account of this, you should follow the rough structure presented below but should also adapt the focus to the specific characteristics of the VC and the needs of the local team.

Description of the products and agroecological production system:

a general description of the production system based on the three AE operational principles, as well as the product characteristics of all derived products.

Regional context: a general description of the region and/or area of interest, with relevant social, economic, and environmental indicators (main economic activities, relevant agricultural products, area, production, prices, and yields of relevant crops/products, poverty indices, land distribution, education level, yearly temperature and precipitation). It should include maps displaying the locations of the production areas and major markets for each product of interest. Highly relevant contextual information such as the presence of ethnic/religious minorities, land use conflicts, armed groups, and political instability, among others, should be mentioned.

For each relevant product:

- **Historical context:** how the crop entered the region, key moments in recent history related to the expansion of the crop, and relevant social dynamics.
- **Value chain map**
- **Characterization and diagnostic per VC segment and level:**

Micro level (core value chain): includes all relevant information organized per value chain stage. Below, we suggest a list of generic stages that should be described, taking into account production, procurement, and marketing practices; infrastructure and equipment used; competitiveness; general business skills; and main challenges, risks, and opportunities.

- Production: number of producers, socioeconomic characteristics, volume of production, farm-gate prices, production practices, seasonality, and business arrangements. Include a description of gender roles and governance and participation mechanisms. Diagnostic of challenges, risks, and upgrading opportunities.
- Aggregation: types of aggregators, agents, practices (i.e., purchasing, product handling, grading and sorting, transport, and cold chain logistics), factors affecting quality and losses, and compliance with handling standards. Diagnostic of challenges, risks, and upgrading opportunities.
- Processing: number of actors, trade volume, product specification, buying and selling prices (inputs and outputs), and type of business arrangements. Include a description of gender roles and governance and participation mechanisms. This segment can include various stages of formal and informal processors and distributors if part of the core stakeholders' VC. Diagnostic of challenges, risks, and upgrading opportunities.
- Commercialization: formal and/or informal aggregators. Number of actors, trade volume, product specification, buying and selling prices, and type of business arrangements. Include a description of gender roles and governance and participation mechanisms. This VC segment can include various levels and types of actors, such as fresh markets, institutional markets, and wholesalers or retailers of fresh or minimally processed products if part of the core stakeholders' VC. Diagnostic of challenges, risks, and upgrading opportunities.
- Final consumer (from fresh and/or processed products): results from the end-market analysis. Estimated market size, locations, characteristics, purchasing prices, and product preferences.

Meso level (actors providing regular support services or representing the common interest of the value chain):

- Input providers: type of inputs, regulations, availability and access, quality, and prices.
- Operational service providers: focus on transport and logistics service providers.
- Support service providers, mainly
 - Financial service providers: financial products offered, access to financial products by VC actors, products adapted to the needs of the VC, informal financial service providers, and main challenges and risks.
 - Technical assistance and training: type and quality of services offered, financing schemes (public, private, NGO), costs and prices, and scope.
- Other key support service providers: highlight important services for different VC actors, briefly describe the service providers, and provide details on availability, costs, and quality.
- General diagnostic of challenges, risks, and upgrading opportunities for each type of actor.

Macro level:

- Societal enabling environment:
 - Policies, regulatory bodies, and other institutions: what are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC (e.g., ensured access to land)? Which elements are missing? Are regulations, etc., effectively enforced? Are policies aligned or in conflict?
 - Socio-cultural elements: what are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
 - Infrastructure: what are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
 - Organizations and projects: identify relevant organizations (e.g., ministries, public agencies, R&D centers, universities, industry and trade associations, etc.) and projects that impact or could impact the value chain and describe how.
- Governance:
 - Horizontal linkages: describe the nature and dynamic of formal and informal relationships, levels of coordination and information exchange, levels of competition, collective action and economies of scale, roles of associations and cooperatives, level of trust, corruption, etc.
 - Vertical linkages: describe the nature and dynamic of formal and informal relationships (e.g., in the channels identified in the VC map), which actors have the power to influence price setting, nature of the dominant transaction arrangements, dependencies and power imbalances, asymmetries in knowledge and information, political power, level of trust, corruption, etc.

3.2. Agroecological assessment

This assessment should include the information on the actors, products, and practices that align with agroecological principles in each VC stage (e.g., production, processing, and commercialization) and level (i.e., micro, meso, and macro), as well as the strengths, weaknesses, opportunities, and threats (SWOT) of furthering the agroecological transition, followed by a general discussion and recommendations.

