



Guidelines

for a Methodology to Support Value Chains
for BioTrade Products

From the Selection of Products to the Development
of Sector Strategies



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<http://www.unctad.org/biotrade>

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Chapters 1 and 2 were developed from a report that had been commissioned by the BioTrade Initiative and the BTFP, and presented by the consultant Bert-Jan Ottens.³ This report was developed from the Methodology of Market Analysis and Development by the United Nations Food and Agricultural Organization (FAO), and the results of a workshop on its implementation with partners of the BTFP (Zimbabwe, May 2002).

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¹ This publication documents the experiences accumulated in Bolivia, Colombia, Costa Rica, Ecuador, Peru and Uganda as part of UNCTAD's BioTrade Initiative, particularly in supporting the development of value chains for BioTrade products together with the leadership of existing National BioTrade Programmes in those countries. This document is also the result of in-depth discussions with partners associated with the UNCTAD BioTrade Initiative at the national, regional and international level.

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Contents

Preface	1
Introduction	3
Steps to support value chains	5
Step 1. Identification of potential products for BioTrade	7
1.1 List of species and products with business potential	7
1.2 Grouping the products identified into sectors, subsectors and product groups	9
1.3 Prioritizing product groups	9
Step 2. Selection of value chains to be supported	11
2.1 Structure of the selection matrixes	11
2.2 Analysis and selection of sectors to be supported	13
Step 3. Participant assessment in selected value chains	15
3.1 Collection of existing information and preparation of the assessment	16
3.2 Workshop to put together the sector assessment	16
Step 4. Formulation of the sector strategy	25
4.1 Definition of the strategy (including strategic lines of work)	25
4.2 Formulation of a strategy	26
4.3 Workshop to validate the strategy	27
Step 5. Implementation of the strategy	31
5.1 Role of the facilitator	31
5.2 Development of activities	32
5.3 Consolidation of the guild or sector association	32
5.4 Key points of the strategy	33
5.5 Monitoring and evaluation system for the strategy	33
References	35
Annex 1. Timeline for the implementation of steps to support a value chain	37
Annex 2. Product selection matrix	38
Matrix of trading and marketing aspects	38
Matrix of ecological aspects	40
Matrix of socio-economic aspects	41
Matrix of socio-technological aspects	42
Annex 3. Content suggested for the assessment	43

Preface

The BioTrade Facilitation Programme (BTFP) is a programme that operates within UNCTAD's BioTrade Initiative. The BTFP has developed a series of guidelines to advise beneficiary countries on selecting and strengthening BioTrade value chains. These guidelines should be adapted to the conditions and priorities of each country.

Within this framework, it is important to keep in mind the agreed definition of BioTrade, and the BioTrade Principles and Criteria that guide the selection of product groups, companies and sector activities.

BioTrade

BioTrade is defined as the collection, production, transformation and commercialization of goods and services derived from native biodiversity, in a way that is environmentally, socially and economically sustainable.

The basic principles for the development of BioTrade activities are:

- Principle 1: Conservation of biodiversity*
- Principle 2: Sustainable use of biodiversity*
- Principle 3: Fair and equitable sharing of the benefits derived from the use of biodiversity*
- Principle 4: Socio-economic sustainability (productive, financial and market management)*
- Principle 5: Compliance with national and international regulations*
- Principle 6: Respect for the rights of the actors involved in BioTrade activities*
- Principle 7: Clarity about land tenure, use and access to natural resources and knowledge*

For further information please see document number: UNCTAD/DITC/TED/2007/4

These guidelines are based on the experience of BioTrade national programmes operating in Bolivia, Colombia, Costa Rica, Ecuador, Peru and Uganda to support value chains for BioTrade products. Moreover, they have been complemented by in-depth discussions with partners associated with UNCTAD BioTrade. This document also discusses other tools that have been used in UNCTAD's BioTrade Initiative – with the collaboration of UNCTAD's national and international partners – to support beneficiary countries.

The BioTrade Facilitation Programme

The BioTrade Facilitation Programme (BTFP) is run by the UNCTAD BioTrade Initiative and the International Trade Centre (the ITC – which is the joint agency of UNCTAD and the World Trade Organization). The BTFP was set up to facilitate sustainable trade in products and services derived from biodiversity, making use of collaboration links that promote the sustainable management of biological resources, the development of products, and added value in processing and marketing.

The BTFP works through a number of alliances with national and international partners that are responsible for different aspects of promoting international trade in BioTrade products. UNCTAD has developed the following activities within the BTFP:

- Facilitating access to organizations' services (which are normally non-accessible to partners or companies), and coordination between these services;
- Providing expert services not available in beneficiary countries;
- Generating demand-oriented market information, which makes it easier to take decisions;
- Developing methodological approaches, good practices and guidelines; and
- Facilitating the exchange of experiences between partners.

The following are examples of product groups selected in BioTrade beneficiary countries, as at 2005:

Bolivia: Crocodile meat and skin; ingredients for the food, cosmetics and pharmaceutical industries.

Colombia: Natural ingredients for the cosmetics and pharmaceutical industries; flowers and foliage.

Ecuador: Ingredients for the food, cosmetics and pharmaceutical industries; the “Arriba” variety of cocoa.

Peru: Ingredients for the food, cosmetics and pharmaceutical industries; fish for ornamental use and consumption.

Uganda: Ingredients for the food, cosmetics and pharmaceutical industries; ecotourism; wild fauna.

Viet Nam: Ingredients for the food, cosmetics and pharmaceutical industries.

Southern Africa (PhytoTrade Africa: Botswana, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe): Ingredients for the food, cosmetics and pharmaceutical industries.

Introduction

The term “value chain” refers to coordinated relationships between actors who are involved directly and indirectly in a productive activity, with the aim of taking a product or service from its supply source and getting it to the customer. A value chain involves alliances between producers, processors, distributors, traders, and regulatory and support institutions, whose common starting point is the understanding that there is a market demand for their products and services. They then set out a joint vision to identify mutual needs and work cooperatively to achieve their goals. They are willing to share the associated risks and benefits, and invest their time, energy and resources into realizing their goals.

Within the framework of BioTrade activities, value chain analysis is an approach that makes sector support possible. It starts by establishing a collaborative mindset, then it identifies needs, limitations, and strengths, and goes on to develop strategies that promote the sustainable trade of products derived from the use of biodiversity. The implementation of these strategies helps to increase competitiveness in the sector, facilitate coordination between the different actors, and bring about environmental, social and economic benefits.

This document presents the methodology set out by UNCTAD’s BioTrade Initiative, which is aimed at supporting and consolidating the value chains for BioTrade products, particularly those destined for international markets.

The application of the methodology is based on the following principles:

- This is a participatory process in which all actors – both productive and institutional – are involved.
- The support given to value chains involves environmental, social and economic objectives, in accordance with the BioTrade Principles and Criteria, which are analyzed together with the other technological criteria essential to market entry.
- The process focuses on market demand and the sector’s potential to enter these markets.
- Strategy development is based on concrete goals for export, and the strengthening of the process of entering markets in the short and medium terms.
- This is a flexible process that can be adapted to specific conditions within a country.

These guidelines describe each step that is taken in supporting the value chains, from the identification and selection of products to the development and implementation of strategies, including activities that are required for companies and activities that are suggested for them, according to the sector they operate in.

Steps to support value chains

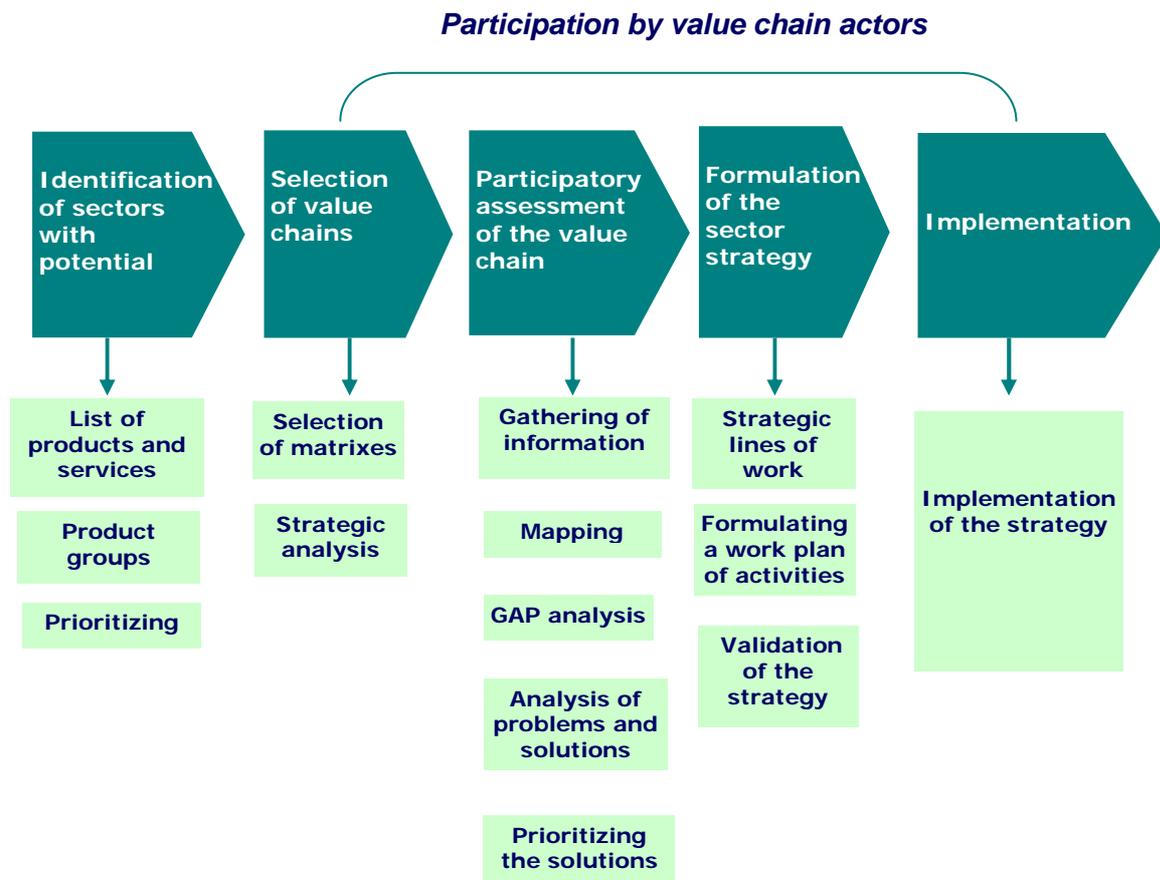
This methodology offers a reference framework that starts by identifying and selecting BioTrade sectors that have business potential nationwide. It then continues on to the implementation of sector strategies that are geared to promoting international trade in BioTrade products.

