STRENGTHENING
VALUE CHAINS:
A TOOLKIT

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IFAD
Investing in rural people

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CONTENT

CHAPTER I
INTRODUCTION TO THE TOOLKIT'S OBJECTIVES AND SCOPE

> *This toolkit offers a methodology for strengthening value chains through the design of participatory strategies focused at the level of stakeholders forming part of a value chain.*

Why is this toolkit published?

In recent years, and especially as a result of the global financial crisis of 2008-2009, a growing interest to undertake more decisive actions in the industrial policy field has been observed among governments in Latin America and the Caribbean (LAC). In some countries this interest has more specifically taken the form of national industrial policy plans such as those of El Salvador and Guatemala, while other countries (Costa Rica and Mexico) have adopted programmes for strengthening competitiveness or value chains.

Industrial policy plans are necessary to support productive sectors, set objectives and priorities, coordinate actions with other policies, and provide selection criteria or decide which sectors or chains to benefit during the life of the plan. Once such plans have been designed, the challenge becomes one of putting them into practice, which entails identifying spaces for intervention and specific potential beneficiaries. The value-chain approach makes it possible to analyse restrictions —which are here referred to as bottlenecks— and pose strategies at the stakeholder level in each link of the chain aimed at increasing productivity and value added. Beyond the immediate context of industrial policy, the value chain concept per se has been strongly incorpo-

rated into public policy making, and international development cooperation projects.

The main objective of this toolkit is to **exhibit and disseminate the methodology for strengthening value chains** developed by the Subregional Headquarters in Mexico of the Economic Commission for Latin America and the Caribbean (ECLAC). This document lays out the concepts, processes and good practices that have been derived from implementing such a strategy. It is intended to be a useful tool for public sector decision makers, officials of international bodies and those studying the topic, who are interested in a systematised and proven methodology (see box I.4).

This manual was prepared in response to formal requests from the governments of the region for a practical tool that facilitates replication of the initial processes in which ECLAC participated on a joint basis in other chains.

ECLAC began working on value chains in 2012 as part of a technical assistance initiative for the governments of Argentina and Uruguay that was coordinated from the organisation's Headquarters in Santiago, Chile. In 2013, ECLAC's Subregional Headquarters in Mexico City provided technical assistance to the governments of El Salvador and Guatemala, financed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)[1], the German Agency of International Cooperation. Between 2014 and 2016, work has continued with eight chains in five countries of the northern subregion of Latin America[2] (Costa Rica, El Salvador, Guatemala, Mexico and the Dominican Republic), with financing from the International Fund for Agricultural Development (IFAD)[3]. This toolkit revises and updates the material published in 2014[4], and incorporates the lessons learned in new processes. The toolkit is also enriched by the experience of the authors in transferring the methodology to public officials involved in value chain strengthening processes, as well as to international agencies, research centres and universities.

The methodology centres on **resolving bottlenecks** in the chain, an effort that is reflected in strengthening the chain by means of improving associations between links, the incorporation of new ac-

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[1]   The general objective of the project "Inserting agroindustrial SMEs into value chains in Central America" was to strengthen the capabilities of national institutions to design public-private participatory policies that would allow for the insertion of agroindustrial SMEs in selected value chains.

[2]   The northern subregion of Latin America comprises Costa Rica, Cuba, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama and the Dominican Republic.

[3]   It was provided in the context of the Project "Inclusive growth, rural industrial policy and participatory value chains in Latin America and the Caribbean (LAC)", whose general objective was to strengthen the participation of small producers, enterprises, and organisations in rural value chains in Latin American and the Caribbean.

[4]   See Oddone, Nahuel, Ramón Padilla Pérez and Bruno Antunes (2014), "*Strengthening value chains as an industrial policy instrument. Methodology and experience of ECLAC in Central America*", ECLAC Books No. 123, Santiago Chile. ECLAC-GIZ.
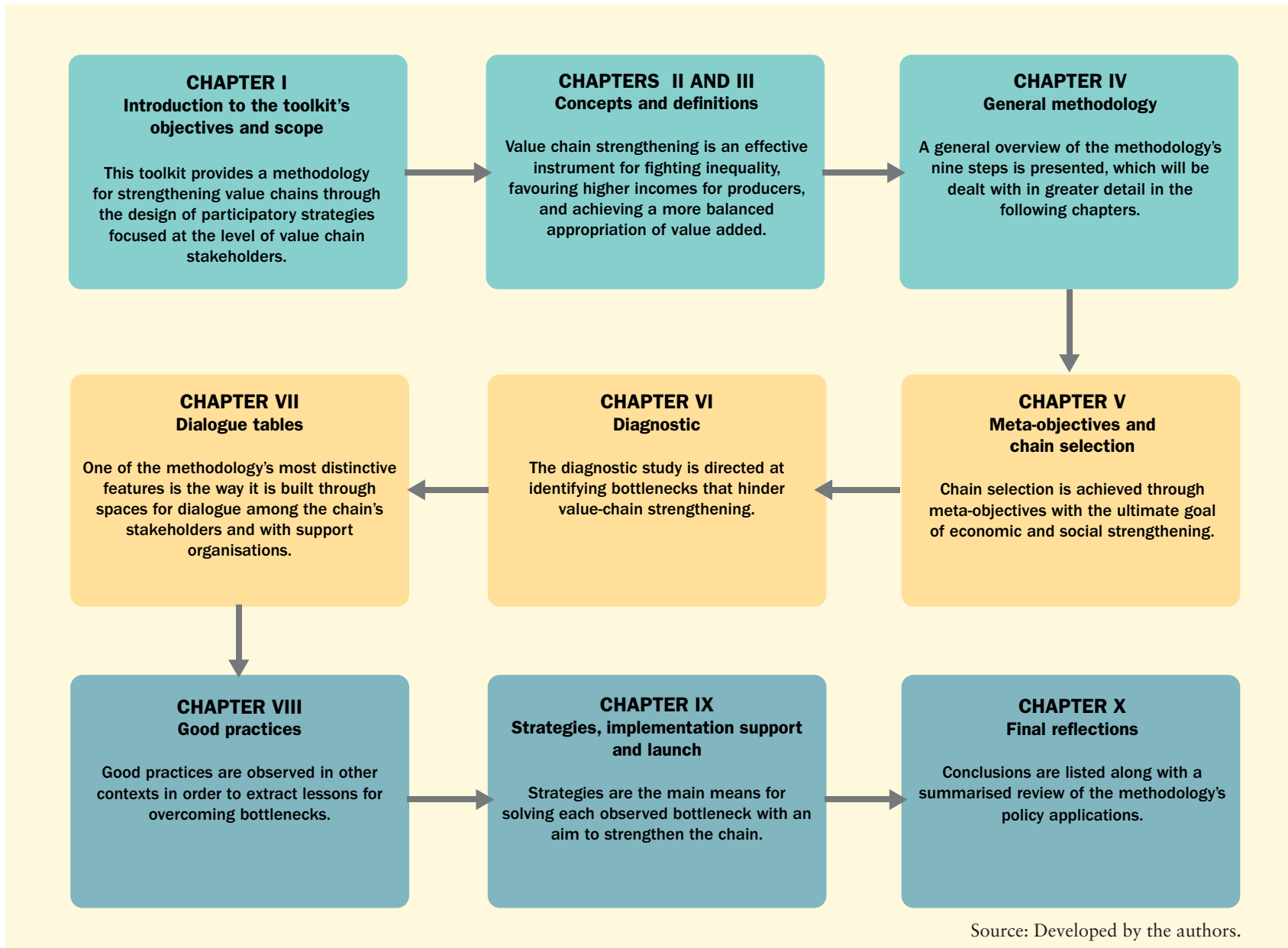
tors, and a process of social and economic upgrading. **Economic upgrading** refers to the productive transformation of the links and the chain as a whole toward better products and services, superior production processes or activities that generate greater value added and are also more knowledge intensive. Innovation, in a broad and flexible sense, is an essential element of upgrading. Hence, it encompasses everything from new processes and products for those who form part of the chain; to radical innovations unprecedented anywhere in the world. As part of **social upgrading,** participants in the chain and their communities raise their living standards through decent working conditions with social protection, labour rights and a safe working environment. This strengthening occurs in a context of **environmental sustainability and attention to gender equality.**

It is worth underscoring two additional characteristics of the methodology. First, it entails a **systemic focus** because in addition to incorporating the links in the chain it includes the diverse public and private stakeholders that regulate or support their productive activities (government bodies, universities, service companies, business associations and research centres, among others). Second, the methodology **is participatory:** a basic component is the **dialogue between public and private stakeholders** called upon to attend consultative dialogue tables to validate the information contained in the diagnostic and the proposed strengthening strategies. This tool enriches the analysis of the main bottlenecks, creates or reinforces commitments assumed among chain participants, favours the design of innovative approaches to formulating strategies, facilitates agreements and promotes greater transparency in decision making. In this way, joint endeavours of the public and private sectors enhance the capacity to resolve bottlenecks that hinder the chain's social and economic upgrading.

The toolkit consists of 10 chapters (see diagram I.4). The first chapter provides a preliminary description of the toolkit's content and intended objectives. The second chapter explains the importance of value-chain strengthening for achieving structural change from the perspective of ECLAC, as well as its work in recent years with the countries of the subregion. The third chapter provides a discussion of the toolkit's basic concepts including those of value chains, governance and upgrading. In addition, it spells out the distinctive features of ECLAC's value-chain approach and analyses its potential for contributing to strengthening processes, including its capacity to incorporate key topics in the international agenda such as environmental concerns and gender. Chapter four lays out the general methodology for strengthening value chains. Chapter five details the first two steps of the methodology -the definition of meta-objectives and chain selection- while the sixth chapter takes up the third step, that of the diagnostic. Chapter seven defines the concepts and tools used to organise and conduct dialogue tables, which are vitally important to the process as they make it possible to socialize the information and achieve greater empowerment of stakeholders that constitute links in the chain. It is a process of democratisation, and strengthening of negotiating capacities that are of fundamental importance to chain governance. Chapter eight discusses the search for and extrapolation of good practices. Chapter nine sums up the approach to strategy formulation and initial implementation support. The tenth and final chapter reflects on the importance of value chain strengthening in the design of industrial policy aimed at progressive structural change with equality.

DIAGRAM I.1
TOOLKIT CONTENTS

CHAPTER I
Introduction to the toolkit's objectives and scope

This toolkit provides a methodology for strengthening value chains through the design of participatory strategies focused at the level of value chain stakeholders.

CHAPTERS II AND III
Concepts and definitions

Value chain strengthening is an effective instrument for fighting inequality, favouring higher incomes for producers, and achieving a more balanced appropriation of value added.

CHAPTER IV
General methodology

A general overview of the methodology's nine steps is presented, which will be dealt with in greater detail in the following chapters.

CHAPTER VII
Dialogue tables

One of the methodology's most distinctive features is the way it is built through spaces for dialogue among the chain's stakeholders and with support organisations.

CHAPTER VI
Diagnostic

The diagnostic study is directed at identifying bottlenecks that hinder value-chain strengthening.

CHAPTER V
Meta-objectives and chain selection

Chain selection is achieved through meta-objectives with the ultimate goal of economic and social strengthening.

CHAPTER VIII
Good practices

Good practices are observed in other contexts in order to extract lessons for overcoming bottlenecks.

CHAPTER IX
Strategies, implementation support and launch

Strategies are the main means for solving each observed bottleneck with an aim to strengthen the chain.

CHAPTER X
Final reflections

Conclusions are listed along with a summarised review of the methodology's policy applications.

Source: Developed by the authors.

CHAPTER II
VALUE CHAINS IN THE THOUGHT AND WORK OF ECLAC

> *Value chain strengthening can be an effective instrument for fighting inequality, favouring higher incomes for producers, and a more balanced appropriation of value added. Public policies assume a central role in these processes.*

Value chains and structural change

From ECLAC's perspective, social and economic development demands profound changes to the productive structures of Latin American and Caribbean countries; changes capable of transforming the composition of production, employment and the pattern of international insertion. This progressive structural change, understood as a transition toward activities and sectors with stronger growth dynamism that favour environmental protection and are more technological-knowledge intensive (ECLAC, 2016), requires an innovative and comprehensive combination of public policies whose horizons are directed at equality. Left to their own devices, market forces tend to deepen prevailing structures. Industrial policy is a critical element in this approach and in the new State-private sector-society equation (ECLAC, 2012) (See box II.1).