Emphasis on the identification of what exists in terms of AE practices and principles, how important they are for VC operations, what can be upscaled, what the challenges are, and what could be additional opportunities.

The agroecological assessment can be included in the different sections of the VC characterization and diagnostic (i.e., within the description of each VC stage and level) or in a separate section.

In the Annex, we provide a set of recommended questions and guiding topics for each type of actor based on [Biovision's Agroecology Criteria Tool](#) that could help with the agroecological assessment.

3.3. Stakeholder mapping

A stakeholder map is usually developed along with the VC mapping exercise, and thus, the identification of stakeholders and the characterization of actor categories can be considered a VCA by-product. This by-product will populate the stakeholder map that will be led by the AE-I's WP1, which will also be complemented by the political actors and institutions identified by WP4.

Actors of potential agroecological relevance that are currently not involved in the core stakeholders' VC can be identified through a combination of desk research (e.g., on the Internet) and snowball sampling (i.e., requesting references and contact information from the interviewed actors). During this exercise, you should also consider identifying different types of actors along the value chain, such as input suppliers, operational service providers, and support service providers¹ with agroecological potential.

For ease of access and use, the information collected can be systematized in a spreadsheet (e.g., MS Excel) file. Although the information might vary according to each ALL's objectives, it should at least include the name and description of the mapped actors (including their core activities, services, and role in the value chain), their location, and their contact information. The stakeholder map could also include further information regarding the identified actors, such as their interests, alignment with the Initiative and national/regional objectives, their strengths and weaknesses, potential synergies with other efforts, and conflicts of interest.

Potential synergies: A stakeholder map is usually developed along with the VC mapping exercise, yet the former has been included among the AE-I's WP1 activities. It thus offers an opportunity for collaboration and synergies between WP3, WP4, and WP1.

3.4. Participatory validation and wrapping up

Once the information has been analyzed and systematized, a workshop should be conducted with all relevant stakeholders. The workshop will offer a space to validate findings and fill information gaps that might remain undisclosed. Based on the VCA and AE assessment, a SWOT analysis should be conducted with all stakeholders, considering the AE principles and value chain stages in each of the quadrants (i.e., strengths, weaknesses, opportunities, and threats). Specialized facilitation is key in this activity as it will be the facilitators' role to bring up and streamline the AE principles in the discussions in order to prevent the conversation from deviating or overemphasizing, for example, commercial aspects.

The results of the SWOT analysis will be used in later workshops and WP3 activities to determine courses of action that could be prioritized by VC actors according to their roles and capacities (i.e., VC upgrading strategy). In particular, the results of this process will be key inputs for the participatory assessment and codesign/upgrading of the AE business model.

The role of an AE facilitator is to promote participation and inclusiveness in discussions as the AE principles are mainstreamed in every step of the process. As reflecting on these discussions requires time and the conclusions drawn will have important implications for the core stakeholders' businesses and livelihoods, we recommend dividing the different validation and participatory planning activities into various sessions, giving enough time in between for the actors to ponder, discuss, and validate the shared results.

¹ More information on the type of actors can be found in the Annex.

Annex

1. Glossary of VCA terms

Direct actors are those directly involved in production processes, postharvest handling, processing, and commercialization. These actors take direct possession of and are owners of the product in one or more links in the chain, therefore running direct risks linked to the product (Gottret, 2011). These actors are also called **micro-level actors** (Springer-Heinze, 2018).

Indirect actors are those who offer operational services and/or support services to the direct actors at various points in the chain. Even though the product may well pass through their hands at some link in the chain, they do not assume possession of it at any time. They therefore also face indirect risks regarding the product. Indirect actors include suppliers, operational service providers, support service providers, and regulatory bodies (Gottret, 2011). The indirect actors that provide inputs and operational and support services to direct actors are also called **meso-level actors**, whereas regulatory bodies are categorized as **macro-level actors** in the ValueLinks guide (Springer-Heinze, 2018).

The **macro level** encompasses the enabling environment, distinguishing between natural elements (i.e., climate, soil, water quantity and quality, biodiversity, etc.) and societal elements, including infrastructure, socio-cultural norms, and institutions and organizations (i.e., financial system, insurance companies, and relevant government institutions that, together with the judiciary and, among others, major providers of public utilities, determine policies and regulate the conditions for doing business in a country or region). Only some of these institutions are particular to a specific value chain.