The process has been developed using a logical sequence that enables the analysis of existing information in the productive chains of selected sectors. It then offers guidelines for the development of specific strategies that could support the growth of the sector. The procedure for selecting and supporting value chains for BioTrade products involves five basic steps:

- Step 1. *Identification of sectors that have potential:*
Identifying the species and products with the best potential at the national level.
- Step 2. *Selection of the value chains to be supported:*
Selecting value chains that can be supported based on environmental, biological, social, political, economic and market criteria, as well as technological and infrastructure criteria.
- Step 3. *Participant assessment of the value chain:*
Characterization of the actors in a value chain; identifying problems in accessing current and potential markets, and finding solutions to these problems.
- Step 4. *Formulation of a sector strategy:*
Designing a strategy that prioritizes concrete actions for the development of the sector, identifying those responsible for such actions and detailing the resources needed.
- Step 5. *Implementation of the strategy:*
Carrying out plans and actions to develop the sector, and to develop access to target markets.

Each one of these steps consists of activities that lead to the achievement of solid results, in a spirit of working together (fig. 1). The table in annex 1 defines the average time that each of the above-mentioned steps will take.

Figure 1. Diagram of the support process for value chains for BioTrade products



Step 1. Identification of potential products for BioTrade



This stage of the research gathers information on existing BioTrade products that have business potential for the country or the regions of interest.

Objectives

- Identify the most relevant products in the country that have BioTrade potential.
- Prioritize product groups whose productive chains could be supported by the programme.

Expected outcomes

- Formulation of a list of species and the products derived from them.
- Identification of the product groups that have potential for BioTrade.
- Selection of priority product groups, according to the seven basic principles.

Development

This step can be implemented in three basic stages. It is also possible to modify these stages, according to the quantity of existing information and the need to identify further species and products with nationwide business potential.

- 1.1. Draw up a list of species and products with possible business potential for the national and the international market. (The list of species can be made at national level, or by regions of interest.)
- 1.2. Group the products into sectors, subsectors and product groups.
- 1.3. Prioritize value chains that have the possibility of being supported.

1.1 List of species and products with business potential

This stage of the research gathers information on existing BioTrade products that have business potential for the country or the regions of interest. Drawing up the list of species is the responsibility of partners at the national level. The result of this stage will be a list of species with the products that are derived from them, along with some basic information to give a general overview of the production potential for a particular group of products.

The list may be based on sources such as export registers, companies and project databases, information generated by the public sector, diagnoses made by BioTrade national programmes, or research carried out by non-governmental organizations or research bodies.

Some sources and activities, such as those described below, will be useful when drawing up the list:

- Reviewing secondary sources of information;
- Interviews with institutions and non-governmental organizations that have supported the development of companies on matters related to BioTrade;
- Interviews with academic bodies that have studied promising biodiversity resources;

- Registry of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)-listed species marketed by the country;
- Registry of illegally trafficked species;
- Workshops with value chain actors, to discuss the species that have been selected for their BioTrade potential; and
- Existing databases created by programmes that have similar objectives.

In order to carry out the following steps, general information about the product should be provided, such as its location, abundance, current market, and other data. Additional information about the product and the species from which it is derived should be entered too, as shown in table 1. However, there is no need at this point to go into too much detail about the companies that are producing the product in question, or about their markets. Nevertheless, it is useful to have relevant information about the potential supply of BioTrade products. This will help to make the decisions that will guide the value chain's work plan.

Table 1. Example of a list of potential products for BioTrade

Product	Species ¹	Location	Supply	Current market / Potential market	Relevant regulation	Production system
Dragon's Blood extractive bleeding	<i>Croton lechleri</i>	Amazon	Abundant	Local / National	Management plan required	Extraction
Chocho flour	<i>Lupinus sp.</i>	Mountains	Scarce	Local / National and international		Crop, semi-industrial
Crocodile leather	<i>Caiman cocodrilos</i>	Coast	Abundant	International / International	CITES-listed species	Breeding in captivity
Crocodile meat	<i>Caiman cocodrilos</i>	Coast	Abundant	Non-existent / National and international	CITES-listed species	Breeding in captivity

¹ Ideally, this list should only include BioTrade products, in accordance with the definition adopted by UNCTAD.

The list of products gives an idea of the potential offer a country has to promote BioTrade products. This should not be exhaustive, nor does it require the collection of detailed data or a precise assessment.

Considering that precise information on BioTrade products is usually unavailable and/or costly to obtain, the lists can be organized by product groups. Bearing in mind the progress already made within a sector and the overall knowledge and experience that exists within that sector, the products selected should be those that have the greatest market potential and will make the most positive impact on sustainable use or biodiversity conservation (see step 2). This information can be differentiated and innovative elements that add value to BioTrade products can be incorporated.

1.2 Grouping the products identified into sectors, subsectors and product groups

To ensure good prospects in the marketplace, products should be grouped according to the markets in which they could possibly be positioned. The product groups identified could include:

- *Productive sectors*: These are wide market segments in which a specific product can be included, for example, natural ingredients, ornamental fish, ecotourism, etc. It is important to remember that a species can belong to different sectors, depending on the product it has been made into. For example, the leaves and bark of a plant can be important to the natural ingredients sector, but its fruit can be of equal importance to the food sector.
- *Subsectors or product groups*: These are sub-divisions of the sector, and are categorized according to the application of the product within a market segment. For example, in the medicinal and aromatic plants sector, there are products with pharmaceutical, cosmetic or food applications. Each one of these applications is only a subsector or a group. However, it should be noted that sometimes a subsector is made up of only one species with one or several products, taking into account the size of production and the actors involved, e.g. Crocodile (*Caiman yacare*) – meat and skin; Cacao (*Theobroma cacao*) – cocoa butter, cocoa beans.

Table 2 shows examples of products derived from different species identified in the list. Their relevant market segment has also been defined.

Table 2. Grouping of products derived from listed potential species

Product	Species	Sector	Subsector
Dragon's Blood extractive bleeding	<i>Croton lechleri</i>	Natural ingredients	Food industry, pharmaceutical industry
Chocho flour	<i>Lupinus sp.</i>	Natural ingredients	Food industry
Crocodile leather	<i>Caiman crocodilus</i>	Fur trade	Exotic leather
Crocodile meat	<i>Caiman crocodilus</i>	Meats	Food industry

In some cases, actors could be involved in several product groups. For example, if most of the actors that produce natural ingredients for the cosmetic industry are the same as those that produce ingredients for the food industry, these can be put into one group: “ingredients for the cosmetic and food industries”.

1.3 Prioritizing product groups

After product groups or potential sectors have been identified, those with the most relevance that can be supported by the programme are selected. Based on this, sectors or product groups are analyzed in the next step. (See step 2.)

Prioritization is not an exhaustive process; it is merely a systematic way of pre-selecting product groups using BioTrade objectives. The purpose is then to ensure that the prioritized species meet the essential BioTrade criteria in each country, or meet certain priorities previously defined by the institutions interested in supporting the chain.

In order to grant priority to product groups, it is important to establish criteria that allow analysis of aspects relevant to BioTrade to be carried out, regarding the impact on biodiversity conservation, the generation of benefits to local communities, and market potential. In order to meet the BioTrade

criteria and principles, it is recommended that the product groups be analyzed on the basis of the following criteria:

- Possibility of using native species or strategic ecosystems;
- Supply capacity for products;
- Market potential;
- Generation of socio-economic benefits; and
- Number of companies (determining how many can enter and how many can be supported, in order to consolidate the chain).

Step 2. Selection of value chains to be supported



The selection of products is made on the basis of an analysis of a set of specific criteria in four specific areas: market and economics, environment and biodiversity, social and political aspects, and technology and infrastructure.

Objective

- To select, in a systematic way, the value chains (product groups or sectors) that will be supported.

Expected outcomes

- Selection of value chains to receive support.

Development

The selection of products is made on the basis of an analysis of a set of specific criteria in four specific areas: *market and economics, environment and biodiversity, social and political aspects, and technology and infrastructure.*

Analysis is carried out using a participatory process that involves important actors and experts in the pre-selected chains.

Matrix-based guidelines provide a systematic framework to guide decision-making, when selecting the value chain. This does not mean that the exercise is exhaustive. The use of matrixes should be planned in a way that relies on the opinion of experts or actors involved in the development of the chain, by way of workshops, meetings and interviews.

2.1 Structure of the selection matrixes

Selection is carried out using four matrixes developed by UNCTAD's BioTrade Initiative under the BTFP (annex 2), which include criteria applicable to all kinds of sectors. Table 3 shows sections from each of the matrixes used, and their general structure.

Table 3. Matrixes used for the selection of product groups, whose value chains could be supported.