Structural change results from the interaction of two complementary forces: i) innovation, understood in its broadest sense as the emergence of new activities and especially the learning necessary for its realisation while taking advantage of the economic opportunities they entail; and ii) the linkages that cause this innovation or learning about a particular activity generates technolog-

ical changes and value added in other complementary activities (ECLAC, 2013).

Strengthening value chains fosters productive diversification and expands participation in the segment of the production structure with the greatest knowledge intensity or highest demand growth, and **in this way contributes to structural change.** Chain strengthening is accompanied by a structural change to the extent that it incorporates new and better products, greater productivity and more knowledge-intense activities. At the same time, it tends to diminish the structural heterogeneity characteristic of Latin American economies by strengthening the stakeholders who comprise the chain and incorporating new producers and service providers.

The challenge doesn't consist simply of being part of a value chain, but rather is a matter of increasing participation in the generation of value added through upgrading and transforming the chain's structure and in the process helping it to rise in the value chain hierarchy, as it transitions from simple activities to more complex ones. It also entails **narrowing the productive gaps** that affect Latin American countries; for example, between small and large enterprises, or between producers focused on local markets and those competing in international markets. **Chain strengthening can be an effective instrument with which to fight inequality** by expanding producers' incomes and achieving a more balanced value added appropriation within the value chain. Public policies

assume a central role in these processes. Every effort should be made to assure that value chain support is articulated with other industrial policy instruments such as those mentioned in box II.1.

There is nothing automatic about the contribution of value chain strengthening to progressive structural change and it depends on at least three factors. First, the benefits a company, sector or country obtains are closely associated with the link in which it participates, the chain's governance and upgrading potential in terms of its capacity to introduce productivity increments and innovations to the corresponding product, service or process. The second factor is the extent to which the chain has (or lacks) an inclusive character capable of attracting small and medium-sized enterprises (SMEs). The third factor is the techno-economic system in which the chain is inserted, especially with regard to access to financing, infrastructure, skilled human resources and technological knowledge, among other factors.

The value-chain methodology proposed in this toolkit makes possible the design of targeted instruments for the microeconomic implementation of industrial policy. The adoption of an approach that is simultaneously micro and systemic results in the design of specific intervention strategies in various spheres that lead to the integration of the diverse industrial policy instruments in matters of science, technology and innovation; education and training; competitiveness promotion, and export support, among others.

The value-chain methodology analyses strengths and weaknesses in the chain and each of its links, as well the ties that unite

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BOX II.1
INDUSTRIAL POLICY IN THE XXI CENTURY AND VALUE CHAINS

In Latin America and the Caribbean there is an increasing recognition of the importance of industrial policy for narrowing technological and productive gaps relative to more developed economies. Industrial policy is understood as a dynamic process in which the State applies a series of instruments directed at promoting and strengthening specific economic activities or agents in keeping with national development priorities. Industrial policy during the twenty-first century is being developed in an international context and with instruments different from those observed in Latin America during the the 1950s, 1960s and 1970s.

New international context

a) A new context characterised by international market integration, global productive articulation, and more recently, the formation of mega trade blocs.
b) A multiplicity of active trade agreements that lead to low tariffs, intellectual property use restrictions, and the banning of export-targeted subsidies, among other measures.
c) The existence of a State acting as an articulator and promoter within market mechanisms. The State acquires decisive responsibility for promoting productive development without assuming control over a wide array of economic activities in the form of state-owned enterprises.
d) A wide variety of instruments are available, ranging from policies focused on start-up industries to trade policies and those that create the legal and economic environment in which businesses operate.

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each link. Industrial policy plans are essential to the prioritisation and systematisation of actions, but on occasion when translating them into specific actions, obstacles may arise because such plans by their very nature tend to be generic. The value-chain methodology makes it possible to respond to specific questions that generate inputs for the design of targeted strategies. For example, for whom and on what subjects should there be training? What university or technical school in the country has the capacity to

BOX II.1 (CONTINUATION)

Instruments

a) Science, technology and innovation policies whose purpose is to increase the country's ability to use, absorb, modify and produce scientific and technological knowledge, as well as to stimulate innovation activities within the organisations that constitute innovation systems.

b) Education and skill-building policies for the purpose of developing qualified human resources. This entails active public initiatives oriented toward raising the general quality of the educational system and promoting technical training for the development of high-level skills and qualified human resources.

c) Trade policies to establish the degree of competition and access to international markets, as well as foreign direct investment flows and their ties to domestic production.

d) Policies to promote selected industries which are oriented toward supporting sectors, industries or strategic firms by means of credit on preferential terms, fiscal incentives, government subsidies for selected sectors and government procurement, among other instruments.

e) Sectorial competitiveness policies for promoting a business-conducive environment through economic signals and incentives that encourage greater competitiveness among market stakeholders.

f) Competitiveness policies consisting of anti-monopoly and competition measures, as well as legislation designed to safeguard proper market functioning to assure a more efficient allotment of resources.

Source: Padilla Pérez and Alvarado Vargas (2014).

their industrial policies, productive transformation plans or directly for value chain strengthening. A public sector counterpart clearly interested in and committed to the process is an indispensable component of this methodology. In some instances, public officials have been assigned to track the evolution of the process, and the methodology contemplates their involvement in every step so that they can enrich, validate and assure the methodology's implementation, transfer and later appropriation and replication.

The requests received by ECLAC's Subregional Headquarters in Mexico City were sent for a variety of reasons:

• Interest on the part of a government looking to adopt industrial policy plans with a public-private participatory strategy.

• A government in need of a methodology with which to meet spending regulations and execute international loans for productive development.

• Interest in acquiring a methodology that might prove appropriate and capable of being replicated by government bodies to support the development of value chains.

provide such training? What alliances can be built with the private sector to achieve commitment and co-financing? The chain focus provides clear responses to these and other questions in the process of putting public policy into practice.

ECLAC's experience in strengthening value chains

ECLAC has received official communications from national governments in which they request technical assistance for the design of

The central partners in these processes have mainly been economy ministries, but ECLAC has also worked with other ministries directly responsible for a chain such as tourism or agriculture ministries. Box II.2 lists the value chains in which the methodology has been applied and examples of that application can be found throughout the toolkit.

The methodology was not designed for any specific sector; in fact, it is adaptable to any type of chain. As indicated in table II.2, it has been executed in the following areas:

• Agriculture, silviculture and fisheries: export vegetables, tomato and green sweet pepper, fine-wood products, and shrimp farming.
• Manufacturing: synthetic fibres for sports apparel, nutritional snacks (processed foods), pork sausages and other cured pork products, dairy products.
• Services: rural tourism (three chains).

Dried fruit and other natural products, El Salvador.

Drying fruit, El Salvador.

Dried fruit samples, El Salvador.

BOX II.2
VALUE CHAINS IN WHICH THE METHODOLOGY HAS BEEN APPLIED (2013-2016)

Country	Chain	Geographical scope	Financing	Year
El Salvador	*Shrimp farming*	Departments of Usulután, La Paz, Sonsonate and La Unión	Project "Insertion of agribusiness SMEs in Central American value chains" (GIZ)	2013
	Synthetic fibres-sports apparel	Departments of La Libertad, La Paz, Santa Ana and San Salvador		
	Tourism in the Department of La Libertad	Department of La Libertad	Project "Inclusive growth, rural industrial policy and participatory value chains in LAC" (IFAD)	2015
	Dried fruit based nutritional snacks	National (the entire country)		
	Tomato and green sweet pepper	National (the entire country)		
Guatemala	*Non-traditional export vegetables*	Departments of Chimaltenango, Sacatepéquez, San Marcos, Quetzaltenango, Sololá, Quiché, Alta Veracruz, Baja Veracruz, Jalapa, Juliapa and Guatemala	Project "Insertion of agribusiness SMEs in Central American value chains" (GIZ)	2013
	Fine-wood products	Maya Biosphere Reserve and Petén forest concessions		
	Tourism in Antigua Guatemala and in the rural municipalities of the Department of Sacatepéquez	Department of Sacatepéquez		2014
Mexico	*Pork sausages and other cured pork products*	National, with special attention to the states of Jalisco, Guanajuato, México, Michoacán, Nuevo León, Puebla, Sonora and Yucatán	Project "Inclusive growth, rural industrial policy and participatory value chains in LAC" (IFAD)	2015-2016
Dominican Republic	*Dairy products*	National (with special attention to the provinces of Dajabón, Santiago Rodríguez, Puerto Plata, Hato Mayor, Monte Plata and Higuey)		2015-2016
	Tourism in Perdernales Province	Perdernales Province		

Source: Developed by the authors.

A promotional event for vacuum-fried fruit chips, Costa Rica.

Vacuum-fried fruit chips, Costa Rica.

In addition, technical collaboration with the Government of Costa Rica led to the creation of a new value chain. In 2015 and 2016, ECLAC collaborated with Costa Rica's Ministry of Foreign Trade and the Foreign Trade Corporation of Costa Rica to help establish the vacuum-fried fruit chip chain (see box II.3). The effort began based on the methodology originally designed for the strengthening of existing chains and along the way new elements were incorporated such as substituting the diagnostic for the drafting of both market and feasibility studies. More details regarding this chain can be found in Cordero and Padilla Pérez (2016).

BOX II.3
CREATION OF A VALUE CHAIN WITHIN THE FRAMEWORK OF THE ECLAC-IFAD PROJECT

País	Chain	Geographical scope	Financing	Year
Costa Rica	*Vacuum-fried fruit chips*	National (excluding the capital and metropolitan zones)	Project "Inclusive growth, rural industrial policy and participatory value chains in LAC" (IFAD)	2015-2016

Source: Developed by the authors.

MAP II.1
GEOGRAPHIC LOCATION OF THE VALUE CHAINS STUDIED

Pork sausages in Mexico

Mexico

Dairy products and rural tourism in the Dominican Republic

Fine-wood products, Non-traditional export vegetables and rural tourism in Guatemala

Honduras

Vacuum-fried fruit chips in Costa Rica

Synthetic fibres, Shrimp aquaculture, tomato and green sweet pepper, healthy snacks and rural tourism in El Salvador

Nicaragua

Panama

KEY CONCEPTS

Progressive structural change. The transition toward more productively dynamic activities and sectors with higher productivity growth, and which are more knowledge intensive and favour environmental protection (ECLAC, 2016).

Industrial policy. The public policy through which a State applies a series of instruments directed at promoting and strengthening specific activities or economic agents. The policy is based on national development priorities, the key or potential sectors of the country's economy, or the current or potential value chains located in the country (Padilla Pérez and Alvarado Vargas, 2014).

CHAPTER III
KEY VALUE CHAIN CONCEPTS

> *Key concepts used throughout the rest of this toolkit, such as value chain, link, and both economic and social upgrading, are defined in this chapter.*

What are value chains?

A **value chain** consists of a broad variety of activities needed for a product or service to transit across the various stages extending from conception of the product or service through to its delivery to consumers and, where relevant, final disposal once the product has been used (Kaplinsky and Morris, 2002). Each of the stages –conception and design, production of the good or service, transport of the good, its consumption and handling, and final recycling– is known as a link. The quantity of **links** in a value chain varies substantially depending on the type of industry. The chain's activities are sometimes conducted by a single enterprise and in other instances by various firms (Kaplinsky, 2000).

Regardless of its size, every company or producer participates in at least one local value chain. When a small-scale subsistence farmer acquires inputs (seeds, tools, fertilisers and others), he or she interacts with other links of the chain. The enterprises that export, whether directly or indirectly, also participate in regional or global value chains.

Existing global value chains have emerged as a result of a new production pattern based on a geographical delocalisation connected to dynamic final markets. The global value chain concept refers to the various links within the diverse firms or plants located in different geographical locations.[5]

An important clarification

It is important to distinguish both the chain's geographic scope and its participation in international trade flows. Due to the extent to which the global value chain concept has been disseminated, it is common to associate "value chain" exclusively with a global scale. Nevertheless, in Latin America, where the focus is on primary products, manufactures or services, the chains are frequently domestic or regional. As a result, they correspond to production processes and the supply of services whose chains begin and end within the borders of a single county or they interact only with one or more neighbouring countries. The methodology presented in this toolkit covers chains with diverse geographical scales.