Governance is the setting, monitoring, and enforcing of norms and rules with which the stakeholders in a collectivity manage their common affairs. The collectivity can be a value chain (thus, value chain governance) or a local, national, or global community of people interested in resolving a common problem or promoting a common goal. Basic types of governance are markets, networks, and hierarchies (Springer-Heinze, 2018).

A **value chain stage** constitutes a categorical instrument that allows grouping direct actors with similar characteristics to facilitate their visualization in the value chain and subsequent analyses. Although these stages are specific for each value chain, some generic stages are common to most agricultural value chains and can be used as references and adapted as required:

1. Primary production includes producers of the VC commodity, which can be further categorized by size of the enterprise, technification, marketing channel, etc.

2. Intermediary trade includes formal and informal actors whose main activity is aggregating and trading the VC commodity (i.e., intermediaries, traders).
3. Processing includes formal and informal actors involved in the processing of the agricultural commodity. This could involve first or further transformations into products with higher added value.
4. Exporters include primarily the exporters of the agricultural commodity in its raw state or having low value addition. In the case of exporters of processed products, these actors might be better located in the processing stage.
5. Wholesalers and retailers are actors who trade the commodity or value-added product directly or almost directly with the final consumer.

The differentiation of stages depends on the actor's characteristics and business operations; it might be the case that the producers in a particular VC trade directly with processors and wholesalers, making it irrelevant to include the stage of intermediary trade. The differentiation of stages should be displayed only when they correspond to business operations specific to a relevant group of existing VC actors.

Finally, as mentioned before, indirect actors can be placed in four groups: suppliers, operational service providers, support service providers, and regulatory bodies. We suggest that the assessment team consider the following indirect actors in the analysis:

1. Input suppliers include suppliers of relevant agricultural inputs, machinery, seeds, propagation material, etc.
2. Operational service providers include transport and logistics service providers.
3. Support service providers include financial and insurance services, rural extension, technical assistance and training, agricultural research, setting of professional standards, provision of information, trade fairs and export marketing, quality control, political advocacy, and representation of the common interest of a set of actors.
4. Regulatory bodies include phytosanitary and zoo-sanitary control, environmental agencies, agricultural agencies, and trade agencies.

2. Guiding questions for rapid VCA

Semi-structured Interview guide

The following guide contains a list of leading questions and topics for inquiry to explore with key informants for the purpose of conducting a rapid agroecological VCA, with specific questions and themes for the different stages and levels of the value chain.

The themes are divided in different modules as follows:

1. General information of the actor
2. Value chain characterization
3. Value chain and external forces diagnostic
4. Agroecological principles

Value chain actors

- Producers (Farmers organization representative)
- Intermediaries
- Processors

- Exporters – traders
- Domestic wholesalers and retailers
- Input suppliers
- Financial institutions
- Transporters – logistic operators
- Technical specialists - sector experts
- Government officials, sector representatives, crop boards, state enterprises, Ministry of Agriculture, development agencies.

Farmers representative

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of associates
1.06	Number of women in the organization
1.07	Number of planted hectares (per relevant product)
1.08	Number of productive hectares (per relevant product)
1.09	Average yield (per relevant product)
1.10	Total production from associates (per relevant product)
1.11	Production traded by the association (per relevant product, if applies)
2. Value chain characterization	
2.01	Description of the organization and activities (aggregation, selling, representation, services)
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (what is their share of the regional production)
2.04	Characteristics of farmer associates (average farm size, share of smallholders, family compositions, age, education level, spatial distribution)
2.05	Seasonality of production and price changes
2.06	Producer prices, how are purchasing and selling prices set
2.07	Customers (names, contact information, share of total sales, types of products)
2.08	What is the average annual sales turnover? What is the share of local sales versus export sales turnover?
2.09	5 years growth
2.10	Margins
2.11	Quality specifications required from market and to producers. Standards
2.12	What are the commercial arrangements with producers and customers (formal, informal, special arrangements)
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important farming organizations in the region (competitors)
2.15	What are the incentives for smallholders in producing the commodity? What are the alternatives?