Economy and market (trading and marketing aspects)				
Criteria	Scale	Score	Explanation	Markers
Quantity and quality of the information about the existing market	Sufficient/reliable	2	There is enough information about the market to predict demand accurately.	Who could provide the (additional) market information?
	Inadequate/imprecise	1	Existing market information can only offer some approximations about demand.	
	Non-existent/unreliable	0	There is insufficient information to predict demand.	
Subtotal				
Environment and biodiversity (ecological aspects)				
Criteria	Scale	Score	Explanation	Markers
Abundance and state of conservation of the species that constitute the source of raw material	Abundant/good state of conservation	2	The source of the species for the product is abundant and it is not under ecological threat.	If there is unreliable or insufficient information to answer these questions, how could the information be generated? Who would be responsible for this?
	Sufficient/uncertain state of conservation	1	The source of the species is abundant enough to supply demand, but there are no clear mechanisms to secure conservation in the long term.	
	Under threat	0	The source of the species for the product is scarce; it is at risk of local extinction, or there is no reliable information to determine its state of conservation.	
Subtotal				
Social and political aspects (socio-economic aspects)				
Criteria	Scale	Score	Explanation	Markers
Suitability of production for small entrepreneurs or local communities	Very suitable	2	Preferably, raw materials are sourced from small companies' or local communities' productive systems.	Can these difficulties be overcome? If so, who could support and take on this responsibility?
	Moderately suitable	1	Raw materials are produced by small companies or local communities, but encounter difficulties in the productive system.	
	Unsuitable	0	Raw materials are principally supplied by large companies in the private sector.	
Subtotal				
Technological and infrastructure (socio-technological aspects)				
Criteria	Scale	Score	Explanation	Markers
Technological requirements for improving processes	Low	2	The technology required is simple and available locally.	If the technology is not available, how could it be accessed? Who could support and take on this responsibility?
	Moderate	1	The technology required is complex, or it is not available locally or in the short term.	
	High	0	The technology required is inaccessible.	
SUBTOTAL				
GRAND TOTAL				
RANKS				

The selection matrixes have been designed to facilitate a systematic analysis of a number of criteria that determine international market access for pre-selected product groups. As has been seen in table 3, the matrixes use the following columns:

Criteria: In this column, the appropriate aspects for evaluating and measuring the chain are defined. Each matrix contains approximately 10 criteria, to evaluate the potential of each product group in a particular area of analysis.

Scale and score: The scale and score are used to rate the extent to which the criterion in the left-hand column applies. The scale can be expressed by non-numerical values, such as low, medium, high, scarce, moderate or abundant. The score, on the other hand, represents the findings of the scale by using numerical values ranging between 0 and 2. Zero (0) refers to the least appropriate value on the scale. It is important to take into account the fact that a score of zero (0) means a warning. Such a result should be analyzed in more detail, because in some cases, it could signal an important limiting factor to market entry for the product groups selected.

Explanation: This column describes how to interpret the score and the comment in the “scale” column.

Markers: These are considered qualitative, in that they indicate the origin of the score and define specific aspects of each criterion analyzed, such as the location of existing information, the activities necessary for monitoring and the opportunities for collaboration with important institutions. The information provided by the experts or actors participating in the matrix analysis is valuable to guide information-gathering and to identify actors that should be involved in the next steps (i.e. in carrying out a sector assessment and creating a strategy).

2.2 Analysis and selection of sectors to be supported

The process of selecting product groups starts by filling out the matrixes developed. Before this process begins, it is recommended that the criteria be applicable to all the pre-selected product groups, and when they are not, to make the necessary modifications.

A good matrix analysis will identify experts or actors who know the product chain of the pre-selected product groups. It is useful to have a variety of actors with experience in different areas, such as research, marketing, production, and policies and regulations relating to the product and its export, among others.

After identifying the support sources, specific workshops should be organized to analyze the pre-selected product groups as a whole.

The first step in carrying out the matrix analysis is to develop a marking process that should involve the experience and knowledge of different actors as much as possible. This experience and knowledge can be obtained by means of open workshops with different actors, small experts’ workshops, or an expert team that works individually. According to the possibilities available with any chosen strategy that involves different actors, it is important to ensure that those who participate have knowledge of the appropriate environmental, economic, social and technological aspects.

The value of teamwork in this activity is in the exchange of knowledge between the different actors. This is why the information that goes in the “Markers” column is so important. This information will prove very useful in identifying a range of different aspects, such as missing information, sources of information, and institutions that should be contacted. All these are broad bases on which to formulate a sector assessment, to then move to the next steps.

The result of the above process is a matrix per product group, with average scores for each of the defined criteria. Based on these scores, an analysis of the advantages and disadvantages of each

product group in each analysis area should be made. This facilitates selection of the product groups that have the greatest potential and the best chance of being supported.

Such an analysis makes an initial identification of weaknesses in the sector under consideration, which can act as a guide to focus the assessment on contributing to generating the missing information.

Selection depends not only on the sum of the scores, but also on other strategic criteria that should be taken into account based on the expected outcomes (e.g. capacity to generate exports, possibility of generating an impact on the conservation of biodiversity, existing support to the sector, among others).

Some of the variables to be considered at the time of selection are:

- *Capacity in the productive sector: supply capacity, production volume and management volume;*
- *Capacity to obtain external resources to finance sector development activities;*
- *Interested companies;*
- *Existing market information;*
- *Critical mass of private sector actors;*
- *Willingness of the actors to work together;*
- *Existing support by service suppliers (access to resources, research and other services related to the product);*
- *Other initiatives in place;*
- *Existence of leader organization(s) that will consolidate the process; and*
- *Existing support resources, or the potential to access such support.*

Step 3. Participant assessment in selected value chains



The process to develop the assessment should guarantee the participation of all involved actors. Paperwork should be taken into account when writing the document, but more importantly, the implementation of value chain analysis workshops should be the main activity developed during the assessment.

Objectives

- To develop a holistic vision, based on the implementation of a participatory process.
- To facilitate the exchange of information between actors in an explicit way, indicating that everyone is an integral part of the same chain with common market goals.
- To define the role of each one of the actors to reach a target market.
- To analyze problems and solutions based on the requirements of the target market.
- To prioritize solutions and analyze the necessary alliances to reach the market goals.

Results

- The actors in the value chain work together to identify problems and possible solutions.
- Value chain assessment – this includes the mapping and identification of needs for entry into markets.
- The first selection of priority actions is achieved. These priority actions can be developed together by the actors in the value chain to achieve growth in the sector.

Development

The assessment is prepared considering the results of the following activities:

- Compilation of existing information on the product groups and the actors that constitute them.
- Analysis of problems in the value chain and solutions to these problems, using workshops that involve representatives of the actors in the value chain.

The assessment is a tool that provides information on the state of the value chain and facilitates the discussion of problems and solutions, involving representatives of all the actors along the chain. The content suggested for the sector assessment can be found in annex 3.

Use of sector assessments

- *To offer a clear view of the current situation of the sector.*
- *To provide elements to design support strategies and courses of action for the BioTrade National Programmes to follow.*
- *Information motivates key partners to get involved in chain support.*
- *To allow verification and validation, with the participation of the actors involved.*
- *To promote participant analysis of hurdles to market entry.*

3.1 Collection of existing information and preparation of the assessment

The assessment is based on existing information on different topics, such as markets, use of resources, and transformation technologies. The acquisition of information is carried out by sourcing existing information, for example from interviews with experts and workshops with actors.

The selection matrixes obtained in step 2 are a valuable resource for searching for information to prepare the assessment. For example, the institutions identified in the selection matrixes could be contacted as sources of specific information, to work with them and/or gradually link them to the development of the sector strategy.

Part of the information that should be considered in the data collection is presented in table 4. This table is divided into four areas, in order for this process to be complementary to the results from the selection matrixes.

Table 4. Information necessary for the development of a BioTrade sector assessment

Economy and market	Environment and biodiversity
<ul style="list-style-type: none"> ▪ Supply ▪ Demand ▪ Quality requirements ▪ Costs ▪ Means of financing ▪ Access to market information 	<ul style="list-style-type: none"> ▪ Availability of raw materials for exploitation ▪ Sustainable use of raw materials ▪ Impact of the productive processes ▪ Practices for the conservation of biodiversity
Social and political aspects	Technology and infrastructure
<ul style="list-style-type: none"> ▪ Benefits generated ▪ Employment ▪ Company organization ▪ Legislation ▪ Taxes ▪ Institutional support 	<ul style="list-style-type: none"> ▪ Capacity in place for market entry ▪ Adequate infrastructure for production and marketing ▪ Adequate technology ▪ Technical support

The initial collection of information enables the identification of gaps and the planning of activities necessary for obtaining missing information.

3.2 Workshop to put together the sector assessment

Perhaps the most important activity during the writing of the assessment is holding one or more workshops with experts in the value chain. These actors can provide information on problems that may exist in the chain, and can advise on the most appropriate solutions. The importance of the workshop rests on the need to facilitate the exchange of information between actors and to promote the development of a holistic view of the chain.

The objectives of these workshops are:

- To identify the actors that make up the chain;
- To analyze the problems that exist along the chain;
- To analyze the possibilities and requirements of the target market(s) and to identify the sector's main weaknesses in relation to reaching the goals in existing markets; and
- To prioritize solutions and activities that different actors could carry out.

Preparation and organization of the workshop

When hosting a workshop on value chain analysis, the following needs should be considered:

- A spacious room, so that charts displaying the results of the exercises can be hung on the wall. The room needs to be big enough for chairs to be moved around, so that work groups can be formed easily.
- A supply of teaching materials for the participants, such as index cards, felt tip pens in several different colors, and colored paper.
- Collecting information on the requirements of national and international demand, to facilitate the entry of actors working in the chain into target markets. For this event, it would be beneficial to have a market expert who could make a presentation on the product's distribution channels and the requirements of existing markets.