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[5]   For more details on global chains, see Gereffi and Fernández-Stark (2011).

Goods chains

Diagram III.1 depicts the general structure of a goods value chain. **The first link is research and development (R&D)** dedicated to the creation of new products, an activity that is not always present as it depends on the chain's technological intensity. Whereas electronic-goods and pharmaceutical chains conduct intense R&D activities, these are less intense in the case of apparel and the manufacture of plastics. **The second link comprises engineering activities** in which a good's functional properties and form are designed, as are the processes by which the good is to be manufactured. This link tends to be located in the same geographical locality as R&D or in close proximity to the production centres. **The third link, that of manufacturing,** tends to be capital intensive (machinery and equipment) for the production of the intermediate goods or components. **The fourth and fifth links –those of assembly, subassemblies and final testing–** generally involve intensive use of low skilled labour and pay relatively low wages as they tend to entail routine tasks in which the intermediate goods and components are assembled and tested to produce the final good. **The sixth link corresponds to sales, commercialisation of the final goods and** post-sales services.

Another element described in diagram III.1 is the diverse degree of value added appropriation and knowledge intensity in each link. The research and development link, along with sales and commercialisation, generally capture the largest share of value; in other words, their companies obtain the largest part of profits generated throughout the entire process. In contrast, the subassembly, assembly and final testing links receive the least significant share. As a result, there is a direct relation between a link's knowledge intensity and the amount of value appropriation.

DIAGRAM III.1
GENERAL STRUCTURE OF A GOODS VALUE CHAIN
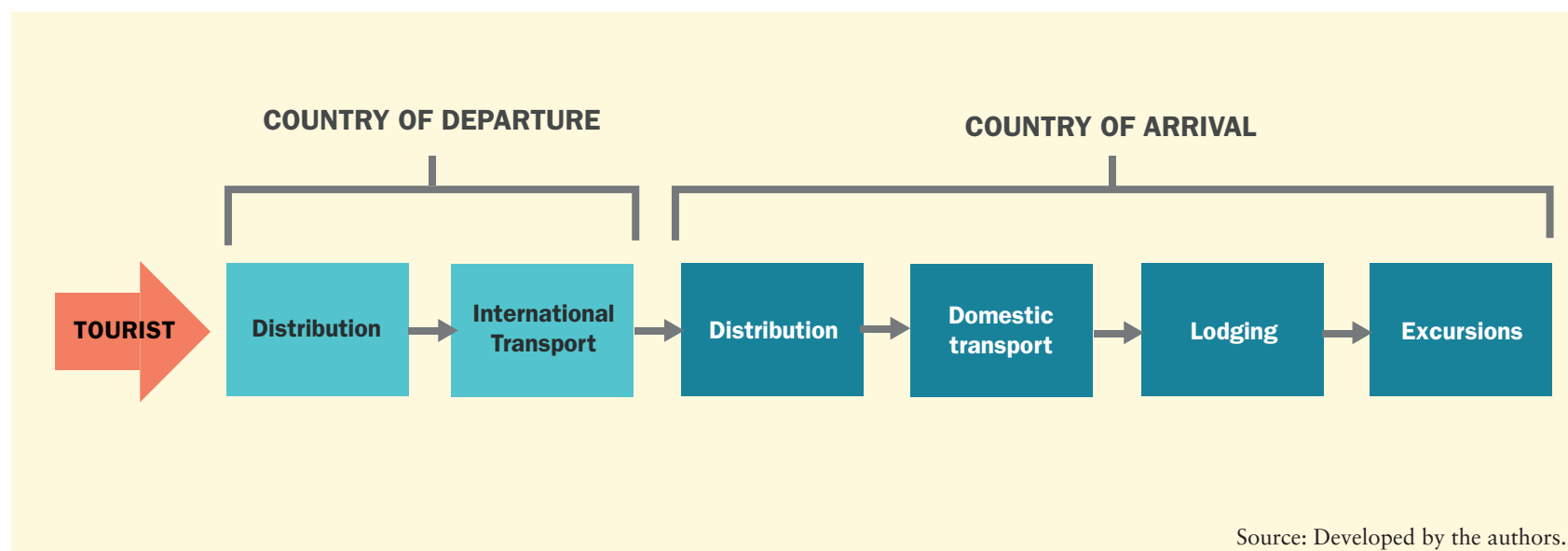

Source: Developed by the authors.
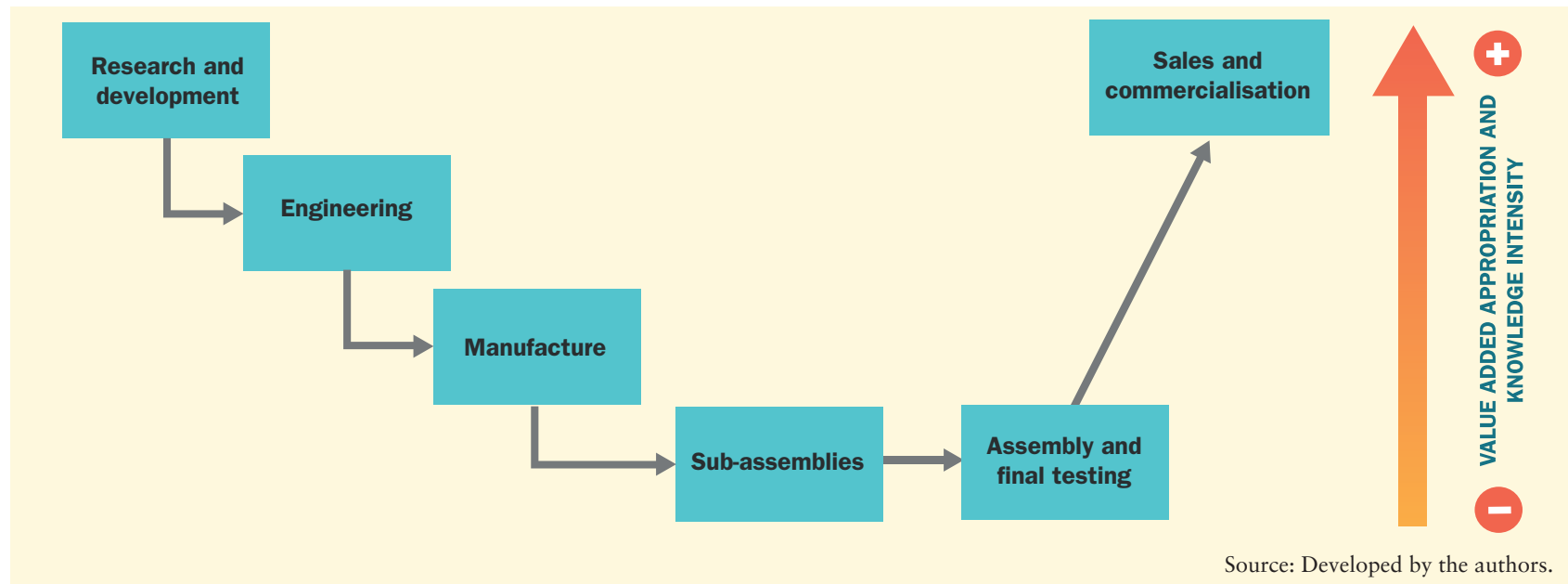
Services value chains

Services value chains are also highly diverse. They begin with envisioning the service to be offered, which on occasion may require R&D, and conclude at the point of consumption. Unlike products, services are intangible. ECLAC has studied tourism value chains and the generalisation of such chains appears in diagram III.2. **The country from which the tourists depart (their country of origin), and others in the country of arrival, destination or reception, are identified in the course of the analysis.** Given that tourism constitutes a living experience, the initial link is the user who desires to visit a new destination and who purchases the travel ticket or package through a travel agency or other type of tour operator (distribution link), or acquires it independently from an online service or some other wholesaler. The next link consists of airlines or other providers of international or domestic transport, in addition to diverse related actors or services such as those used for traveling from the visitor's home to the airport, seaport or other point of departure, as well the currency exchange houses for acquiring the currency of the destination country. Once the tourist arrives at his or her destination, and after having employed all the necessary border services, the traveller engages with a series of links that for the most part contribute to the real tourist experience, providing direct contact with a context different from that of the person's point of origin as well as pleasant experiences. At this point the local links come into play such as domestic air carriers and providers of land or water transport, the various categories of lodging and gastronomic services, cultural or nature excursions offered at the point of destination and the products that once acquired can later serve as a memento of the tourist's experience. Most of these links connect with a particular value chain, which requires inputs and specific services that in turn can serve as sources of employment and earnings opportunities for the local population (Oddone and Alarcón, 2016).

DIAGRAM III.2
TOURISM VALUE CHAIN

Source: Developed by the authors.

Typology of chains

Value chains can be classified on the basis of diverse typologies. The following four types of classifications illustrate their diversity and complexity.[6]

i) **By the number of stakeholders involved.** Each chain is distinguished by the number of stakeholders involved. By way of example, those who participate in the value chains of the automotive industry need to acquire numerous products or intermediate goods, which they obtain through an extended supplier network. In other cases, such as herbs and spices, there may well be many different producers, but all of them supply a similar product; in contrast, there are often very few suppliers in the mineral production chain.

ii) **By the stakeholders that determine its governance.** First, a distinction can be made between value chains dominated by the buyer (buyer-driven chains) and those dominated by the supplier (supplier-driven). Other forms of governance exist such as chains whose governing structures are very poorly coordinated, market based commercial structures, or those that are either intensely coordinated or vertically integrated (Gereffi, 1994).

iii) **By their geographical scope.** A distinction is made between domestic value chains whose products are only marketed in the country in which they were produced, and regional and global value chains that process a product in one country and commercialise it in another.

iv) **By the extent to which the product is transformed.** Some products, such as fresh fruits, require value chains with few stages of production. Conversely, other goods, such as cotton, may pass through many processing phases.

The degree of transformation is also closely related with the level of sophistication of the technology used. In some value chains traditional knowledge suffices (certain types of artisanal production), while in others advanced technologies are employed (the semiconductor industry is a case in point).

Value chain governance

A study of governance in value chains is an unavoidable step for analysing mechanisms, processes and rules through which the companies and producers relate economically between one another, and with the government and other actors. In this sense, it entails the search to understand which factors determine the conduct of the chain's agents on the basis of the types of ties and relationships they establish among one another, as well as the confines of the explicit rules and tactics in which they conduct their business.

When analysing a value chain's governance, it is useful to pose a number of questions. Examples include matters regarding the structure in which the stakeholders are active and which members have the greatest power and influence. How does the system of incentives work? What regulations govern the members of the chain? How much influence is generated by social and cultural traditions related to the forms and types of production, and what impact do they exert on the generation and transfer of new technologies? However, governance is never static. It evolves over time, and that evolution depends not only on changes to the strategies of the companies involved, but also on institutional and technological factors as well as organisational innovations, among other factors (Gereffi, Humphrey and Sturgeon, 2005).

In their analysis, Gereffi, Humphrey and Sturgeon (2005) discerned five types of governance in value chains that are differentiated by three attributes: the complexity of the information and the knowledge needed to sustain a transaction according to the specifications of both the product and the process; the degree to which such information and knowledge can be codified and, in this manner, be efficiently transmitted without need for any spe-

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[6] See ONUDI (2009a and 2009b) for more details.

cific investment on the part of parties to the transaction, and the capabilities of actual and potential suppliers in relation to the transaction requirements. The authors recognised the following types of governance: i) markets, in which companies and individuals buy and sell products without much interaction beyond the actual exchange of goods and services; ii) modular value chains, in which the suppliers manufacture products or provide services based on customer specifications; iii) relational value chains, in which a relatively small group of local enterprises interact and in-tensely share knowledge with the support of the global value chain partners; iv) "captive" value chains in which small-scale suppliers tend to depend on the major buyers, who in turn exercise a high degree of oversight and control, and v) hierarchy, in which they are characterised by their vertical integration, which is to say on the basis of the "transactions" that take place within a single firm and its subsidiaries and which has a dominant type of governance (see box III.1).

Sorting cocoa beans, Sacatepéquez, Guatemala.