Code	Description
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Major barriers and weaknesses of the associated producers. Why?
3.03	Risk and risk mitigation strategies
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.05	Cultural factors: What are main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Code	Description
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Intermediaries

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
2. Value chain characterization	
2.01	Description of the organization and activities (aggregation, selling, representation, services)
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (what is their share of the regional trade)
2.04	Other suppliers (apart from core stakeholders)
2.05	Buying trends in the last 5 years. How are purchasing patterns different now to when they were before?
2.06	Prices. How are purchasing and selling prices set?
2.07	What is the average annual sales turnover? What is the share of local sales versus export sales turnover?
2.08	5 years growth
2.09	Margins
2.10	Quality specifications required. Standards
2.11	What are the commercial arrangements with producers and customers? (formal, informal, special arrangements)
2.12	Where are the main operations, trading centers, and markets located?
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important intermediaries in the region (competitors)
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Major barriers and weaknesses of suppliers. Why?
3.03	What are the major risks for your operations and risk mitigation strategies?

Code	Description
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC (e.g., ensured access to land)? Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.05	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social, and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Code	Description
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Processors

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
1.07	Type of ownership
2. Value chain characterization	
2.01	Description of the organization, activities, and all products
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (what is their share of the regional sourcing? What is their market share?)
2.04	Who are the main customers? (end-markets and segments)
2.05	Other suppliers (apart from core stakeholders). Importance of core stakeholders for their business operations
2.06	Buying trends in the last 5 years. How are purchasing patterns different now to when they were before?
2.07	What is the average annual sales turnover? What is the share of local sales versus export sales turnover?
2.08	Prices. How are purchasing and selling prices set?
2.09	5 years growth
2.10	Margins
2.11	Quality specifications required (standards, volumes, packing, labeling, size, etc.)
2.12	What are the commercial arrangements with producers and customers? (formal, informal, special arrangements)
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important processors in the region (competitors)
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Major barriers and weaknesses of suppliers. Why?
3.03	Risk and risk mitigation strategies

Code	Description
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.05	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhances co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Code	Description
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Traders – exporters

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
1.07	Type of ownership
2. Value chain characterization	
2.01	Description of the organization, activities and all products
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (what is their share of the regional sourcing? What is their market share)
2.04	Who are the main customers? (end-markets and segments)
2.05	Other suppliers (apart from core stakeholders). Importance of core stakeholders for their business operations
2.06	Buying trends in the last 5 years. How are purchasing patterns different now to when they were before?
2.07	What is the average annual sales turnover? What is the share of local sales versus export sales turnover?
2.08	Prices. How are purchasing and selling prices set?
2.09	5 years growth
2.10	Margins
2.11	Quality specifications required (standards, volumes, packing, labeling, size, etc.)
2.12	What are the commercial arrangements with producers and customers? (formal, informal, special arrangements)
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important traders-exporters in the region (competitors)
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Major barriers and weaknesses of suppliers. Why?
3.03	Risk and risk mitigation strategies
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?

3.05	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Wholesalers - retailers

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
1.07	Type of ownership
2. Value chain characterization	
2.01	Description of the organization, activities, and main products
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (what is their share of the regional sourcing? What is their market share for the product of interest?)
2.04	Who are the main customers? (end-markets and segments)
2.05	Other suppliers (apart from core stakeholders). Importance of core stakeholders for their business operations
2.06	Buying trends in the last 5 years. How are purchasing patterns different now to when they were before?
2.07	What is the average annual sales turnover? What is the share of local sales versus export sales turnover?
2.08	Prices. How are purchasing and selling prices set?
2.09	5 years growth
2.10	Margins
2.11	Quality specifications required (standards, volumes, packing, labeling, size, etc.)
2.12	What are the commercial arrangements with producers and customers? (formal, informal, special arrangements)
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important wholesalers-retailers in the region (competitors)
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Major barriers and weaknesses of suppliers. Why?
3.03	Risk and risk mitigation strategies
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.05	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization

Code	Description
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, How does it happen (example). How does it contribute to your organizations objectives, mission and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Input supplier

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
1.07	Type of ownership
2. Value chain characterization	
2.01	Description of the organization, activities, and main products
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Sales turnover and product prices
2.05	Other customers (apart from core stakeholders). Importance of core stakeholders for their business operations
2.09	5 years growth
2.10	Margins
2.11	Quality specifications required (standards, volumes, packing, labeling, size, etc.)
2.12	What are the commercial arrangements with producers and customers? (formal, informal, special arrangements)
2.13	Characteristics of service provision (extension, input distribution, financial services)
2.14	Other important input suppliers in the region (competitors)
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Risk and risk mitigation strategies
External forces	
3.04	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.05	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.06	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.07	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles

Code	Description
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Financial institutions

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization

2. Value chain characterization

- | | |
|------|---|
| 2.01 | Description of the organization, activities, and main products |
| 2.02 | Value proposition, differentiating factors from other similar organizations |
| 2.03 | Total credit placement |
| 2.04 | Other customers in the region (apart from core stakeholders). Importance of core stakeholders for their business operations |
| 2.05 | 5 years growth |
| 2.06 | Other important input suppliers in the region (competitors) |
| 2.07 | How are credits/insurances distributed? (small, medium, large farms) |

3. Value chain diagnostics

- | | |
|------|---|
| 3.01 | Major barriers and weaknesses of the organization. Why? |
| 3.02 | Main bottlenecks for access to financial services |
| 3.03 | Risk and risk mitigation strategies |

External forces

- | | |
|------|---|
| 3.04 | Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict? |
| 3.05 | Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.? |
| 3.06 | Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.? |
| 3.07 | Opportunities and future plans for the organization |

4. Agroecological principles

- | | |
|------|---|
| 4.00 | Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others? |
| 4.01 | Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles |
| 4.02 | Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |
| 4.03 | Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |
| 4.04 | Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |
| 4.05 | Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |
| 4.06 | Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |
| 4.07 | Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? |

4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Transport - Logistic operators

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of women in the organization
1.07	Transport/storage capacity
2. Value chain characterization	
2.01	Description of the organization, activities, and main products
2.02	Value proposition, differentiating factors from other similar organizations
2.03	Prominence and position in the value chain (volumes and market share)
2.04	Annual volumes
2.05	Other customers in the region (apart from core stakeholders). Importance of core stakeholders for their business operations
2.06	5 years growth
2.07	Other important logistic operators in the region (competitors)
2.08	Type of commercial arrangements
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Risk and risk mitigation strategies

External forces

- 3.03 Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
- 3.04 Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
- 3.05 Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
- 3.06 Opportunities and future plans for the organization
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4. Agroecological principles

- 4.00 Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
- 4.01 Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
- 4.02 Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.03 Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.04 Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.05 Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.06 Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.07 Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.08 Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.09 Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.10 Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.11 Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
- 4.12 Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
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- 4.13 Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Extension service provider

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
1.04	Year established (operating in the region)
1.05	Number of employees
1.06	Number of producers assisted
2. Value chain characterization	
2.01	Description of the organization and activities
2.02	Prominence and position in the value chain
2.03	How is the service financed?
2.04	Regions of influence
2.05	Other important extension service providers
2.06	What is the share of small holder farmers in the production system? What is the spatial distribution?
2.07	What are the incentives for smallholders in producing the commodity? What are the alternatives?
2.08	What are the main bottlenecks for the farmers?
2.09	What are the main bottlenecks for the provision of extension services?
3. Value chain diagnostics	
3.01	Major barriers and weaknesses of the organization. Why?
3.02	Risk and risk mitigation strategies
External forces	
3.03	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.04	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.05	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
3.06	Opportunities and future plans for the organization
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles

Code	Description
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system? (trade, employment, intellectual property rights, transparency) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Government – sector representatives

Code	Description
1. General information	
1.01	Contact person and title
1.02	Address and location
1.03	Contact details
2. Value chain characterization and diagnostic	
2.01	What is the role of the institution in relation with the VC?