Figure 2. Preparation and organization of the workshop



- Organizing an agenda that sets out the implementation of the proposed activities so that they are carried out in only one session.
- Preparing the list of participants beforehand, and consulting with experts or company experts in the value chain about it. It is important to guarantee the presence of all important actors (e.g. export companies, processors, producers, authorities, academic institutions, service providers, and donors) and give prominence to them. Inviting a maximum of 40 people, who can then be divided up into groups of 8 to 10 people. If a higher number of actors is identified, the possibility of carrying out two or more workshops should be considered, and if necessary, dividing them according to their regions. However, it is essential to ensure that in each workshop, each stage of the chain is represented. It is not advisable, for example, to carry out a workshop with producers as the only participants.
- Defining beforehand the most suitable way of dividing participants into work groups; trying to have groups that are as mixed as possible – involving different value chain actors.

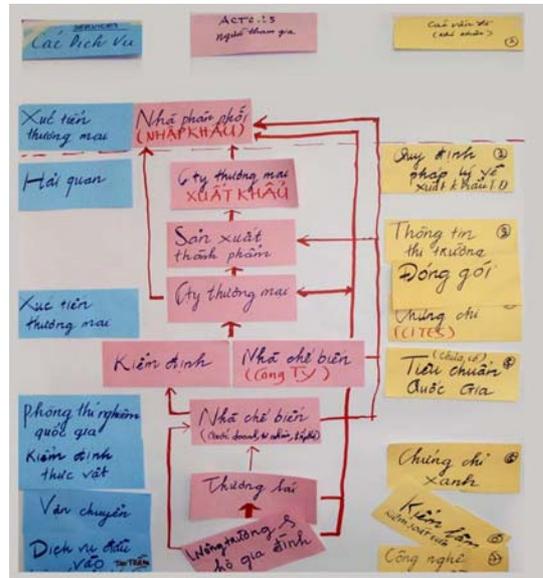
Development of the workshop

To achieve these objectives, the workshop on the value chain analysis includes a series of activities based on some of the elements of the International Trade Centre (ITC) value chains methodology (2004),⁴ namely mapping of actors involved in the chain from primary production to final product marketing; good practices analysis based on market entry requirements; analysis of causes of and solutions to the problems identified; and prioritizing solutions. A description of each one of these activities is presented below.

⁴ International Trade Centre. 2004. SHAPE, Develop your sector strategy: Sector strategy development. Workbook Version 4.0.

1. **Mapping:** This consists of identifying the actors in the chain and the role that they fulfil in the productive cycle, from production to product marketing and trading in the target market, and defining the actors and the interactions among them. It also allows an analysis of the strengths and weaknesses of each one of the actors in the sector. Figure 3 shows an example of a value chain map.

Figure 3. Example of a map of actors and processes in the chain of indigo



Where the product group analyzed includes a variety of products, it is advisable that each group should draw the map based on the analysis of different products. The results from each group should then be discussed in a plenary session, where a more generic map to represent the chain can be drawn.

Mapping is a participatory exercise in which all the actors identify the following points:

- a. *Definition of the flow of processes and actors involved:* The first activity with the participants is the identification of each process that the raw materials go through until they reach the end consumer. Recreating this activity is recommended, starting from the end consumer (the market) and going all the way back to the raw materials. To organize this information, each process or group of actors is given a number – with “one” (1) representing the end consumer. To map the chain, choose a color for the index cards, so that they can be moved around if necessary.
- b. *Identification of problems along the chain:* Obstacles in the chain, from the point of production to the end consumer, are described based on the flow of processes identified. At this point, it is important to highlight the strengths of each actor, as these can then facilitate solutions. Each one of the shortcomings identified is written on an index card, which is placed in front of the actor that faces such an obstacle. As before, choose a color so that the cards used for the problems can be easily differentiated from the ones used for the map.
- c. *Description of time and variable costs:* Based on the flow of processes, the execution time for activities and processes to be developed, and the time frame in which they are carried out (bearing in mind that these are seasons), are the subject of discussions by the participants. In addition, the approximate cost that each process per unit of defined volume entails is determined. The costs analysis can be made where it is available, or it can be postponed to a later date if time is limited or actors are uncomfortable discussing the topic.

2. **GAP analysis:** In a GAP analysis, the actors analyze market needs and identify the urgency of improvements that need to be made in the productive processes in order to reach the markets. This exercise should be based on the information available on requirements in existing markets (national and international), with the target market in mind.

Again, in preparation for the workshop, a list of market entry requirements should be drawn up. This list helps in the GAP analysis, since it facilitates assessment of what the chain needs in order to meet those requirements.

With the GAP analysis, the actors in the chain evaluate their own capacity to enter the market, identify weaknesses, and identify the causes of gaps between their current capacity and that which is required for the target market.

To facilitate this exercise, a two-column matrix is prepared before or during the workshop. The first column indicates the target market's entry requirements, and the second column indicates to what extent these requirements are fulfilled, on a scale of 1 to 5 (in sub-columns). Normally, 1 is the lowest score and 5 is the highest.

Before starting, it is necessary to clearly define the kind of product for which the GAP analysis will be made. It is generally difficult to carry out an overall analysis of natural ingredients, for example, so a particular species or a product group can be studied – for example, aromatic plants. At the end, each working group analyzes different species and the results are later discussed in plenary.

Once the product to be analyzed has been defined, each requirement in the target market is identified and valued. For example, if the requirement of “organic certification” is studied, members of the group should ascertain whether this is a restrictive or a generalized requirement, or whether the product cannot be sold without it. The conclusion might be that the “organic certification” scores 4, due to the fact that it is not a restrictive requirement at present, but it would be worth obtaining the certification in the event of future restrictions on the product. A circle (O) would then be placed in column 4, next to the “organic certification” requirement.

After discussing current market requirements, the companies' immediate capacity to meet these requirements is studied. Taking the example of the “organic certification” requirement mentioned before, members of the group could discuss the following: the number of certified companies in the region; the level of knowledge regarding this certification; the potential of certifying most of their production in the short term; and any other related aspects. The group might conclude that the degree of fulfillment scores 3, as many companies are certified, and a high percentage of production has the potential of obtaining certification in the short term. In such a case, this would result in a cross (X) being placed in column 3, next to the “organic certification” requirement.

Once this exercise has been carried out for each market requirement identified, a line should be drawn to connect all the crosses (X) and another line to connect all the circles (O). The area between these two lines represents the “gap” between current capacities and market requirements. This area between both lines could be shaded, allowing members of the group to visualize the results of the GAP analysis (see table 5).

Table 5. Example of a GAP analysis for the value chain of crocodile leather; each market requirement issue identified is marked with an “O” and the current capacity of the chain is marked by an “X”. The shaded area represents the gap between the two (GAP).

Market requirements	Marks				
	1	2	3	4	5
Product documentation	X				O
Volume		X			O
Quality certification (BPM, ISO)			X		O
Monographs and documents		X			O

The gap between market requirements and current capacity could be discussed, in order to define goals to improve the conditions for market entry. This will be useful for the next phase, when the causes and solutions will be identified.

The results of the work groups should be presented and debated in a plenary session, in order to define an overall matrix for the chain for further analysis. Figure 4 shows examples of the results from this exercise.

The general GAP analysis can be placed next to the results from the map of actors and the identification of problems.

Figure 4. Example of a GAP analysis where the market requirements (right line) are analyzed in relation to the current situation as regards the processes (left line).



3. Identification of causes and solutions: The causes and solutions are assessed based on the results of the GAP analysis and the identification of problems, both defined in previous activities.

Before the analysis begins, the facilitator and the participants review the results of the GAP analysis and the problems that have been identified, ensuring that the problems and obstacles are related to the gaps in the GAP analysis. The aim is to allow participants to acknowledge that a large number of the problems related to the chain correspond to the fulfillment of a market requirement. This also allows the identification of value chain actors that share the same problem. Once the problems have been related to those identified in GAP analysis, they are numbered on a new poster that should include the following fields:

- Problems: The problems that have already been identified in the map of actors. (The mapping cards can be numbered or rewritten, to avoid moving them).
- Causes: These are written on cards of a different color.
- Solution 1
- Solution 2
- Institutions involved
- Leader

A maximum of two reasons (or causes) should be analyzed for each problem identified, and/or for the chain having insufficient capacity to overcome the problem. These should be written down on index cards, using a different color from the ones used for the problems.

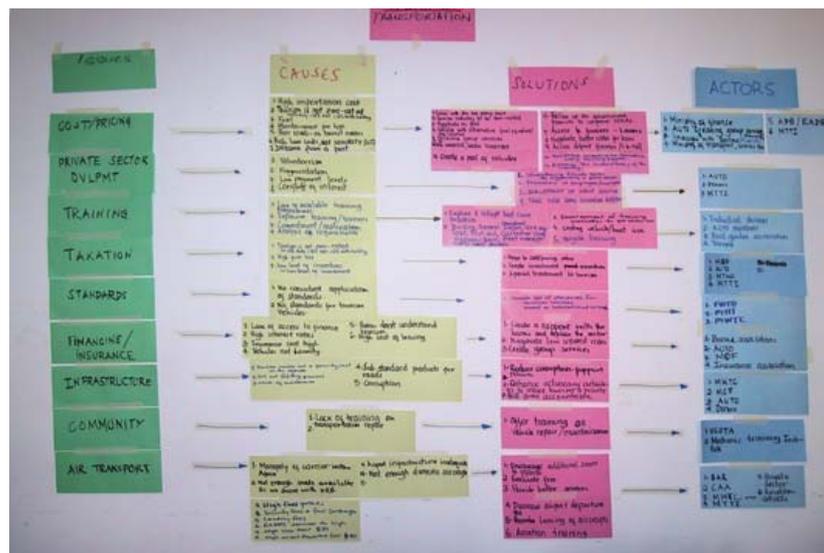
This exercise will generate a list of causes, on the basis of which feasible solutions must be analyzed (maximum: two per cause). It is recommended to write down each solution on a separate index card, of a different color than those used for the problems and their causes. These cards are placed in the 'solution 1' and 'solution 2' columns in the table.