Bi-national market, Pedernales, Dominican Republic.

Type of governance	Characteristics	Complexity of transactions	Ability to codify transactions	Capabilities in the supplier base	Degree of explicit coordination and power asymmetries
Markets	Market ties are not necessarily transitory, as tends to be the case in "cash" markets (in which purchases are settled immediately in cash), but rather can be repeated over time through recurring transactions. The fundamental aspect is that the costs of changing toward new partners are low for both parties.	Low	High	High	Low
Modular value chains	Suppliers produce products according to the clients' detailed specifications. However, when they provide turnkey services, the suppliers assume responsibility for the competencies surrounding the technological processes, limit the transactions' investment costs by employing generic machinery, and undertake capital expenditures for components, which are charged to customers.	High	High	High	
Relationship value chains	Networks in which there are complex interactions between sellers and buyers that tend to create mutual dependencies and high levels goods specifications. That complexity is managed through reputation, family ties or ethnic relations.	High	Low	High	
"Captive" value chains	In these networks small suppliers depend on the transactions of large buyers, and the high change costs they must assume makes them captive suppliers. It is possible to distinguish these networks by the high degree of oversight and control the leading companies enjoy.	High	High	Low	
Hierarchies	Type of governance characterised by vertical integration and managerial control exercised by managers over their subordinates or by the parent companies over their subsidiaries or affiliates.	High	Low	Low	High

Source: Prepared by Stezano (2013) on the basis of Gereffi et al. (2005).

Analysis of local products, rural tourism chain, Sacatepéquez, Guatemala.

Artisanal craft production, Sacatepéquez, Guatemala.

Examples of governance analysis

Different types of governance were identified in the value chains analysed by ECLAC. By way of example, intermediaries in the shrimp farming chain play a role of fundamental importance due to their power to impose prices and payment conditions on the producers. Their contribution to the chain is a matter of controversy given that they constitute a link that incorporates limited value added and yet they receive most of the profits. In addition, the tomato and green sweet pepper chain in El Salvador works like a traditional market as production and distribution are fragmented and oriented toward the domestic market in which producers frequently are subsistence farmers and sell fresh produce. There are minimal entry barriers and both biosecurity and quality criteria are low, which means chain governance is not dominated by any one actor or any group of stakeholders. The design of chain strengthening strategies incorporates this analysis.

Value chains, and economic and social upgrading

In this toolkit, strengthening is understood as the chain's transformation through overcoming the bottlenecks encountered in such a way as to provide a greater contribution to economic and social development in the territory in which it operates. This transformation may take the form of better articulation of chain stakeholders, the incorporation of new productive and support actors, and the economic and social upgrading of links and the chain as a whole.

Economic upgrading, in turn, is understood as the transition toward more technologically complex activities, improvements to the products or services offered by the chain, or the more efficient manufacture of goods or procurement of services (Pietrobelli and Rabellotti, 2006). Economic upgrading may lead to social upgrading in the chain, which translates into a process of greater rights and benefits for workers and higher quality jobs, as well as an enhancement of the chain's immediate environment (Barrientos et al., 2013; Salido and Belhouse, 2016). Social upgrading is

linked to social cohesion in a given territory, understood as the capacity to raise the wellbeing of all members of a society based on the creation of a shared sense of belonging on the basis of rights and active participation in promoting mutual trust, providing opportunities and sustaining upward mobility, as well as confronting inequality and exclusion. Inclusion mechanisms extend to employment, the educational system, and the creation of new rights and guarantees for reinforcing equality, wellbeing and social protection (ECLAC, 2007).

There exist four different forms of economic upgrading (Humphrey and Schmitz, 2002; Gereffi et al., 2005):

a) Product upgrading, which corresponds to the development and commercialisation of a product with improved characteristics or a new product. The final product (or service) offered by the chain contains technological or aesthetic characteristics that afford it greater competitive advantages in domestic or international markets.

b) Process upgrading, which results from the introduction of new technologies that offer more efficient techniques for producing or distributing the chain's products (or services). The acquisition of machinery and equipment, the introduction of advanced production techniques (for example, Six Sigma or lean manufacturing), or the use of culting-edge information and communication technologies all tend to lead to process upgrading.

c) Functional upgrading, brought about by the movement of chain actors toward links boasting greater value added or technological complexity. One example is the increasing and gradual participation of companies in charge of the manufacturing link in design activities.

d) Value chain upgrading, which consists of movement toward new productive activities or value chains by making use of previously acquired knowledge and skills. For instance, knowledge

Cheese production, Dominican Republic.

Milking cows, Dominican Republic.

and skills obtained in the electronic sector can be employed to participate in the aeronautic sector.

Each form of economic upgrading is related to changes in the use of capital and human resources. The former refers to the renovation of equipment and machinery, the latter to the development of skills and expertise among workers at all levels (Barrientos et al., 2013). The use of new technological know-how incorporated into capital goods, and the development of skills and personnel training must be stressed in both cases.

Social upgrading is manifest in a) access to more beneficial working conditions, social protection and rights, and b) positive advances in the chain's social and environmental setting. The first aspect is linked to wage levels, the type of employment (whether formal or informal, full or part time), access to social protection, the length of the workday and, in general, respect for human rights. It is also related to the right of workers to collective organisation (Barrientos et al., 2013; Salido and Belhouse, 2016). The second translates into improvements in the chain's immediate environment in terms of infrastructure, access to basic services, quality education, and environmental protection, among other effects. As a result, social upgrading offers the opportunity to narrow wellbeing gaps between individuals and members of groups, as well as to improve the mechanisms for integrating individuals and groups into the social dynamic, their sense of adhesion and belonging to society; in short, it leads to greater social cohesion (see box III.2).

It is important to emphasize that despite the existence of a direct relationship between economic and social upgrading, the latter does not always materialize. Improvements to products and processes, for example, are reflected in enhanced efficiency and profits in the chain. Conversely, their transfer to all the links and all the participants in each link depends on diverse factors, such as chain governance, employment structure and the level of competition, among others.

BOX III.2
ECONOMIC AND SOCIAL UPGRADING IN VALUE CHAINS

Economic upgrading	Social upgrading
• Better or new processes • Better or new products • More complex functions within the chain • Participation in new activities or chains	• Better working conditions, social protection and rights • Improved social and environmental conditions surrounding the chain • Stronger social cohesion

Source: Developed by the authors.

KEY CONCEPTS

Value chain. A value chain comprises the entire variety of activities required for a product or service to move through the various stages of production, from their conception through to delivery to consumers and final disposal once the product has been used (Kaplinsky and Morris, 2002).

Economic upgrading. Process or transition toward activities of greater technological complexity, which implies an enhancement of the products or services offered by the chain, or a more efficient approach to manufacturing of goods or supplying services (Pietrobelli and Rabellotti, 2006).

Social upgrading. Processes for improving workers' rights and benefits by enhancing the quality conditions of their employment and immediate surroundings (Barrientos et al., 2013).

Link. Each stage in the chain such as conception and design, production of the good or service, the transport of the good, its consumption and handling, and final recycling.

Value chain governance. The determinants of chain-stakeholder conduct in keeping with various types of explicit relations as well as the tacit and explicit rules that govern relations between them. More concretely, value chain governance influences aspects such as the structure in which the agents act, which members exert the greatest power and influence, the system of incentives, the regulations that are applied to the members of the chain, the traditions relative to the forms of production, and the impact of technology transfer (Padilla Pérez, 2014).

CHAPTER IV
ECLAC'S METHODOLOGY FOR STRENGTHENING VALUE CHAINS

This value chain strengthening methodology consists of nine steps. In this chapter each step is depicted in broad strokes; in the following chapters they are described in greater detail.

The steps of the methodology[7]

The methodology's nine steps are illustrated in diagram IV.1.

1. **The first step is the definition of meta-objectives.** These are understood as the ultimate objectives in terms of social and economic development, which are pursued through chain strengthening. The meta-objectives should be aligned with the national development plan and related public policies such as those of industry, science, technology and innovation. Examples of meta-objectives include expanding employment and real wages, driving export growth, encouraging increased participation by micro, small and medium-sized enterprises (MSMEs) and contributing to an expansion of domestic output.

2. **The second step is chain selection.** In this phase a decision is made as to which chains will be prioritised for the support of both the public and private sectors. The selection criteria

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[7]   The methodology ECLAC initially published in 2014 (see Oddone, Padilla Pérez and Antunes, 2014) consisted of six steps in which the dialogue tables were viewed horizontally without any predetermined position in the process. Recent experience has led to specifically positioning the dialogue tables after the diagnostic and the elaboration of strategies. Moreover, ECLAC has been working toward providing technical assistance for implementation as its resources and mandate permit.

DIAGRAM IV.1
METHODOLOGY FOR STRENGTHENING VALUE CHAINS
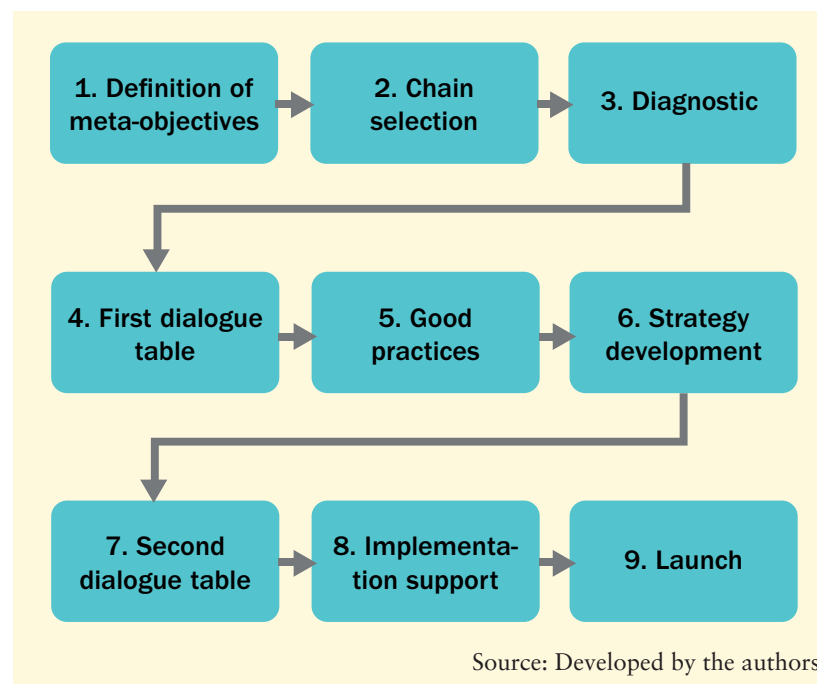
Source: Developed by the authors.

must be congruent with the meta-objectives: the potential of the chain to help alleviate poverty, and to contribute to national or regional growth, job creation, export growth, the incorporation of leading edge technologies and the insertion of MSMEs, among others. Also susceptible to inclusion are other criteria linked to strategic priority policies such as the development of less favoured regions and the mitigation of regional asymmetries.

The methodology for defining meta-objectives and selecting chains is flexible and depends on a number of factors: the role government and the private sector assume in the process; the framework in which the process develops (execution of cooperation funds or international loans, joint initiatives by both the public and private sectors or the implementation of public development programmes); the chain's actual level of development, and the intensity of relations between the government and enterprises, among others. Even so, the selection should be made in the context of development strategy (vertical and horizontal alignment). In the interest of transparency, it is best that the decision be made explicitly and openly, so it is both apt and propitious to have an objective and systematic mechanism for making such a strategic selection.

Value chain selection is guided by quantitative and qualitative criteria. In the case of the former, it is advisable to build a matrix that estimates the potential and effective contribution each chain makes to the identified meta-objectives of employment, exports, value added and the incorporation of MSMEs, among other considerations. These include input-output exercises using matrixes for estimating the productive linkages of each chain. Qualitative criteria include interest in developing specific territories or sectors as well as attention to vulnerable groups.

3. **The third step is to elaborate the diagnostic.** This exercise is aimed at arriving at a detailed identification of bottlenecks and opportunities within each link of the chain, as well as their actual and potential linkages. It begins with mapping the chain, and identifying and delineating the main links and their functions. Then a study is made of six major areas: the chain's national and international context, economic performance (employment, trade, costs and margins, among others), market analysis (competitors, customers, standards and certifications, among others), chain governance, support organisations and environment. Lastly, bottlenecks at the level of each link and the chain as a whole (systemic) are identified.