Code	Description
2.02	What is the importance of the VC in relation to national objectives? (employment, foreign exchange, poverty reduction)
2.03	What are the main markets for the VC?
2.04	What are the main producing regions?
2.05	Who are the main direct actors in the VC?
2.06	How is the farm structure? (typologies, sizes, distribution of farms per size)
2.07	Who are the main support actors in the VC?
2.08	What are the main bottlenecks in the VC?
2.09	What are the major opportunities for the VC?
3. Value chain diagnostics - external forces	
3.01	Policies and regulations: What are the main challenges/opportunities regarding laws, regulations, norms and standards, support programs, etc.? Which elements are obstructing the functioning of the VC? (e.g., ensured access to land). Which elements are missing? Are regulations, etc. effectively enforced? Are policies aligned or in conflict?
3.02	Cultural factors: What are the main challenges/opportunities regarding religion, presence of ethnic minorities, conflicts and levels of crime, gender and youth norms, entrepreneurial spirit (openness to new ideas), dietary habits, etc.?
3.03	Infrastructure: What are the main challenges/opportunities regarding roads, public markets, railroads, water supply, wastewater management, ICT networks, electricity supply, etc.?
4. Agroecological principles	
4.00	Gender: Are there gender sensitive policies in the company? (related to balanced workforce, provision of services, breastfeeding facilities, cooling facilities for breastmilk, guidelines of maternity leave [national minimum or beyond WHO], paternity leave, free or paid hygienic and sanitary products). Are there workforce programs for employees, children or families, such as health and wellness, fitness, trainings, among others?
4.01	Principle 1. Recycle: Does your organization engage or promote the recycling of inputs or outputs within the company and with your partners? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results? *Closing resource cycles
4.02	Principle 2. Input reduction/replacement: Does your organization engage or promote the reduction or elimination/ replacement of purchased inputs for agricultural production? (directly or indirectly). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.03	Principle 3. Soil health: Does your organization engage or promote the management of organic matter and soil biological activity? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.04	Principle 4. Animal health: Does your organization ensure animal health and welfare? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.05	Principle 5. Biodiversity: Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.06	Principle 6. Synergy: Does your organization enhance positive ecological interactions and complementary in the agroecosystems? (animals, crops, trees, soils, and water). If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.07	Principle 7. Economic diversification: Does your organization promote productive and income diversification on farms? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?
4.08	Principle 8. Co-creation of knowledge: Does your organization enhance co-creation and sharing of knowledge? (local, scientific innovation, farmer-to-farmer exchange) If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

Code	Description
4.09	Principle 9. Social values and diets: Does your organization contribute to building healthy, diversified and culturally appropriate diets, based on identity, tradition, social and gender equity of local communities? If not, why? If yes, How does it happen (example). How does it contribute to your organizations objectives, mission and financial results?
4.10	Principle 10. Fairness: Does your organization support dignified and robust livelihoods for all actors in the food system (trade, employment, intellectual property rights, transparency) If not, why? If yes, How does it happen (example). How does it contribute to your organizations objectives, mission, and financial results?
4.11	Principle 11. Connectivity: Does your organization ensure proximity and confidence between producers and consumers? If not, why? If yes, How does it happen (example). How does it contribute to your organizations objectives, mission, and financial results?
4.12	Principle 12. Land and natural resource governance: Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why? If yes, How does it happen (example). How does it contribute to your organizations objectives, mission, and financial results?
4.13	Principle 13. Participation: Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why? If yes, how does it happen? (example). How does it contribute to your organizations objectives, mission, and financial results?

3. Guiding questions for agroecological assessment

OP1. Improve resource efficiency

1. Recycling:

Does your organization engage in or promote the recycling of inputs or outputs within the company and with your partners? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results? *Closing resource cycles.

Sample practices for recycling:

- Compost, manure, cow dung
- Nitrogen-fixing cover crop and leguminous green manures, crop sown for mulch
- Recycling domestic, municipal, and industrial wastewater; use of desalinated water
- Bioenergy from maize stalks, rice husks, slaughter waste, third-generation biofuels, biogas from manure, organic agricultural waste
- Increase soil carbon stock through reduced or no tillage; deep-rooting plants
- Recycling of crop residues for other uses; wood waste recycling for construction.

2. Input reduction/replacement:

Does your organization engage in or promote the reduction or elimination/replacement of purchased inputs for agricultural production (directly or indirectly)? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices for input reduction/replacement:

- Reduced water consumption: drip irrigation, improved monitoring, precision agriculture, improved varieties, reduced wastewater.
- Reduced application of pesticides and veterinary drugs: improved monitoring, precision agriculture, improved plant varieties that diminish pesticide use, vaccines that decrease the need for antibiotics.
- Reduced synthetic fertilizer application and animal feed: improved monitoring, precision agriculture.
- Reduced energy use: energy-smart farming system relying on windmills, solar or photovoltaic panels, renewable energy-powered vehicles, renewable energy-powered equipment for water supply, distribution, and purification, monitoring systems to reduce energy use, improved cooking stoves.
- Reduced seed use: optimal seed spacing.
- Reduced waste: timely harvest, improved storage facilities, hermetic bags.
- Improved plant variety and animal breed: plant and animal breeding using conventional, marker-assisted, or other breeding methods.
- Biological pest management: pest management through biological control methods that import, enhance, or conserve pest enemies/antagonists (including predators, parasitoids, pathogens, and competitors).
- Cover crops for pest management: planting cover crops specifically for weed control or pest reduction. This category includes cover crops grown primarily for pest management.