The analysis also identifies actors that could provide support and collaborate to implement the solutions identified. These could be governmental or non-governmental institutions, companies, producer organizations, research institutions, among others. The purpose is to identify all those that should be considered for implementing the solutions identified. Just as with the problems and causes, the institutions should be written on index cards using different colors to those used previously.

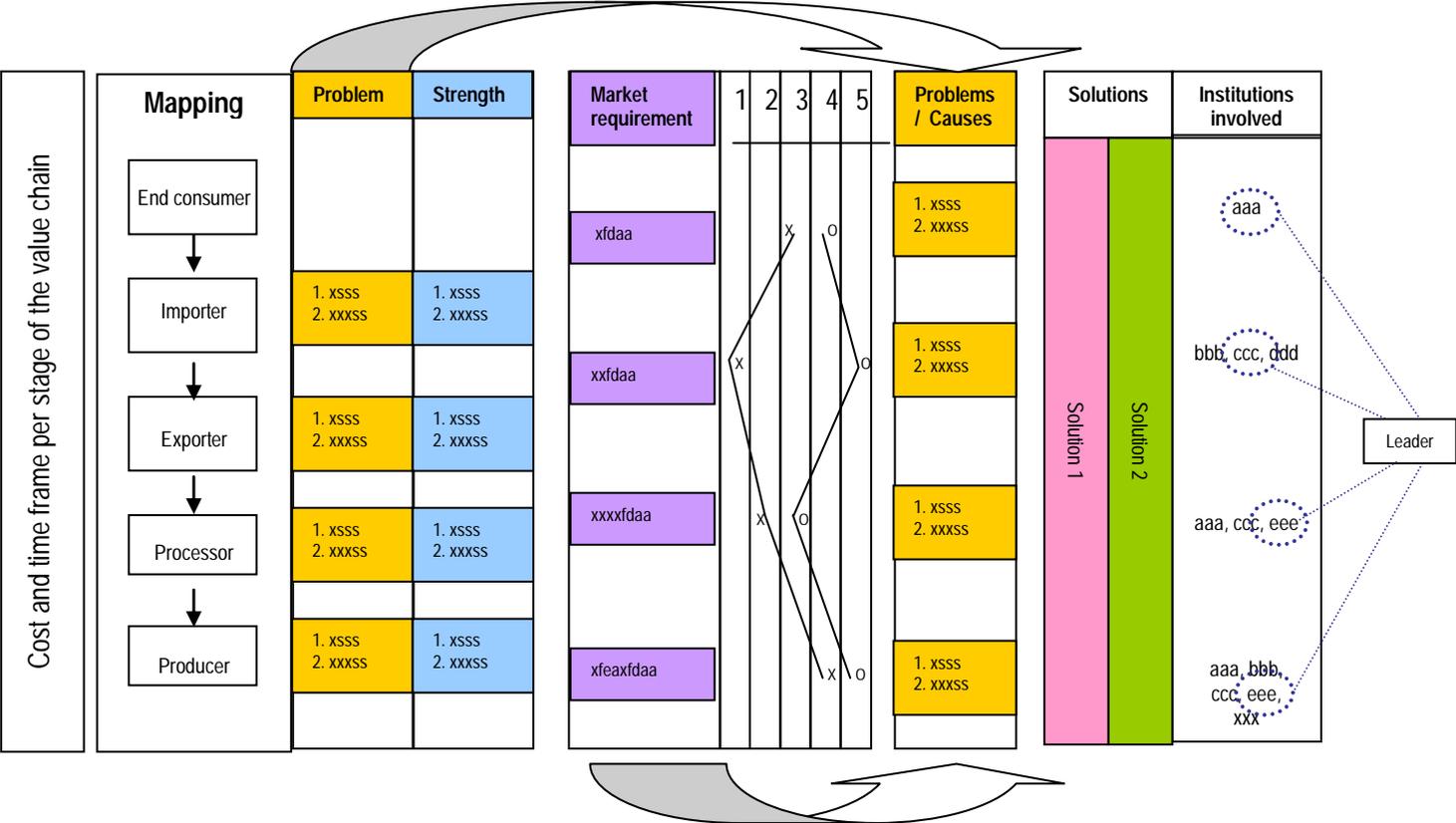
Once the possible institutions involved have been identified, an organization should be chosen to lead the process. This selection could be the result of analyzing the institution's willingness and capacity to motivate others to support work towards the implementation of the solutions. In the future, this leader could act as an adviser on and/or facilitator of the activities, within the framework of a sector strategy.

Figure 5 shows an example of the analysis of causes, solutions and actors.

Figure 5. Example of causes and solutions analysis resulting from the causes identified in GAP.



In addition, the following tables could be considered to sum up the exercise:



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4. **Prioritize solutions:** Once the solutions have been defined, they are classified according to their urgency and short-term implementation. For this, a matrix of priorities is used, combining the importance and urgency for each solution. An example of this is shown in table 6.

Table 6. Example of priority actions to be followed in the value chain for crocodile leather

Urgency			
	Year 1	Year 2	Year 3
High	Define roles and institutional functions.	Design the control and registers system.	Support programmes in the sector, considering the adaptive management framework.
Medium	Define the system to manage, monitor and control existing populations. Allocation of quotas and shares.	Disseminate, train and provide technical assistance programmes. Agreements with related technical assistance and technology transfer programmes.	
Low	Prepare an operational plan for 3 years, with a budget. Strengthen coordination channels between actors and authorities.	Establish agreements and contracts between relevant actors.	

The solutions selected should have a fixed time span (for example, three years) and the importance of the actions should be classified as high, medium or low. The activity with the highest priority would therefore be implemented in year 1 and would be given preference in a work plan; other activities could be proposed for years 2 or 3, according to their importance.

Another important consideration is that activities should be prioritized based on the assumption that there are insufficient funds for their implementation. This will help prioritize solutions to be processed in the short term, supported by the actors' existing capacities.

Finally, by assigning priorities to the activities/solutions identified, a path has been proposed. Each of these actions implies objectives, steps or activities and expected outcomes that will be systematically developed with the active participation of those involved. They are crucial for preparing the sector strategy.

Step 4. Formulation of the sector strategy



The strategy should be consistent with real support available from institutions and the investment capacity of productive actors to implement it.

Objective

- To prepare a sector strategy that defines the activities required to meet market entry goals, as defined by the actors.

Results

- Value chain's strategic plan validated and agreed upon by the actors.
- Human and financial resources identified, in order to start developing the value chain's strategic plan.

Methodology

4.1 Definition of the strategy (including lines of work)

4.2 Formulation of the strategy

4.3 Validation of the strategy

4.1 Definition of the strategy (including strategic lines of work)

Based on the solutions prioritized and the recommendations obtained through the assessment, specific tasks to meet the market entry targets are identified. In doing so, solutions should be chosen that are likely to be implemented in the short term based on the availability of economic resources, institutional interest and actors' commitment. The activities related to medium- and long-term solutions should be further analyzed, taking account of the support and resources required for their development.

When defining short-term activities, it is recommended to address the resources (both in-kind and financial) available for their implementation, and to discuss these with relevant institutions. The strategy should be consistent with real support available from institutions and the investment capacity of productive actors to implement it.

The lines of work addressed in the strategy should be objective and in agreement with the likelihood of implementing the strategy in the short and medium term, that is to say, taking account of the available funds and support, and the cooperation and commitment among actors. Some key points to consider in the design of the strategy are:

- *To come up with real and concrete actions that are feasible;*
- *To identify leaders who will take responsibility for facilitating the implementation of the strategy;*
- *To ensure the availability of financial resources for the activities defined;*
- *To involve the private sector in a participatory manner, so that a balanced participation exists between companies and other institutions;*

- To highlight points of interest for actors involved in each stage of the value chain;
- To identify political support;
- To define specific commitments for the actors identified in the mapping exercise;
- To define a strategy to position the private sector; and
- To propose a monitoring and evaluation system.

4.2 Formulation of a strategy

Based on the results obtained from the assessment, a small group of people can be in charge of creating a proposal for a strategy that can then be validated by the other participants. This should include a plan of feasible activities to develop the sector, which is capable of addressing the needs identified in the assessment and in the workshop. It is essential that this plan should have a time frame, that it should identify clear activities and those responsible for implementing them, and that it should include the required budget and details of the support required from external organizations, as shown in table 7.

Table 7. Example of a strategy for the crocodile value chain

OBJECTIVES	RESULTS	RESPONSIBLE	REQUIRED SUPPORT	BUDGET	YEAR 1			YEAR 2			YEAR 3
					1	2	3	1	2	3	1
1. To develop a system for planning, monitoring and evaluating in the medium term.	Annual operation plans developed	Coordinating group	Enterprise incubators and other support entities for business development	US\$							
	Precise institutional roles defined	Coordinating group									
	Monitoring and evaluation system designed	Coordinating group									
	Budgets defined	Coordinating and management groups	Ministries, environmental authorities and other development promotion entities								
	Financial resources allocated	Coordinating and management groups									
2. To establish the methodological basis for a population's inventory, a monitoring system, and the allocation of quotas and shares.	A population's inventory methodology and monitoring system developed	Environmental authorities, universities and other research centers									
	Information and register system developed and linked to the cross control system	Environmental authorities, universities and other research centers, collectors and brokers	Assistance in the field for data collection								
	Inventory of existing population developed (census)										
	Quotas and shares allocation plan developed										
	Training programme implemented										

Taking into account the value chain map and the needs of each one of its stages, some actors can be grouped together in a series of activities to meet market entry requirements.