4. **The first dialogue table is organised at the conclusion of the diagnostic for the purpose of discussing and validating it.** It is a space in which to reaffirm interest in assuring the participation of the chain's main actors and support organisations, which for the most part had already been interviewed when the diagnostic was conducted. This dialogue table should last no longer than three hours in order to facilitate the immediate and on-going participation of key people in the chain. Follow-

Processing yucca, Costa Rica.

Dried fruit based nutritional snacks, El Salvador.

ing a brief presentation of the diagnostic, the participants are given the opportunity to enrich the analysis and guarantee that the bottlenecks and opportunities that have been identified are relevant ones and that no others were left out.

5. **The fifth step is to analyse international good practices.** These provide a reference point for determining the distance separating the value chain under study from similar chains in other countries, as well as the lessons needed for strategy elaboration.

6. **The sixth step is the development of strategies for overcoming bottlenecks and taking advantage of opportunities identified in the diagnostic.** It is a matter of designing specific strategies at the micro level that ideally should make it possible to project timelines, resources, and the people to be in charge. It is not enough to propose strengthening specialised human resources;

it is also important to identify the areas of training required, which organisations are capable of imparting the programme's contents, the necessary resources, and time constraints.

7. **The second dialogue table is held for the purpose of discussing strategies.** As in the case of the first dialogue table, it is designed to enrich the process as well as to try to motivate each actor to commit to the actions he or she will be responsible for implementing as part of chain development. A key element that needs to be developed is a strategy-prioritisation exercise in which dialogue table participants jointly decide on the immediate actions to be implemented.

8. **The eighth step corresponds to implementation support.** The prioritisation of strategies agreed upon in the second dialogue table generates a brief list of actions to be implemented in the short term. Drawing on the resources available and the mandate received as a technical assistance organisation, ECLAC was able to progress toward implementation through very specific activities such as training representatives of selected links of the chain, elaborating market analysis or preparing feasibility studies. The task of implementing all the strategies is a long-term one that tends to demand significant financial resources. It is crucial to capitalise on the positive sense of cooperation and eagerness to get involved in the work that tend to accompany this second dialogue table, and provide the impulse to initiate activity execution.

9. **The last step is the launch of the chain-strengthening strategy.** This is a participatory and media event to which representatives of the chain's links are invited and at which established commitments are made public. Dissemination of this event promotes public-private consensus between actors and institutions, and serves as a demonstration of effectiveness to other chains that might like to undertake a similar process.

The process' nine steps tend to develop over a period of eight to nine months, baring any significant delays related to a deficit of information, or weak public or private sector commitments.

Strengths, weaknesses and risks of the methodology

There are three main strengths to ECLAC's approach to the technical assistance process:

a) First, the bottlenecks the value chain faces are identified, and the participatory strategies for overcoming them on the basis of international good practices are defined. This is a targeted and focused exercise that offers quick results expressed in terms of public policy design and the formation of public and private commitments.

b) Second, transparency is encouraged by means of a participatory decision making process. The organisation of dialogue tables provides an opportunity to validate the results obtained in the diagnostic and the proposed strategies, and favours the building of points of agreement.

c) Third, knowledge is transferred and the capabilities of public officials to replicate the process are built. All the stages of the process are developed jointly with local government officials in order to significantly enrich it and make possible the transfer of the methodology aiming to replicate it in other chains without ECLAC's assistance.

The experience of applying the methodology has revealed weaknesses and risks. One point of concern expressed by public policy makers is that a chain generally has limited weight in aggregated economic activity. As a result, chain strengthening has a limited impact on the general economy. Nevertheless, this limitation should not discourage the methodology's use; on the contrary, it is an invitation to replicate it in various chains so as to achieve a notable effect in the aggregate.

As already indicated, the extent of public sector support for and involvement in the process is a key factor in the methodology's success. Its active participation in each stage enriches the available information and analysis, and increases the possibilities for a successful implementation. In contrast, a weak public sector commitment with the process is an obstacle to achieving progress, adversely affecting the mood of private actors and putting at risk the strengthening process.

Hence, the commitment the private sector assumes becomes crucial. One of the methodology's special strengths is the building of agreements within the private sector, and between both private and public sectors. A significant risk of failure is posed when agents that form part of the chain fail to get involved in or commit to the process.

The diagnostic and strategy design may or may not be accompanied by financial resources for promoting the implementation process. In ECLAC's experience, the strengthening of chains has

Transporting milk, Dominican Republic.

taken place in the framework of international loans that assured financial resource availability. In other cases, governments have committed public funds. A lack of short- and -medium term funding for the initial stages of strategy implementation poses the risk of losing the motivation and commitment already generated between public and private actors.

Lastly, if the dialogue spaces are not properly managed and expectations are unclear from the beginning of the process, dialogue tables and general technical assistance may be reduced to nothing more than a space for venting discontent, thereby precluding the possibility of building agreements (see box IV.1).

<div align="center">

BOX IV.1
BENEFITS, WEAKNESSES AND RISKS OF THE VALUE CHAIN STRENGTHENING METHODOLOGY

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Benefits	Weaknesses and risks
• Facilitates the implementation of development plans and industrial policies. • Micro-level approach that makes possible the identification of bottlenecks and the design targeted strategies. • Encourages the creation of agreements between the public and private sectors, but also within both camps. • Participatory decision making that leads to a framework of transparency and information sharing. • Public sector transfer and appropriation of the methodology.	• A single chain generally exerts little weight in overall economic activity. • Lack of public sector commitment. • Lack of private sector commitment. • Reduced to a space for venting complaints and conflicting opinions. • Limited or non-existent financial resources for implementation.

Source: Developed by the authors.

Distinctive features of the ECLAC methodology

The value-chain approach is not new. Its incorporation into the discussion of productive development dates back at least to the beginning of the decade of the 1980s. **The ECLAC methodology is distinguished by the combination of its systemic and participatory character.**

Analysis of the main links and their relationships is complemented by the study of key public and private actors that support, regulate and interact with the chain; herein resides its systemic character. In this sense, the methodology adopts elements of the innovation system focus (Freeman, 1987; Lundvall, 1992; Edquist, 1997), which considers the importance of the institutions and organisations in the operation of firms, especially with regard

to innovation. The actors can be classified into five categories (see diagram IV.1):

i) The public sector. It regulates and supports the chain's activities. Diverse bodies that regulate and certify the chain's activities may be involved (for example, those dealing with health, environment and trade), as well as those that provide support such as Ministries of Economy and public bodies for the support of science, technology and innovation, and both small and medium-sized enterprises.

ii) Universities and technical schools. These organisations' departments or schools that are directly related to the chain assume special importance either as intermediaries for the education

and training of specialised professionals or as extension programmes (technical assistance, specially tailored courses, rental of laboratories, etc.).

iii) Research centres. As in the case of universities and technical colleges, it is necessary to identify the department directly related with the chain. These centres also conduct training and extension efforts.

iv) Suppliers of professional and specialised services. Such services are playing an increasing role in the chains of primary and manufactured goods and are being supplied primarily by private bodies. They cover a broad spectrum of services including logistics, equipment and machinery rentals, certifications, testing and commercialisation as indicated in diagram IV.2. The increasing global segmentation of production and the fast pace of technological change demand new capabilities and a growing degree of specialisation for successfully participating in local and global value chains. Professional and specialised services are crucial for strengthening the competitiveness of the chains of primary and manufactured goods, both on the level of production and commercialisation (López et al., 2009; Rentzhog, 2010; OECD, 2013). Diagram IV.2 illustrates the extensive supply of services that are available to goods value chains and their specific links.

v) Business associations. These support the development of value chains through a range of activities such as political rep-

DIAGRAM IV.1
A SYSTEMATIC APPROACH TO VALUE CHAINS

Source: Developed by the authors.
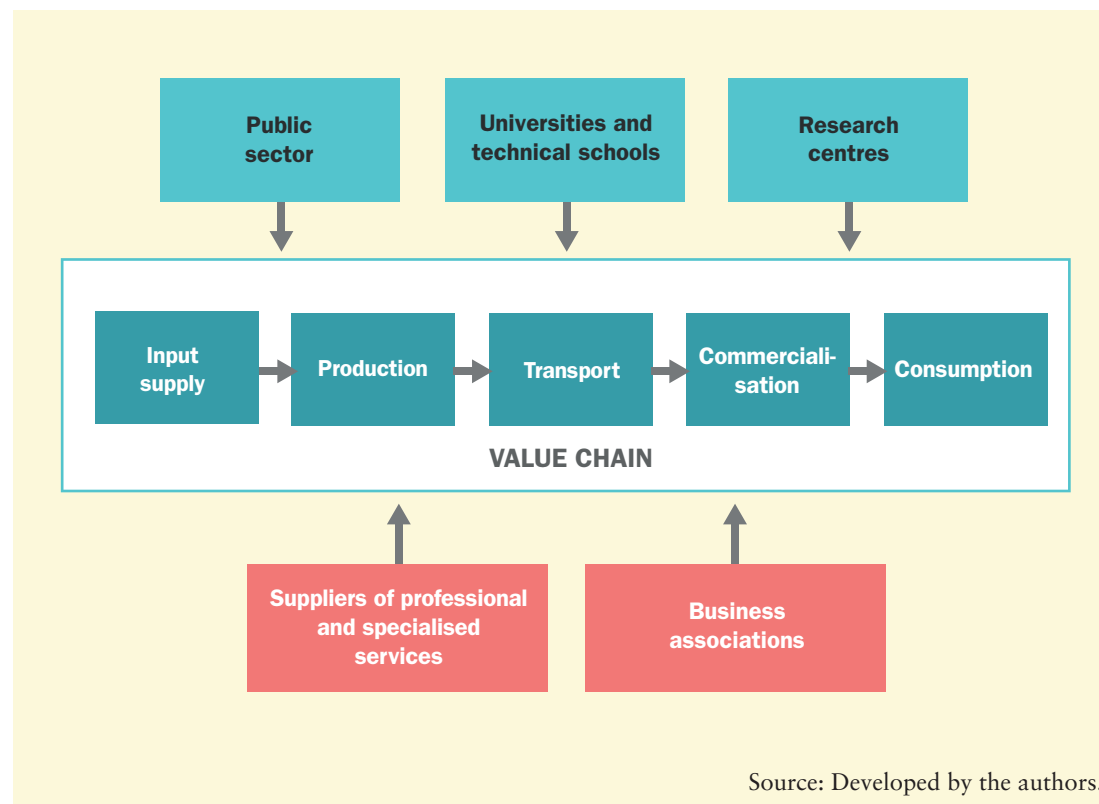
resentation, facilitation of associativity and the procurement of technical assistance services.

A second distinctive feature of the ECLAC methodology is its **participatory character,** which is most evident on two dimensions. On the one hand, the chain's stakeholders (with a systemic focus), are involved in the elaboration of the diagnostic (focus groups, interviews), as well as its validation and that of the strategies, something that is achieved through the dialogue tables. This allows for a greater commitment to the entire process, transparency in

decision making, and reaching agreements for strengthening the chain. On the other hand, the entire process is jointly developed with public officials in an effort to assure the actors' empowerment and appropriation of the methodology.