- Other pest management: non-chemical pest management practices that treat pest problems rather than preventing their occurrence or biochemical pesticides that control pests by non-toxic mechanisms (naturally occurring substances). This category excludes biological pest management and cover crop (use of steam, UV treatment, LED lighting, insect sex pheromone, plant extract that attracts insect pests to traps, neem spray, wood ashes).
- Adoption of organic and low-input farming: general organic or low-input systems if not considered in other categories already.

OP2. Strengthen resilience

3. Soil health:

Does your organization engage in or promote the management of organic matter and soil biological activity? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

4. Animal health (if this applies):

Does your organization ensure animal health and welfare? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices for soil and animal health:

- Cover crops for improved soil conditions: planting cover crops specifically to reduce erosion and runoff, increase soil organic matter, improve soil drainage and soil structure, alleviate soil compaction, improve overall soil condition.
- Perennial crops: adoption of perennial plant species in place of annual crops.
- Reduced tillage: adoption of conservation tillage or no-till practices. This category includes general or other reduced-tillage practices that are not considered in previous categories already.
- Domesticated pollinators: improved pollination through the temporary introduction of domesticated pollinators or introduction of exotic domesticated species.
- Improved animal welfare and health: improved livestock health and further efforts to support livestock well-being (species-appropriate husbandry, aquaponics).

5. Biodiversity:

Does your organization maintain and enhance the diversity of species, functional diversity, and/or genetic resources? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

6. Synergy:

Does your organization enhance positive ecological interactions and complementary interactions in the agroecosystems (animals, crops, trees, soil, and water)? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

7. Economic diversification:

Does your organization promote production and income diversification on farms? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices for synergy, biodiversity, and economic diversification:

- Non-crop plants: incorporating non-crop plants in agroecological systems for ecological functions such as conservation, water quality, or pest management. This category does not include integration of trees.
- Agroforestry: diversified farming systems integrating crop production and trees.
- Rotational/regenerative grazing: improved grazing methods/management to improve soil quality and forage yield.
- Integrated crop-livestock systems: diversified farming systems including both crops and livestock.
- Use of weeds for food and forage in a maize system, alley cropping with trees, coffee agroforestry, grazing systems based on forage availability and demand, fish-duck-rice system, silvopasture, push-pull, system of rice intensification.
- Integrated pest management by habitat manipulation: landscape planning (focused on habitat) or habitat management as systemic precondition for biological pest control.
- Other landscape planning and synchronized landscape activity leading to improved agricultural ecosystem services: consideration and coordination of activities (including land use, land cover, or other components) at the landscape level that optimize ecosystem services that benefit agricultural production. Habitat conservation around agricultural lands, landscape-scale management interventions (reforestation/restoration/preservation of natural habitats with clear benefits for agricultural production, diversified land use, or alternate flowering at the landscape level to improve pollination services, windbreaks, soil erosion control, e.g., using hedgerows, half-moon, terracing, stone bunds, contour bounding, Zai holes).
- Climate mitigation through a redesigned system (increasing carbon stocks, reducing GHG emissions).

- Improving local seed/breed diversity: supporting the development and promotion of local, regional, and organic seeds/breeds, including classical breeding.
- Integrating locally adapted crops/races: incorporating native or locally/regionally adapted crops and animals.
- Two-crop rotation: supporting a simple crop rotation with just two crops or where the number of crops included is unclear, but excluding cases where the second crop is specified to be a cover crop.
- Three-crop rotation: supporting a more complex crop rotation system with at least three crops.
- Spatially diversified farms: introducing diversity over space by multi-, poly-, or intercropping.
- Biodiversity: specific attention to protect or enhance functional agro-biodiversity.
- Natural pollinators: specific attention to protect or enhance local and natural pollinators (and their habitats).
- Multi-habitat approach: increasing land-use diversity or diversity at the landscape scale.
- Diversification of diets and consumption: promotion of diversified locally produced healthy diets through a diversified food production system (at the landscape/territorial level), macro-and micronutrients, other bioactive components.
- Systemic resilience of agroecosystems to extreme weather events and other disturbances: promotion of the resilience of agroecosystems to specific disturbances (wind, storm, heavy rain, winter freeze, flood, drought, wildfire), including developing frameworks to assess the resilience of food systems and measuring the impact of management on the recovery of one or more ecosystem services in response to that disturbance.