How do you develop strategies that promote the participation of different actors?

- *Actors should be involved from the preparation of the assessment and the identification of problems.*
- *Guilds or business associations should take the lead in building the strategy.*
- *Strategy design requires a facilitator, to ensure the active participation of all relevant actors.*
- *The facilitator should promote individual discussions with the actors, to identify leaders, as well as the real commitment of those involved.*
- *The strategy should be validated by all those involved (productive actors and institutions) and identified in the assessment and workshop(s).*

It is recommended that when designing a strategy, activities at company level be considered, as well as those that are related to the sector. For instance, two intervention levels could be defined:

- **Activities at company level:** For the chains supported by UNCTAD BioTrade, a group of companies that either are exporting already, or have the potential to begin exporting in the short term (within a period not exceeding one year) could be selected. These companies should clearly identify their export goals (species, products, quantities, and/or target market) and what is required to meet these goals. Using this information, a work plan is designed so that goals include international market entry requirements, and also promote the growth of other actors involved in the chain. Some examples of such activities are the beginning of certification processes, and research for the development of new products.
- **Activities related to the sector:** These are more general, and aim at consolidating some or all of the value chain actors involved. Examples of these activities include quality assurance programmes for raw materials, development of technical standards, and the presentation of legislation proposals to facilitate trade.

The development of sector activities depends on the existence of an interested guild or business association that is well positioned to implement the strategy. For this reason, the strategy should include both the steps required for consolidating a guild, and the analysis of the most suitable organizational structure and scope.

4.3 Workshop to validate the strategy

A workshop is held with the value chain actors to validate the activity plan proposal, in order to identify priority actions and define commitments. In preparation for this workshop, discussions with the institutions and the relevant actors can be held to validate some of the suggested activities and to analyze the feasibility of implementing them, in view of time constraints and the resources available.

The objectives of this workshop are:

- To validate the final results of the assessment;
- To validate the action points and the activities proposed in the strategy;
- To establish commitments with the key actors or the group of actors for the development of the proposed activities; and
- To define work groups to carry out these activities over the long and the short term.

Issues to consider

- To define strategic lines of work, it is necessary to determine the procedures and responsibilities of each actor, the available resources and the (short- and medium-term) time scales that facilitate both decision-making and the creation of working groups.
- To identify responsible institutions/persons and beneficiaries for each activity, in order to allow their empowerment so that they can implement the plans agreed and put into practice the vision that brought the chain into existence.
- To group productive actors together with other actors that share similar market objectives, and with whom they can establish strategic alliances and work in cooperation.
- To identify needs and the common activities that are required for accessing markets in general.
- If the process for generating trust among value chain actors is slow, then simple and transparent activities should be carried out first. As results are obtained, the complexity of activities can be increased. From the beginning of the process, all actors involved should have a clear understanding of the vision that brought the chain into existence, their responsibilities within the chain, the benefits that they will obtain and the system for evaluating the results achieved.

The strategy is a document that guides discussions, cooperation agreements, and the consolidation of actors and their relations (and the relationships between them). It should be evaluated and improved on according to the progress that is made and the limitations that come to light during its implementation.

The following chart is a sample from the natural ingredients sector strategy, developed in Colombia.

Table 8. Strategy for the natural ingredients sector in Colombia

OBJECTIVE	To facilitate and consolidate the development of the natural ingredients chain for the pharmaceutical and cosmetics industries in Colombia, to increase exports using the criteria of economic, environmental, social and technological sustainability.
PRECONDITION	Taking into account the fact that this programme is developed with the support of organizations that promote and regulate the sustainable use of natural resources, the companies that receive support should commit to adopting the economic, environmental and social criteria defined by the BioTrade Initiative.
STRATEGY	The strategy will be developed in two complementary phases: i) The short-term strategy, which was developed between 2003 and 2004, will support companies involved in the CBI programme, with specific activities that foster the consolidation of the sector in general; ii) The medium- and long-term strategy, which will include a broader sector development plan that will be developed during the first phase, and implemented between 2005 and 2007.

OVERALL OBJECTIVE	SPECIFIC OBJECTIVES	ACTIVITIES	EXPECTED OUTCOMES	INDICATORS	RESPONSIBLE	FINANCIAL SOURCES	PERIOD	Results achieved (January to July 2004)
1. Technical, productive, technological, legal and commercial consolidation of seven companies that are part of the Export Development Programme (EDP).	1.1 Consolidation of producers of raw materials.	Develop management plans for producers and suppliers of raw materials, for the companies involved in the EDP.	Management plans for raw materials for producers and company suppliers. (Supply)	Number of management plans developed; percentage of companies in the EDP that are implementing the plans.	BioTrade Colombia	Consultant: \$5,000 from GEF (Global Environmental Facility)	Dec. 2003 to Apr. 2004	Four companies have finished their management plans: Asproma, Morenos Ltd., Medick and Labfarve. The other three companies in the EDP are starting to design their management plans with CBI.
		To train entrepreneurs and suppliers in the implementation of Good Agricultural Practices (GAP).	Entrepreneurs and suppliers from the EDP participating in training and GAP-implementation workshops.	Number of enterprises and suppliers trained in GAP.	BioTrade Colombia	Consultant: \$3,000 GEF and BTFP (first phase)	Dec. 2003	A training workshop was developed with the laboratories and their suppliers of medicinal plants. 7 laboratories and 15 suppliers were trained in Good Agricultural and Collection Practices (GACP) and quality assurance.
		Design and implement a plan to organize both production and local suppliers.	Plans designed and implemented by three suppliers in the value chain.	Number of enterprises and producer groups implementing the plans.	BioTrade Colombia	USD 15,000 BTFP		Since the GACP training, companies and their suppliers have developed joint work plans for quality assurance of raw materials. At least four companies are implementing these plans.

Step 5. Implementation of the strategy



The strategy calls for the identification of an actor, or a small group of actors, that will speed up the implementation of the activities planned and monitor their development.

Objective

- To carry out the activities prioritized in the strategy
- To strengthen the actors involved in the implementation of the strategy

Results

- A facilitator (chosen by the actors) guides the activities, in accordance with what was established in the strategy.
- Evaluation and adaptation of the strategy, according to the progress that is made and the limitations that are encountered during its implementation.

Methodology

1. Identify a facilitator
2. Implement the strategy
3. Consolidate the sector and support the beneficiary companies
4. Define a monitoring and evaluation system

5.1 Role of the facilitator

The strategy calls for the identification of an actor, or a small group of actors, that will speed up the implementation of the activities planned and monitor their development. The facilitator must have a holistic approach to the overall process, and the role of the actors involved. It is recommended that the facilitators participate right from the development of the initial assessment.

If a private sector organization is both willing and able to assume the responsibilities of implementation, it can be strengthened, to develop its role as a guild leader or a leader in its sector, and receive more recognition nationwide.

Where there is no such organization, actors can start the organizational process and appoint a facilitator body during the process.

From the BioTrade Initiative experience, the implementation of the strategy is facilitated by the BioTrade national programmes; however, such facilitation should be transferred gradually to the beneficiaries, i.e. be taken on by private sector organizations.

The role of the facilitator may include the following responsibilities:

- Preparing technical documents (for data systematization and evaluation);
- Defining work plans in the short term for the development of activities;
- Coordinating work with support institutions;

- Encouraging the development of the activities defined in the strategy, ensuring that all actors receive equal benefit;
- Monitoring the work plans, evaluating the processes and results;
- Identifying possible additional support;
- Publicizing the actions that are carried out as part of the strategy, and increasing the visibility of the guild nationwide; and
- Ensuring information-sharing among actors.

5.2 Development of activities

In line with the strategy, specific work plans need to be developed to meet certain objectives, including the priorities identified from the assessment and consolidated with the market entry requirements.

The strategy requires coordinated actions with actual beneficiaries. Workshops and activities – with positive and concrete results – are important to foster trust in the development of cooperative and supportive relationships among actors, which then encourages the creation of more complex alliances. These processes may not be explicit in the work plan, which is why it is a good idea to assimilate them as parallel objectives, or highlight them as part of the consolidation of the chain and its actors.

The transparency and the holistic approach are fundamental for the evaluation of the work plan and, where necessary, the adaptation of the strategy.

On the other hand, it is necessary to secure the availability of resources for future activities. In this context, development organizations and investors have identified issues such as the fulfillment of goals, the empowerment of local actors, a clear strategy with concrete results, and the support of an efficient facilitator, as being crucial when starting negotiations for possible support.

5.3 Consolidation of the guild or sector association

As long as the activities related to the companies and the sector are carried out and they show good consolidation results, additional partners with their own initiatives can also be included in the process.

There will be activities that will require a large degree of external support, whether this be technical, political, or financial. This is the reason for having guilds, or associations of companies, that can facilitate these activities.

On certain occasions, the growth of the sector will include compromise by some actors and curtailment of some benefits, in the interest of consolidating other participants in the value chain. This process will be easy to handle if there are positive results, and where obtaining benefits in the future can be expected. This is particularly the case where actors take a common vision and approach.

The same principle applies to training activities where some actors have greater knowledge and/or experience than others in certain areas. Consolidation of the guild therefore implies a process of mutual cooperation that includes sharing of knowledge and technologies, among other things.

It goes without saying that the actors in the value chain's first stages of production receive more support at the beginning of the activities. Also, an analysis should be made of the importance of supporting export companies that can make the chain dynamic enough to give it international market access. As a result, the logical sequence is to strengthen the guild focus at several (parallel) stages, in a way that is geared to fulfilling export goals in the short term, and at the same time, ensuring an improvement in the supply for the future. Strengthening the export capacity of the companies that are ready or almost ready will give an incentive to other actors.