Crosscutting elements in the methodology: gender and the environment

The value chain methodology offers the opportunity to incorporate analysis and generate innovative strategies for two fundamental aspects of the international cooperation agenda for development: women's empowerment for reducing inequality and caring for the environment. For that reason, over the course of studies conducted using the ECLAC methodology, the technical teams have emphasised aspects of gender and environmental issues as major variables in developing a modern industrial policy.
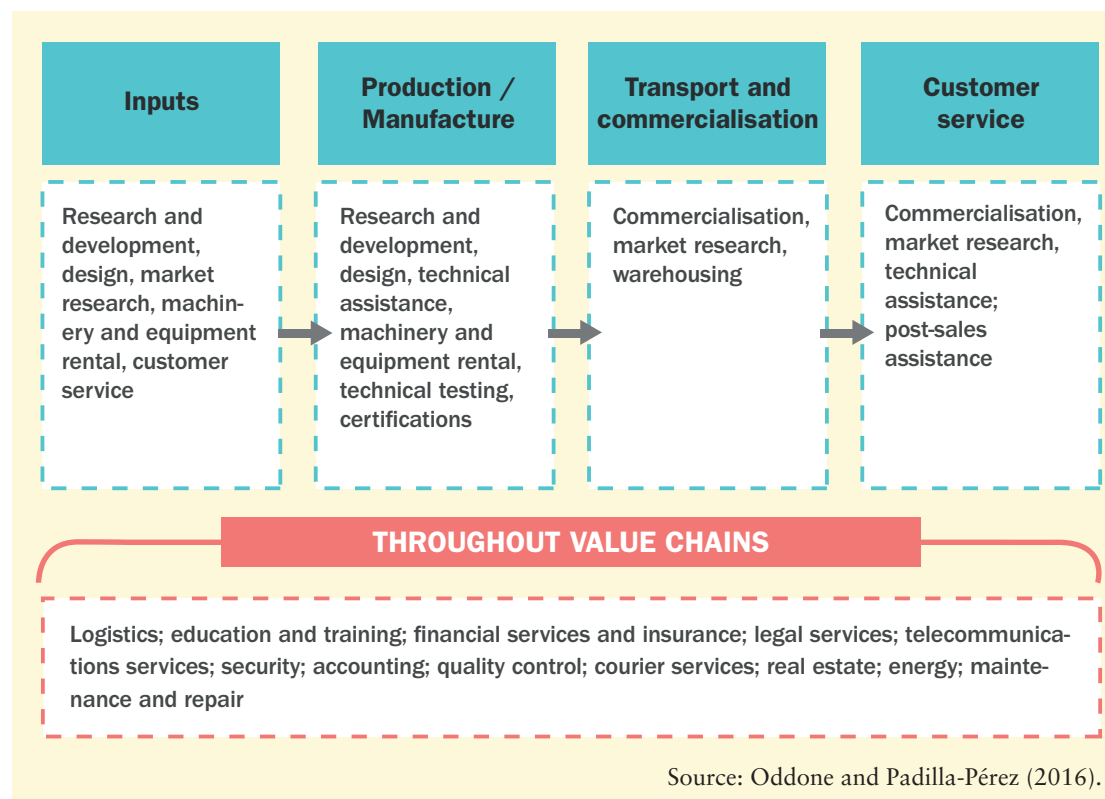
Gender

The study of value chains incorporates the gender perspective in a crosscutting manner. Gender inequality translates into a loss of employment or business opportunities. Overcoming such inequality provides the added benefits of lowering poverty and fostering both individual and social growth. Depending on the chain studied, it must be recognised that while the work women do is of fundamental importance, it tends to be overlooked which is to say it is invisible. This situation is especially evident in some rural chains in which the land in question is registered in the name of the man. Its presence is also felt as women are assigned "complementary" activities in ways that make their contribution appear to be just an extension

DIAGRAM IV.2
SUPPLY OF PROFESSIONAL AND SPECIALISED SERVICES

Inputs	Production / Manufacture	Transport and commercialisation	Customer service
Research and development, design, market research, machinery and equipment rental, customer service	Research and development, design, technical assistance, machinery and equipment rental, technical testing, certifications	Commercialisation, market research, warehousing	Commercialisation, market research, technical assistance; post-sales assistance

THROUGHOUT VALUE CHAINS

Logistics; education and training; financial services and insurance; legal services; telecommunications services; security; accounting; quality control; courier services; real estate; energy; maintenance and repair

Source: Oddone and Padilla-Pérez (2016).

of their domestic chores when, in fact, they play a key production role. There is also a tendency to pay less for women's work or even to provide no economic compensation whatsoever for their labour.

ECLAC has posed the need for a compact for equality as a way to further strengthen sustainable development, raise wellbeing and lower inequality while linking structural transformation with advances in the labour sphere (ECLAC, 2014). From this perspective, efforts are made to reduce gaps in productivity, income and the quality of employment while achieving a balance between

remunerated and non-remunerated work in terms of the amount of time employed, gender distribution and access to social assistance, something that demands the strengthening of labour market institutions (ECLAC, 2014; ECLAC, 2014a).

The combination of gender and specialisation has the potential to strengthen a value chain. This type of linkage reflects the need to analyse two questions: a) the chain's productive and complementary activities, and b) the governance that characterises it (see diagram IV.3). In synthesis, it is a matter of understanding who does what in the productive process and who determines how these activities are to be conducted on the basis of power relations and information availability (Agriprofocus, 2014). This allows for a greater degree of women's employment underpinned by a scheme of vertical integration (activities undertaken by women), and horizontal integration (decisions women take in terms of governance). Box IV. 2 summarises the strategic gender questions.

Bi-national market, Dominican Republic.

From a commercial perspective, value and price aggregation using a gender policy approach to expand markets and sales constitutes another strategy to be promoted using pro-women labels and stickers. This is a way to achieve a greater appreciation of the characteristics inherent to the productive process and, indirectly, the diversification of the position of women in different links. As an incentive to the enterprises, it is worth noting that 80% of the time it is women who make the consumption decisions worldwide. From the perspective of the firms, there is a business case for gender equality that strengthens consumption.

It is useful to analyse the mechanisms that stimulate women's entrepreneurship and the professionalisation of women's employment (horizontal integration) in each value chain, and ways to promote access to financing, a factor closely associated with the development of new capabilities. The creation of women's capabilities is an essential step for bringing about change in value chains as such a process of reconfiguration clears the way to overcome bottlenecks, and design strategies that also contribute to their upgrading. Access to financing constitutes a key stimulus for women's productive organisation and empowerment (within a single link or in the ties binding multiple links), in order that

they collectively achieve solvency and efficiency in making credit payments, which is difficult to achieve on an individual basis.
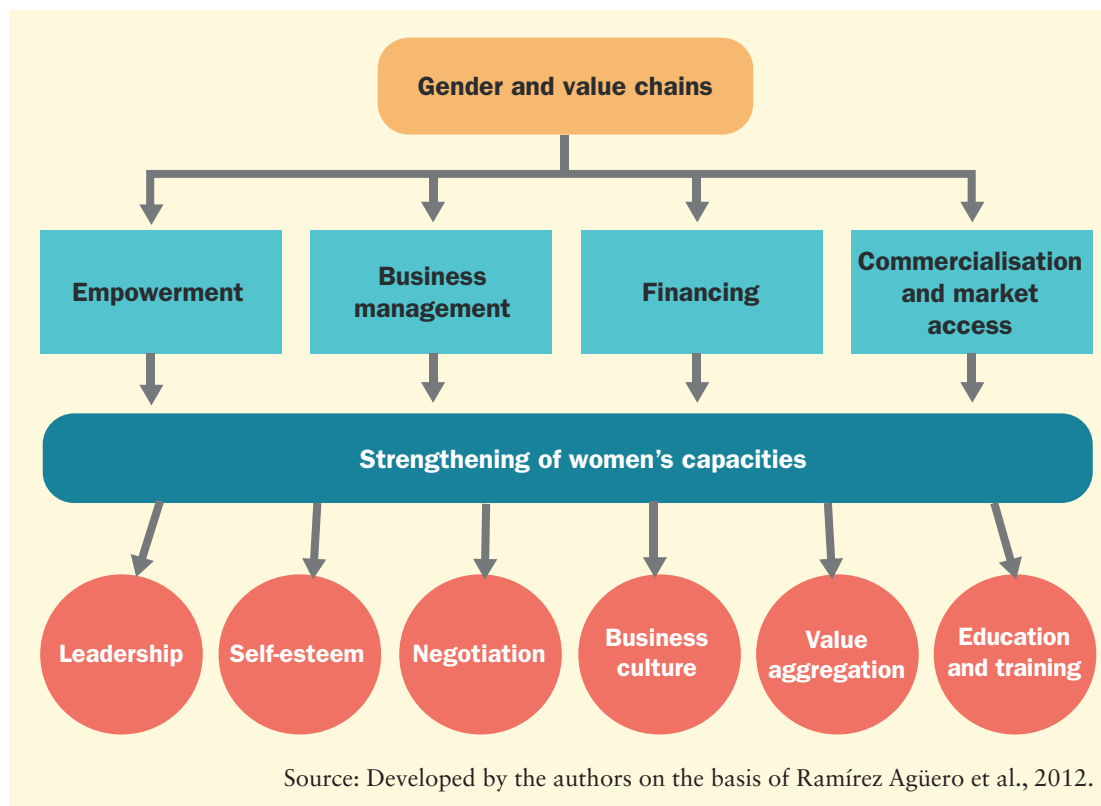
At the macro level, governments are in charge of putting into practice measures that boost economic and social equality between men and women. At the meso level, the organisations should operate internally to produce more inclusive and diverse leaderships. At the micro level, women enjoy opportunities to overcome potential cultural or personal barriers that limit their career advancement prospects. In that same direction, it is important they have access to education and training on "tough" topics that are falsely regarded to be the exclusive purview of men.

Lastly, the dilemma of achieving economies of scale at the level of women's entrepreneurship requires the promotion of value chain integration strategies (Ramírez Agüero et al, 2012). It also demands the strengthening of women's participation and leadership in SMEs, and incentivising women assuming leadership over large companies, based on their economic and relational capital as an effective strategy for decision making in governance processes.

Environment

Climate change and environmental sustainability concerns have recently influenced discussions regarding value chains and business development. In fact, as will be shown later in this toolkit, the environment is a central point of analysis in the diagnostic. The challenge probably resides in understanding that sustainability must be an integral part of the value chain as a whole, which is to say each link of the chain is responsible both for its own sus-

tainability and that of the rest of the chain. Sustainability measures in the production link must be complemented with actions in the procurement of inputs and commercialisation. This interpretation of sustainability demands entering into inter-institutional, inter-business and inter-link agreements and controls for protecting the environment, including agreements with the consumer, who should be looking to make responsible purchases. Firm level environmental responsibility must extend throughout the value chain if the entire business universe, as well as the public and private support institutions with ties to the chain, are to become involved.

DIAGRAM IV.3
GENDER AND VALUE CHAINS

Source: Developed by the authors on the basis of Ramírez Agüero et al., 2012.

The lack of incentives for adopting sustainable strategies[8] poses the challenge of generating public policies that stimulate the creation and consolidation of value chains in which there is a shared commitment toward environmental sustainability employing elements such as: a) environmental efficiency based on a well managed use of water and energy; b) harmonisation and compliance with both domestic and international environmental regulations; c) preferential access to markets of responsible consumers such as, for example, buyers of organic products; d) the creation of "green jobs" across the breadth and length of the value chain, as well as in local food systems and in organic production (IFAD, 2012), and e) certifications and both national and international seals that testify to the application of good sustainable practices throughout the length of the chain.

Confronting climate-change related challenges –for instance, the degradation and contamination of soil and groundwater systems resulting from improper agricultural or industrial practices– obliges us to rethink the institutional frameworks of development and the generation of shared risk systems at the chain level for disaster prevention and contingency measures. When it comes to agriculture, sustainable practices require a more effective and efficient use of external inputs, accompanied by the consolidation of value chains marked by improved management skills. It is also necessary to facilitate the exchange of knowledge necessary to foster productivity and competitiveness over the long-term in the actors that form the links, including logistics and commercialisation firms.

Climate change adaptation policies constitute an increasingly important factor in the design of policies to support productive transformation by means of value chains. Although mitigation policies must be a part of existing production facilities, innovative adaptation policies and mechanisms that include financing possibilities or other incentives can prove very attractive for the establishment

of enterprises and for the articulation of value chains. In this sense, a line of analysis that ECLAC seeks to further develop involves the ways in which climate change is affecting value chains and business performance; for example, coffee rust in the coffee chains in Mexico and Central America[9] or drought in the dairy product chains of Caribbean and South America countries. From this perspective, it is useful to understand how the methodology can contribute innovative strategies validated by the chain's stakeholders that would tend to mitigate climate change impact. Box IV.3 summarises strategic environmental questions of the diagnostic.

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[9] For instance, between 2013 and 2014, Guatemala and Mexico suffered coffee crop losses to yellow rust of 12% and l4%, respectively. In Peru and Bolivia, the losses totalled 21% and 29%, in that same order.

Beach scene, Pedernales, Dominican Republic.