OP3. Secure social equity/responsibility

8. Co-creation of knowledge:

Does your organization enhance co-creation and sharing of knowledge (local, scientific innovation, farmer-to-farmer exchange)? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Connecting farmers to share knowledge: engaging farmers in co-creation and sharing of knowledge, integrating producers' knowledge and management experience with research (through a specific participatory research design), providing support for farmer-researcher networks.
- Promoting formal and non-formal "production and food" education: supporting farmer-education networks, formal and non-formal education.

- Farmer-to-farmer programs, farmers' groups to share experiences, bottom-up models of technology transfer (participatory ICT tools), social media groups, community of practices.
- Farmer field schools, climate field schools, participatory research designs, integration of producers' knowledge of agricultural biodiversity and management experience (with research).
- Accessible lessons on farming systems for the public, access to extension, sensitization in schools, sensitization program on sustainable consumption.
- Participatory guarantee systems.

9. Social values and diets:

Does your organization contribute to building healthy, diversified, and culturally appropriate diets, based on identity, tradition, and social and gender equity of local communities? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Encouraging and sensitizing for seasonal and regional demand: action supporting a stronger seasonal and regional demand.
- Supporting healthy, diversified, and culturally appropriate food traditions and diets: building food systems based on the culture, identity, tradition, and social and gender equity of local communities that provide healthy, diversified, and seasonally and culturally appropriate diets; supporting and protecting cultural identity and values tied to food systems.
- Supporting the right to adequate and culturally appropriate food: supporting the ability of people to make decisions about the quality and type of food they hunt, fish, gather, grow, and eat.
- Education programs on sustainable, seasonal, and local consumption; campaigns on the benefits of local and seasonal consumption; seasonality chart.
- Assessment of cultural values around food systems, promotion of local breeds/varieties/products for their specific taste and nutritional value, scheme that protects cultural identity (territorial approach), subsidies for traditional/cultural performances in food systems.

10. Fairness:

Does your organization support dignified and robust livelihoods for all actors in the food system (trade, employment, intellectual property rights, transparency)? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Targeted investments and subsidy programs, access to finance for smallholders, barriers to and opportunities for regional value generation, public procurement schemes targeting regional demand.
- Living income indicators.
- Fair trade certifications.
- Distribution of profits or royalties among producers.
- Fair and short distribution networks, embedding food systems in local economies.

11. Connectivity:

Does your organization ensure proximity and confidence between producers and consumers? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Fair and short distribution networks, embedding food systems in local economies.
- Business support for re-establishing the connection between producers and consumers: assisting in the development of local food systems, short value chains and webs, developing trading relationships with local growers.
- Supporting regional value generation: embedding food systems into local economies, connecting local producers with other value-adding activities at the local or regional level, including postharvest, processing, and packaging.
- Community-supported agriculture, re-localization of food systems and markets within same territories, engagement of communities and businesses in sustainable operations, new innovative markets, participatory guarantee systems, local producers' markets/more traditional territorial markets, denomination of origin labeling and certification, e-commerce schemes.

12. Land and natural resource governance:

Does your organization strengthen institutional arrangements to include the recognition of farmers as managers of natural and genetic resources? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Community-supported agriculture, re-localization of food systems and markets within same territories, engagement of communities and businesses in sustainable operations, new innovative markets, participatory guarantee systems, local producers' markets/more traditional territorial markets, denomination of origin labeling and certification, e-commerce schemes.
- Price premiums and profit sharing with ethnic groups.
- Royalties.

13. Participation:

Does your organization encourage participation in decision-making, decentralized governance, and/or local management of food systems? If not, why not? If yes, how does this happen? (give an example). How does this contribute to your organization's objectives, mission, and financial results?

Sample practices:

- Promoting participatory and multistakeholder approaches in knowledge generation: integrating farmers and other actors' views in all stages of decision-making, increasing participation and exchange between different types of actors.
- Participatory guarantee systems.
- Policy support or supportive policy frameworks for culturally adapted food.
- Enhanced transparency.

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We would like to thank all funders who support this research through their contributions to the CGIAR Trust Fund:

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