5.4 Key points of the strategy

The initial assessment and the strategy-formulating process will establish the main action points that will facilitate access to international markets. Nonetheless, the following aspects should also be considered:

- Promoting relationships between companies. Clear and concrete advantages of being part of a guild should be identified. Examples would include solving common legal problems and the opportunity of participating in joint business ventures;
- Strengthening and developing high-quality entrepreneurial skills for market entry and technical assistance;
- Promoting buyer–seller meetings, in order to generate additional business opportunities;
- Working together – from buyers to suppliers – to avoid efforts being made in isolation;
- Providing and accessing information on service providers who can support the initiative;
- Linking the stages in value chains, in order to identify gaps in them and address these accordingly;
- Identifying a guild that works as a public–private partnership, whose overall implementation is guided by a facilitator;
- Strengthening the capacity of service providers; and
- Focusing export plans on products, including their cost.

In Ecuador, the following priority activities were agreed upon with different actors:

- *Workshops to start the development of concrete activities based on solid implementation plans;*
- *Companies to delegate their functions through people who represent them and who take on commitments;*
- *A combination of capacity-building and information dissemination workshops;*
- *Involving service providers at the local level who are able to support the strategy; and*
- *Involving companies and suppliers, even if they do not directly participate in the chain.*

5.5 Monitoring and evaluation system for the strategy

The actors in the value chain need information during the strategy-implementation process that can offer a clear perspective on the objectives planned. In this way, timely decisions can be made, with adequate and prompt adjustments where necessary. The monitoring and evaluation system should be a source of information – a tool that allows the actors to learn from the process and shows results to potential partners and investors.

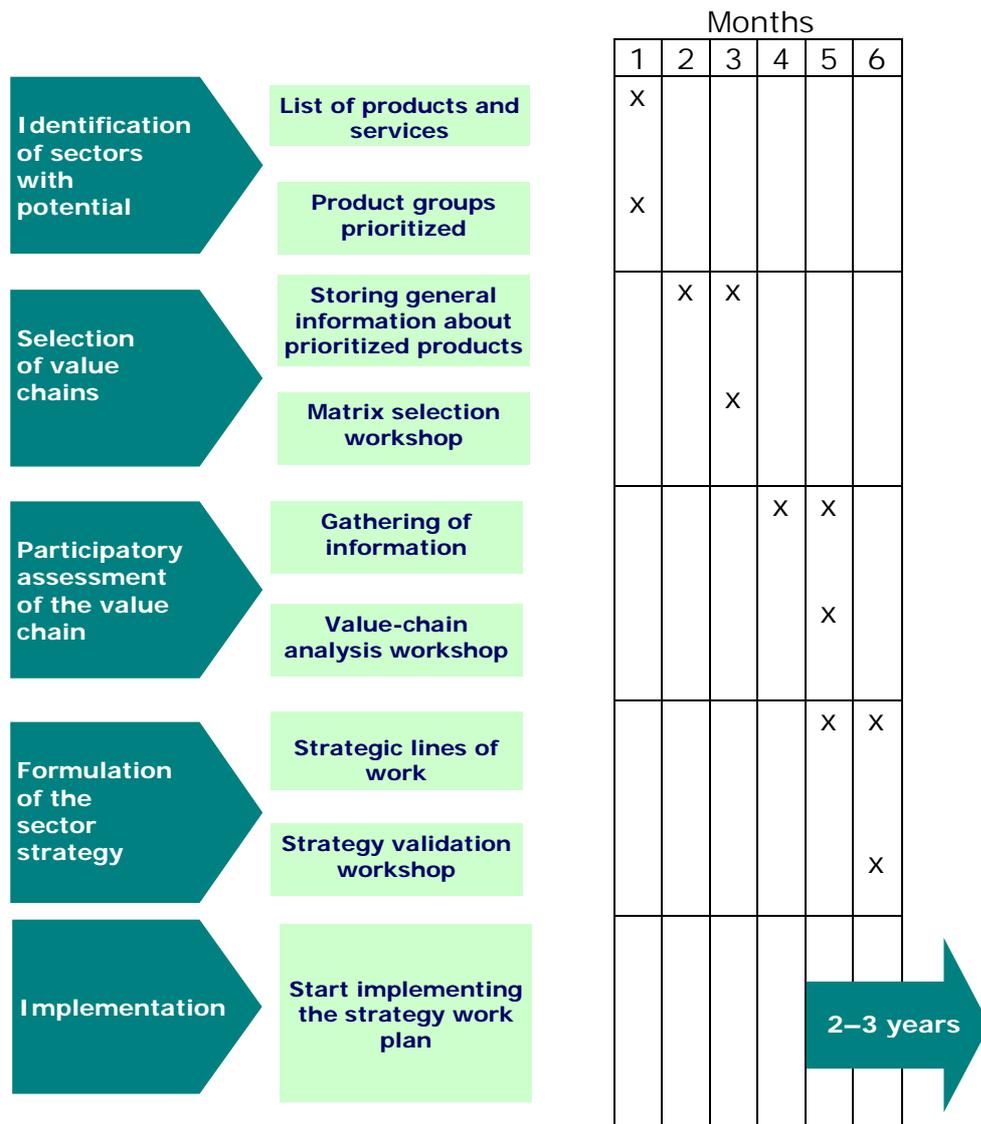
For each one of the strategy's objective and expected outcomes, a measurable results indicator should be defined that provides useful information and assesses the degree to which the strategy has been implemented. Examples of such indicators may include signed collaboration agreements, workshop proceedings, proposals sent to request funding, and the development of training programmes.

The facilitator could organize workshops to ensure that the strategy evaluation is a participatory process, and that the activities defined in the work plans are adapted according to the stated objectives and the results obtained.

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Annex 1. Timeline for the implementation of steps to support a value chain



Annex 2. Product selection matrix

Matrix of trading and marketing aspects

Market criteria	Scale	Score	Explanation	Markers ⁵
Quantity and quality of the information about the existing market	Sufficient/reliable	2	There is enough information about the market to predict demand accurately.	Who could provide the (additional) market information?
	Inadequate/imprecise	1	Existing market information can only offer some approximations about demand.	
	Non-existent/unreliable	0	There is insufficient information to predict demand.	
Current and potential market demand	High	2	There is knowledge that market demand for the product is high.	
	Moderate	1	The current market demand for this product is moderate, but it has the potential to increase.	
	Limited	0	Market demand for this product is small at present and its behavior is uncertain.	
Scale of production	High	2	Production is well organized and commercially viable.	If the organization of production is the problem, how could it be addressed? Who would be responsible for this?
	Moderate	1	Production is moderately organized and could be commercially viable.	
	Low	0	Production has limited capacity (there are not enough companies to meet demand). The scale is not commercially viable.	
Experience of the product in the market	Already on the market	2	The product is already on sale.	
	In development	1	The product is being developed at present, and will soon be on sale.	
	No development currently taking place	0	The product is not on the market, and no work to develop it has been started.	
Competition (as a threat to maintaining the market niche)	Weak	2	There are few alternative sources to this product, and the probability of it being substituted or replaced is small.	
	Moderate	1	There are several sources of this product, or it could be easily substituted or replaced.	
	Strong	0	There is great current or potential competition for the supply of this product.	
Evaluation of financial feasibility	Good profitability	2	The financial feasibility evaluation prepared is reliable and predicts good profits.	If required, who could carry out the financial feasibility study?
	Moderate profitability	1	The financial feasibility evaluation prepared is reliable and predicts moderate profits.	
	Low profitability	0	No reliable financial feasibility evaluations have been prepared, or else those that have been prepared are unreliable or predict low revenues.	

⁵ Markers: The score should be well justified through markers. These are qualitative statements that indicate how each score can be obtained. Further explanation can be given regarding which people or organizations will take responsibility and leadership, and/or will provide information and assistance to overcome hurdles identified when the product was selected. For example, in the “experience of the product in the market”, the markers should include answers to questions such as how easy the distribution of the product might be, the channels of distribution established, knowledge on products’ macro environment, any specific incentives or discouraging aspects for the production and trading in social, economic, legislative or judicial contexts.

Market criteria	Scale	Score	Explanation	Markers⁵
Quality of production	Good	2	Companies are complying with adequate quality standards for the product.	If required, who could assist in the development of quality standards?
	Moderate	1	Companies are complying with adequate quality standards for the product, but these need to be improved.	
	Low	0	Companies do not apply adequate quality standards for the product.	
Potential for certification as a differentiation strategy in the market	High	2	The product can be certified through existing mechanisms, and there is a differentiated market for it.	If there is potential for certification or eco-labeling, who would be responsible for carrying this out?
	Moderate	1	The product can be certified, but the market is uncertain.	
	Low	0	The product cannot be certified, or there are no differentiation mechanisms in the market.	
SUB TOTAL				