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[8] Producers generally are inclined to adopt sustainable production systems only when the income derived from such activities proves to be sufficiently attractive (Ruben, 2001).

Outcomes of the value-chain strengthening process

The main outcomes of the process can be summarised in four categories:

1) DESIGN OF PARTICIPATORY STRATEGIES FOR CHAIN STRENGTHENING. Strategy design is based on a diagnostic of the value chain's situation (with a focus on bottlenecks), and in the identification of international good practices. With those concerns in mind, a document is prepared containing three main sections: diagnostic, good practices and strategies. These components are validated by the public bodies acting as counterparts, as well as by members of the chains through the dialogue tables and direct observations regarding the documents. National governments take charge of implementing the strategies, using either their own funds or additional assistance from international financial agencies.

For example, El Salvador provided 300,000 dollars in financing through its Productive Development Fund (FONDEPRO) to the cooperatives of the Salvadoran Shrimp Farmers Association for purposes of establishing the collection and processing centres that were proposed in the strategies. In a similar case, an international request for bids was issued for the establishment of a textile innovation centre, designed to improve the competitiveness of the synthetic fibre-sports apparel chain. In Guatemala, the Ministry of Economy supported implementation of strengthening strategies for the vegetable export chain under International Bank for Reconstruction and Development (IBRD) Loan Contract number 8000-GT. The strategies also identify responsibilities among the private sector actors that constitute the different links of the chain, by proposing concrete actions in matters of capabilities creation and business associativity. In this way, the nutritional snacks chain in El Salvador established the Association of Dried Fruit Producers of El Salvador (ADEFRUDELSAL), following the second dialogue table and as a central recommendation of the process.

2) APPROPRIATION AND METHODOLOGICAL REPLICABILITIES. Public bodies in the subregion have adopted the ECLAC methodology. El Salvador's Ministry of Economy officially incorporated the methodology into its Operational Productive Transformation Plan 2014-2019. The Roundtable on the Development of Productive Chains of Mexico's Business Coordinating Council for Economic Growth did the same, in light of the experience developed with the chain of pork sausages and other cured pork products[10]. As already

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[10]   The products of this chain are referred to in this toolkit as sausages and other cured pork products because it more precisely describes the products involved, however, under the North American Industrial Classification System (NAICS) they would be listed as "(pork) rendering and meat by-product processing" under code 311613.

indicated, ECLAC's accompaniment strategy includes knowledge transfer and capability creation among public officials.

Following the first two study experiences in Guatemala with the export chains of non traditional vegetables and fine woods from forest concessions in Petén, the Guatemalan government decided to work on eight other agricultural chains following this same methodology[11] with no further technical assistance from ECLAC. It also committed itself to apply the method to other tourism chains after seeing the outcomes obtained with the tourism chain of Antigua and that of the rural municipalities of the Department of Sacatepéquez. It is also important to note the significant number of efforts made to use workshops and conferences to disseminate the methodology in the various university and academic circles in the region. El Salvador's Ministry of Tourism used its own resources to publish the book *Cadenas de Valor Turísticas en el departamento de La Libertad* (Tourism Value Chains in the Department of La Libertad) in order to disseminate the ECLAC methodology as well as the specific case analysed in La Libertad so that this experience could be replicated in other departments of the country.

3) IMPROVE PUBLIC-PRIVATE AND PRIVATE-PUBLIC DIALOGUE. The methodology is focused on enriching public-private dialogue as a key element in the development of an industrial policy. When the public and private sectors work together, they can enhance their ability to unlock the bottlenecks that act as an obstacle to economic and social upgrading (ECLAC, 2008). Through such collaborations the public and private sectors can define and implement a productive development agenda in which private sector actors participate as advisors in the design, execution, monitoring and evaluation of public policies and programmes, legislation, regulations and technical specifications related to productive development (ECLAC, 2008). The methodology also stimulates dialogue between

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[11]   These chains were cardamom, potato, dairy, sesame, cacao, papaya, avocado and mango.

Local flower market, Sacatepéquez, Guatemala.

the public organisations that regulate and support the chain. A detailed understanding of the activities each organisation is engaged in, as well as the challenges they face, is obtained through both the diagnostic and the dialogue tables. The processes make it possible to promote the creation of specific public commissions for attending to chain bottlenecks. Lastly, collaboration between the diverse links of the chain and within each link is also promoted. What follows is a list of some of the outcomes obtained:

- *Densification of business linkages*, something especially observable in the shrimp farming and nutritional snack chain in El Salvador, where it proved possible to strengthen intra-link associativity. For example, as part of this latter chain the Association of Dried Fruit Producers of El Salvador (ADEFRU-DELSAL) was established.

- *Greater coordination of public action,* as suggested by the reactivation of the Aquaculture Technical Roundtable in El

Salvador in the shrimp farming chain, as well as the establishment of the National Vegetable Roundtable, which resulted from a proposal that arose out of the strategies for strengthening the tomato and green sweet pepper chain in that same country.

- *Evolving the proposed forms of dialogue.* The dialogue tables were initially set up under a consultation type arrangement, which is to say they were convened *ad hoc* at specific points in the accompaniment process as a way to validate the information collected and the recommendations. However, it was observed that once the validation processes were completed, there was continuity in the dialogue tables and the working groups, something that has favoured an evolution of the dialogue and the work agenda under a cooperative type arrangement.[12]

4) IDENTIFICATION OF FUTURE LINES OF WORK. The study of value chains has opened up new lines of research, especially with regard to public policies in light of identified bottlenecks and the outcomes obtained. The most notable of these are:

- *Upgrading by means of services.* Professional and specialised services play an important part in promoting technological modernisation and expanding national value added in the value chains of goods and services through technical assistance, certifications, research and development, and logistics, among others. Professional and support services are not only significant to increasing the domestic value-added of the agro-industrial value chains, they are also crucial to increasing value-added capture by the core links of the value chain (Oddone and Padilla, 2014).

- *Self supply of electric energy.* The diagnostic study of the syn-

thetic fibre-sports apparel chain in El Salvador led to recognising that steep energy costs constitute a major restriction for some links. As a result, a "Strategy for the self-supply of electric energy by companies in the synthetic fibre sports apparel chain in El Salvador" was drafted with the support of the Textile Chamber of El Salvador and the Ministry of Economy (Alvarado, 2015).

- *The cross study of chains in the subregion* also detected future lines of work. An analysis was conducted of the role intermediaries play in value chains, in order to design mechanisms that would reduce the control they exert over the chain, as well as the resulting appropriation of value added, so producers could obtain greater earnings.

- *The analysis of cross-border value chains* also constitutes a line of research for stimulating inclusive growth and productive transformation, by means of regional integration processes.

Tourism chain dialogue table, La Libertad, El Salvador.

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[12] Chapter 6 of this toolkit provides a detailed description of the dialogue tables.

KEY CONCEPTS

Methodological appropriation. Partners or value chain stakeholders acquire and incorporate the contents and the steps of the methodology.

Systemic character. The analysis of the main links and their relations is complemented with the study of the most significant public and private actors that support, regulate and interact with the chain.

Public-private dialogue. Formal and informal ties between the public and private sectors that are of fundamental importance for the design and implementation of participatory strategies.

Public-public dialogue. Intergovernmental ties directed at reinforcing coordination and the development of a joint strategy for attending to the chain in an effort to reduce institutional gaps, as well as overlapping competencies and activities.

Methodology for value chain strengthening. It consists of nine steps: definition of meta-objectives, chain selection, diagnostic, first dialogue table, identification of good practices, strategy development, second dialogue table, implementation support and launch.

Methodological replicability. The partners or value chain stakeholders use the methodology's contents and steps in the process of strengthening other value chains.

CHAPTER V
DEFINITION OF META-OBJECTIVES AND CHAIN SELECTION

> *Chain selection is achieved through meta-objectives, which are the ultimate aim of economic and social upgrading.*

Definition of meta-objectives

Value chain strengthening is a tool for fulfilling the objectives of medium and long-term development. In the ECLAC methodology, "meta-objectives" refer to the ultimate objective sought in these social and economic development processes. The "meta" prefix distinguishes the particular objectives that arise in the course of working with the chains. They are expected to be aligned with the national development plan or with relevant public policies such as industrial or science, technology and innovation plans, among others.

The definition of meta-objectives tends to be formulated during a meeting with high-level public officials, who decide what contribution is to be expected from chain strengthening. It is also possible to opt for a participatory process by convening the private sector representatives (business chambers and associations) and define the meta-objectives after presenting the methodology. In any event, it is advisable to move quickly to the next stages rather than dragging out this first step of the process.

The various meta-objectives may include job growth and higher real wages, export growth, increased SME participation, and greater national production. It is also possible to attend to geographical considerations: provide support to chains in least favoured regions such as rural areas that are located far from metropolitan centres or coastal-marine zones.