Matrix of ecological aspects

Ecological criteria	Scale	Score	Explanation	Marker
Abundance and state of conservation of the species that constitute the source of raw materials	Abundant/good state of conservation	2	The source of the species for the product is abundant and it is not under ecological threat.	If there is unreliable or insufficient information to answer these questions, could correct and sufficient information be generated? If so, who would be responsible for this?
	Sufficient/uncertain state of conservation	1	The source of the species is abundant enough to supply demand, but there are no clear mechanisms to secure conservation in the long term.	
	Under threat	0	The source of the species for the product is scarce; it is at risk of local extinction, or there is no reliable information to determine its state of conservation.	
Potential for sustainable management	High	2	The species have potential for exploitation subject to sustainable use practices that will ensure conservation in the long term.	If there is unreliable or insufficient information to answer these questions, could correct and sufficient information be generated? If so, who would be responsible for this?
	Moderate	1	The species have potential for exploitation subject to sustainable use practices, but complementary activities must be developed to ensure conservation (such as breeding, <i>in vitro</i> management, repopulation).	
	Low	0	The species cannot be exploited from the environment in question – to do so would threaten its survival.	
Impact of production and technical activities for harvesting on the species and its habitats	Positive	2	Productive practices contribute to improvements in the populations of the species in question and the quality of their habitats.	If there is unreliable or insufficient information to answer these questions, could correct and sufficient information be generated? If so, who would be responsible for this?
	Neutral	1	Production practices do not alter the populations of the species being used, or the current state of the habitats.	
	Negative	0	Production and harvesting practices have a negative impact on the populations of the species being used and on their habitats.	
There are guidelines for the implementation of good management practices	Guidelines exist and they are being used.	2	The management of the species is conducted using clear guidelines, which can be implemented.	Who can provide assistance to improve the system of handling natural resources, if this is needed?
	Guidelines exist, but they need improving.	1	The management of the species is conducted using specific guidelines, but the system needs to be improved.	
	No guidelines exist.	0	There are no clear guidelines for the management of the species.	
Availability of a suitable environmental certification mechanism	There is a mechanism and it is being used.	2	There is a valid environmental certification mechanism for the product.	If required, who could provide assistance to organize environmental certification?
	There is a mechanism, but it is not being used, or it needs improvements.	1	There is a suitable environmental certification mechanism for the product, but it has not been used, or it needs improvements.	
	There is no mechanism.	0	There is no suitable environmental certification mechanism for the product.	
SUB TOTAL				

Matrix of socio-economic aspects

Socio-economic criteria	Scale	Score	Explanation	Markers
Suitability of production for small entrepreneurs or local communities	Very suitable	2	Preferably, raw materials are sourced from small companies' or local communities' productive systems.	Can these difficulties be overcome? If so, who could support and take on this responsibility?
	Moderately suitable	1	Raw materials are produced by small companies or local communities, but encounter difficulties in the productive system.	
	Unsuitable	0	Raw materials are principally supplied by large companies in the private sector.	
Experience with the product	Considerable	2	Entrepreneurs have considerable experience in the production and sale of the raw materials.	Have people from small businesses or local communities had similar experience? Who would take responsibility for passing on this knowledge and offering training? Would the people concerned want to share their knowledge?
	Moderate	1	Entrepreneurs have little experience in the production and sale of the raw materials.	
	Little	0	Entrepreneurs do not have experience in the production and sale of the raw materials.	
Potential for generation of employment	High	2	There are many opportunities to create new jobs.	
	Moderate	1	There are few opportunities to create new jobs.	
	Low	0	There are no opportunities to create new jobs.	
Additional benefits to small businesses	Many	2	There are obvious benefits for small businesses producing the raw materials.	What kinds of benefits can be obtained, and from whom? Is there a need to put someone in charge of identification and implementation of the benefits?
	Moderate	1	There are few or insignificant benefits for small businesses producing the raw materials.	
	Few	0	There are no obvious benefits for small businesses producing the raw materials.	
SUB TOTAL				

Matrix of socio-technological aspects

Technological criteria	Scale	Score	Explanation	Markers
Technological requirements for improving processes	Low	2	The technology required is simple and available locally.	If the technology is not available, how could it be accessed? Who could support and take on this responsibility?
	Moderate	1	The technology required is complex, or it is not available locally or in the short term.	
	High	0	The technology required is inaccessible.	
Quality control requirements	Low	2	Quality control standards can be easily met, or already exist.	If required, who could provide entrepreneurs with training in meeting quality standards?
	Moderate	1	The quality control standards can easily be met, but they need to be monitored carefully and they involve additional training.	
	High	0	The quality control standards are high or impossible to meet.	
State of infrastructure	High	2	The existing local infrastructure is appropriate for production and processing needs.	Who could be responsible for ensuring the development of any additional infrastructure needed?
	Moderate	1	Additional infrastructure should be developed, and could be developed in the short term.	
	Low	0	The necessary infrastructure is expensive and inaccessible.	
Abilities and skills	High	2	The abilities and skills of the entrepreneurs are sufficient.	If required, who would be responsible for capacity-building?
	Moderate	1	Entrepreneurs should develop some additional skills, in order to reach production objectives.	
	Low	0	There is a great need for training.	
Human resources	Available	2	There is a large number of skilled staff who have the experience needed to reach production objectives.	Can the difficulty of insufficient human resources be resolved? How?
	Moderate	1	There is a reasonable number of staff. At times, this situation can affect production.	
	Limited	0	There is no one with the right profile to meet production objectives; production is therefore seriously affected.	
Availability of technical support	Available	2	The technical support necessary to meet production objectives is easily accessible.	If required, who would be responsible for ensuring technical support?
	Moderate	1	Technical support has to be provided from somewhere else.	
	Limited	0	There is very little or no capacity to offer technical support.	
SUBTOTAL				
GRAND TOTAL				
RANKS				

Annex 3. Content suggested for the assessment

1 Definition of the product or products (maximum: one page)

1.1 A general definition of the product, corresponding to the semi-finished or finished product that reaches the target consumer.

1.2 Biological resources used as raw materials. This includes the main biological resources used in developing the product, the productive systems they come from (e.g. crops, wild extraction), the ecosystems involved (e.g. moors, rivers, lakes) and the location of the production (e.g. the Amazon, a coastal area).

2 Actors in the chain

2.1 Map of the chain: This provides information on the group of actors identified within the chain and the interaction between them. Types of actors may be:

a. Productive actors

Based on the results obtained in the map, the general description includes data on actors such as company names, organizations involved, location, products offered, quality offered or demanded and approximate supply. This description can be divided into sectors, according to the groups available in the chain. For example:

- Primary production: Community organizations and farmers' associations;
- Transformation: This relates to actors who are involved in semi-industrial or industrial processes. At this point it is important to define the quality of the raw material demanded and to describe its interaction with the actors in the primary production group;
- Commercialization/traders and middlemen: Besides general information, it is important to define how these actors influence the chain (interaction with primary production and transformation groups) and the quality conditions they demand.

b. Institutional actors

This includes information on actors that can participate in the chain: who they are, their area of expertise, their possible contribution to the development of the chain, and their genuine interest in offering support. These institutions may be:

- Environmental and health authorities;
- Providers of technical services (laboratories, agricultural technicians, production advisors);
- Business development services;
- Research institutions (biological, social, marketing); and
- Trade promotion organizations.

3 Analysis of economic and market aspects

3.1 International market

- Characteristics of the market, for example potential markets, location and characteristics of exporters and importers, market size, price, direct and indirect competition, exports.
- Access to the market, for example regulations and commercial legislation, quality requirements (rules and standards), commercial conditions (customs procedures).

3.2 National and local markets

- Characteristics of the current market, such as size, location, buyers, prices, entry requirements (quality, legislation).

- Market potential: the possibilities for expansion and conditions for doing so.

3.3 Economic feasibility

- Brief economic feasibility analysis, based on pricing and costing information.

3.4 Analysis of the difficulties that actors experience in fulfilling economic and market aspects. Some example of the variables that can be analyzed are:

- Entry into target markets (requirements, quality);
- Supply and demand (production capacity, quality, volume);
- Profit margin;
- Competition; and
- Access to financial resources.

4 Technological and infrastructure issues

4.1 Existing technologies for production and product processing.

4.2 Existing and required infrastructure for the processes, from primary production through to getting the product on the market.

4.3 Available human resources.

4.4 Possibilities for added value.

4.5 Analysis of the weaknesses of relevant actors in terms of technology and infrastructure:

- Access to appropriate technology and services;
- Infrastructure needs; and
- Training needs.

5 Environmental and biodiversity considerations

5.1 General description of the production systems in each of the stages of the chain, and analysis of the positive and negative effects on biodiversity and the environment in general.

Actors	Production systems	Positive effects	Negative Effects	Priorities for improvement
Production				
Transformation				
Commercialization				

5.2 Considerations for improved biodiversity management at the different stages along the chain: A description of the practices should be listed here, which include activities that favor biodiversity conservation and the sustainable use of natural resources that are currently developed by the actors in the chain.

5.3 Analysis of the weaknesses and limitations of productive actors that prevent them from including environmental and biodiversity practices, such as:

- Sustainable management of raw materials;
- Consideration of the environmental impact of productive processes; and
- Conservation of other biodiversity elements.

6 Social and political conditions of the sector

6.1 Description of the socio-economic characteristics of the actors (e.g. income, degree of geographical isolation, predominant means of living).

6.2 Analysis of the (economic) benefit-sharing within the chain and its contribution to the improvement of communities' economic conditions.

6.3 Company organization within the sector: associative characteristics and organizational capacity.

6.4 Capacity of the sector to generate employment: analysis of the employment that has already been generated and the potential for increasing it in the future.

6.5 Legal aspects: legislation (e.g. regulations, restrictions on some products, taxes, land tenure) that influences the activities that are developed by each of the productive actors (i.e. by the producers, processors and traders).

6.6 Analysis of weaknesses in the sector in socio-economic terms, such as:

- Inclusion of local communities as producers;
- Benefit-sharing; and
- An associative system or model, and company organization.

7 Summary of needs and possible actions for key actors in the value chain

Using the summary of the needs that were identified when each topic was analyzed, priority activities are proposed. This analysis can be carried out with the help of a matrix, as shown below.

Aspects	Actors involved (relevant)	Needs	Priorities for action
Economic and market	Transformers		
	Traders		
	Support institutions		
Environmental and biodiversity	Producers		
	Transformers		
	Traders		
	Environmental authorities		
Social and policy	Producers		
	Transformers		
	Traders		
	Business development services		
	Social NGOs (non-governmental organizations)		
Technology and infrastructure	Producers		
	Transformers		
	Traders		
	Providers of technical services		

8 General recommendations

General suggestions for implementing the priority actions corresponding to each of the aspects – market, environmental, socio-economic and technological – that have been analyzed in respect of the chain.

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