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┌─────────────────┐   ┌─────────────┐   ┌─────────────┐
│ 1. Definition of│──▶│ 2. Chain    │──▶│ 3. Diagnostic│
│ meta-objectives │   │ selection   │   │             │
└─────────────────┘   └─────────────┘   └──────┬──────┘
                                               │
        ┌──────────────────────────────────────┘
        ▼
┌─────────────────┐   ┌─────────────┐   ┌─────────────┐
│ 4. First dialogue│──▶│ 5. Good     │──▶│ 6. Strategy │
│ table           │   │ practices   │   │ development │
└─────────────────┘   └─────────────┘   └──────┬──────┘
        ┌──────────────────────────────────────┘
        ▼
┌─────────────────┐   ┌─────────────┐   ┌─────────────┐
│ 7. Second       │──▶│ 8. Implementa-│─▶│ 9. Launch   │
│ dialogue table  │   │ tion support │   │             │
└─────────────────┘   └─────────────┘   └─────────────┘
```
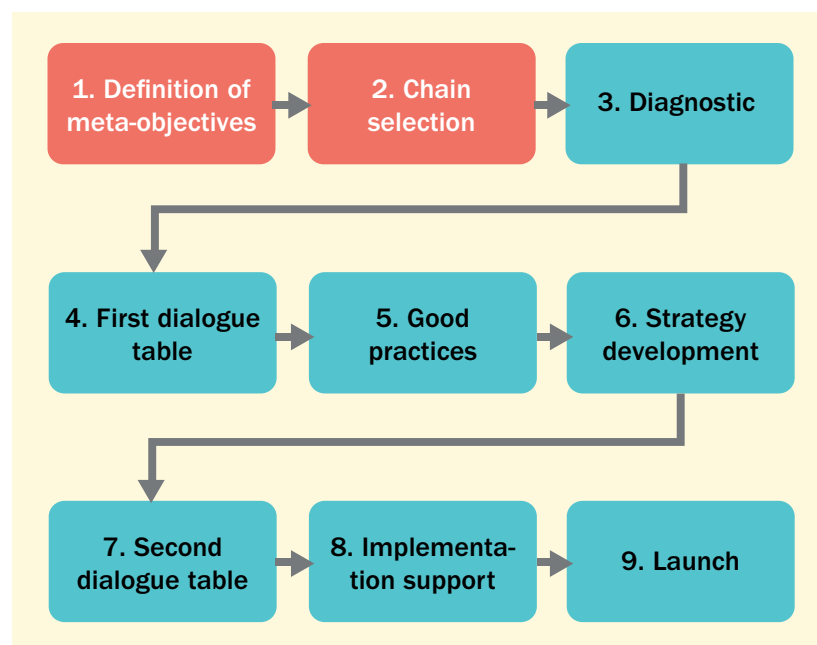
The meta-objectives serve as a guide to what actions should be taken in the other stages of the strengthening process: the chosen chains need to possess great potential for contributing to their realisation; the diagnostic would place special emphasis on the bottlenecks that prevent the chain from contributing further to the meta-objectives, and the strategies would be focused on their

achievement. The following box poses key questions for the definition of meta-objectives.

BOX V.1
BASIC QUESTIONS FOR DEFINING STRATEGIC META-OBJECTIVES

Given that the meta-objective expresses the ultimate social and economic development goal pursued over the course of the value chain strengthening process, the guiding questions are:

- What are the main productive development challenges?
- What are the main productive development objectives in the national development plan?
- What are the main objectives posed in the sectorial plan of the leading public body engaged in the chain strengthening process?
- In what way can value chain strengthening contribute to productive development?

Source: Developed by the authors.

The steps of the methodology contemplate the vertical and horizontal alignment of meta-objectives.[13]

- **Horizontal alignment.** The meta-objectives align with the development plans and sectorial plans. Thus, in the case of a national development objective for supporting the least favoured regions, chain strengthening is oriented toward the productive development of those zones. By the same token, if one of the Agricultural Ministry's main objectives is to expand the country's supply of primary products, a chain's meta-objective in that sector would be to raise national production and productivity.

DIAGRAM V.1
VERTICAL AND HORIZONTAL ALIGNMENT

Source: Developed by the authors based on Chaminade and Padilla Pérez (2016).
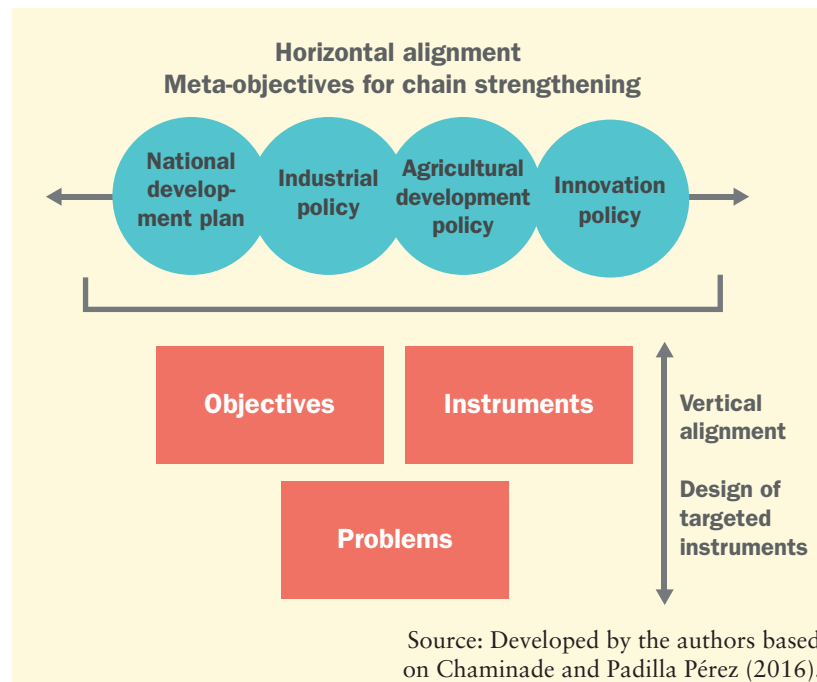
- **Vertical alignment.** The meta-objectives should also align with specific instruments, which is to say that the design of strategies for strengthening value chains ought to correspond with the meta-objectives posed. Microanalysis and participatory processes are very useful for focusing the instruments, so care is taken to assure that they are effectively oriented toward fulfilment of objectives (see diagram V.1).

During this first phase of the process the meta-objectives are expressed in general terms; for example, job creation or expanding exports. Remember that at this point in the process no chain has been chosen nor has a diagnostic been conducted, so no precise definition in terms of the quantities, actors or regions involved is expected at this point.

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13   See Chaminade and Padilla Pérez (2016) for more details on vertical and horizontal alignment of objectives and public policy.

Chain selection

Value chain strengthening entails a selection process. The efficient use of limited public resources, and the search for synergies and economies of scale are economic justifications for the selection of sectors or value chains. In light of limited fiscal resources, decisions must be made as to where such funds should be applied. But such decisions must be adopted in the context of a development strategy (vertical and horizontal alignment), and for the sake of transparency they should be taken in an open and explicit way rather than in an implied or opaque manner (Ocampo, 2014). In this sense, it may be important to have an objective and systematic mechanism for picking value chains.

The steps in value chain selection

The chain selection process consists of six steps (see diagram V.2).

1) Chain selection criteria concur with the meta-objectives, namely, with the chain's potential to contribute to their realisation. Over the course of ECLAC technical assistance, governments have been firmly interested in a chain selection process that is both objective and transparent. The choice of one or various chains implies that they will receive special public support over the short or medium terms, and that the government may be subject to pressure from specific groups. The steps depicted in diagram V.2 have served as useful tools for making the process both rigorous and legitimate. It is important to assure that the choice of one or more chains does not obstruct the development of others. As already indicated, chain strengthening has a significant impact on the economy's aggregate output to the extent that the process is replicated. In that way, the chains that are not initially selected might be chosen in later exercises.

2) Once the meta-objectives have been defined, the next step is to identify one or various indicators that estimate the chain's potential contribution to the realisation of each meta-objective. For example, when the goal is to incorporate MSMEs, the potential indicators are the percentage of sales this segment of enterprises is registering, average plant size and market concentration indexes, among others.

3) The third step corresponds to building indicators by drawing on the following main information sources:

a) National account data, especially those referring to production and employment.

b) Input-output matrixes, primarily for estimating productive linkages and the chain's capacity with regard to employment, trade and domestic value added.

c) Data on international trade in goods and services and foreign direct investment.

d) Microdata from censuses, surveys and local taxes.

These sources are used to build quantitative indicators. Chain selection may also incorporate qualitative indicators in cases, for example, in which a chain is mostly located in a specific region that is far removed from a metropolitan area or located along a coastal zone) or is largely made up of vulnerable groups.


Training public officials in the ECLAC methodology, Dominican Republic.

Three major challenges arise when constructing indicators. The first is a matter of data availability as there may be no public information for each economic activity. This is a common weakness in the case of input-output matrixes and specialised surveys. The second arises on the level of aggregation; with the exception of microdata, the available information does not always clearly identify the chains. For that reason, caution is needed in the quantitative handling of data and, in many cases, in trying to place the chain within specific sectors or sub-sectors. A third challenge is the inclusion of prospective variables. **The four sources of information listed above reflect the actual situation of the chain, but do not necessarily show its potential in the event that the chain is strengthened.** In this sense, it can be useful to formulate estimates of future growth in supply and demand for the chain's final products or services or to use complexity indexes that estimate the capacity of successfully developing a chain, based on existing capabilities in similar productive activities.

4) The fourth step is defining the criteria for weighting the indicators. It is possible to assign the same weight to each meta-objective or give preference to those deemed priorities. It is also possible to incorporate exclusion criteria. For example, if a chain fails to meet a minimum or maximum value, it is excluded regardless of how it scores on other indicators. If it is decided that the chain must be located in regions with relatively low development (in compliance with the meta-objective of supporting the development of less favoured zones), any chain that fails to comply with this requirement would not be included in the process. If the criteria are clearly defined in this step, it is valid to formulate considerations regarding the strengthening process' feasibility. For example, if a chain is extremely fragmented and lacks participation in industry or trade associations, the process is determined to be extremely complex and its chances for success low. A decision must also be made in this step on whether to use the sum of the indicators once they have been normalised, or to follow another aggregation process. It is very important to clearly define the criteria prior to the selection in order to assure the objectivity of the process.

5) The fifth step consists of constructing the compound indicator for each chain, while in the sixth and last step chain selection is made. The process described here makes it possible to arrive at a short list of chains capable of making the greatest contribution to the meta-objectives.

Source: Developed by the authors.
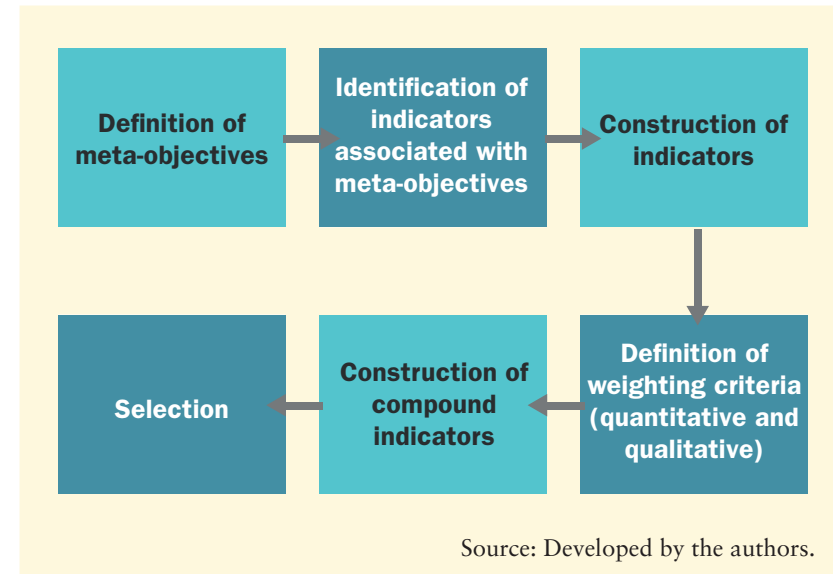
Delimitating a chain

A value chain has a common core (the producers or suppliers of core services), and a combination of shared backward and forward linkages. If when selecting a chain it is determined that the core comprises producers engaged in different productive activities and that they depend on different suppliers of inputs and machinery, as well as marketers, then it is not a single chain but rather a case of various chains. A chain is different from a sector: you cannot talk of a country's chain of electronic components and goods, or the national aquaculture chain. These

sectors comprise various chains. The examples just mentioned include the value chain of television screens or those of shrimp and tilapia farming. Methodology application would be compromised if the delimitation were to be made at a highly aggregate level, in which case the diagnostic would be complicated by having to incorporate a large number of actors, and identifying intra- and inter-link relations. Similarly, the strategy development process would become cumbersome if an excessive number of actors and bottlenecks are involved; the wide variety of participants who probably lack any common productive relationships or common interests would jeopardise the organisation and conduction of the dialogue tables.

The context and actors involved in the selection of chains are flexible and depend on diverse factors: the role government and the private sector play in the process; the framework in which the process plays out (execution of cooperation funds or international loans, joint initiatives from both the public and private sectors or implementation of public development programmes); the current level of chain development, and the fluidity of relations between government and enterprises, among others. In short, on the basis of pre-established objective and systematic criteria, the decision can be taken in meetings with high-level public officials or in dialogue tables with people from public and private sectors.

Local support and engagement are key to the following stages for selecting a local consultant with expertise in the chain, facilitating access to information for the diagnostic, prioritising logistical support for undertaking work for bringing about change, and convening and organising dialogue tables.

Examples of meta-objective and value chain selection

This and successive chapters provide concrete examples of each step in the methodology for the purpose of illustrating the concepts. The outcomes of the pork sausage and other cured pork products value chain in Mexico are described in relation to me-ta-objective and chain selection. This project was undertaken in collaboration with the Ministry of Economy of the federal government of Mexico as part of its activities with the Roundtable for Value Chain Development of the Consultative Business Council for Mexico's Economic Growth (CCECEM). ECLAC technical assistance was provided as part of the project "Inclusive Growth, Rural Industrial Policy and Participatory Value Chains in Latin America and the Caribbean", financed by the International Fund for Agricultural Development (IFAD). For that reason, the chain to be chosen should belong to the broader rural sector, although some of its links might correspond to the secondary sector. The following description was taken from a document that summarises the experience with the chain (Alvarado et al., 2016).

The meta-objectives were defined in a meeting of the Roundtable for Value Chain Development in which representatives of public bodies (Ministry of Economy, Ministry of Finance and Public Credit and National Entrepreneurial Institute, among oth-

Pig farming, Mexico.

ers) and business associations participated. The meta-objectives agreed to were as follows:

i) Meet domestic demand for the chosen chain's product (highly consumed products whose demand is currently being largely satisfied with imports).
ii) Promote the insertion of small and medium-sized enterprises (SMES) in the chain.
iii) Increase national value added (domestic production content).
iv) Strengthen the integration of the chain (productive linkages).

Two complementary quantitative indicators detailed in box V.2 were considered in each meta-objective. Priority was given to sources of information that are disaggregated to the highest degree possible. This lead to an examination of the 44 industries that are identified by the six digit codes used by the North American Industry Classification System (NAICS), which in turn jointly encompass the 311 food subsectors and 312 beverage and tobacco subsectors of the manufacturing industry. In meta-objective 1, the indicators show the importance of the industry within the manufacturing sector, as well as the relative importance of national production to consumption. The indicators of meta-objective 2 were used to identify the activities in which SMES have a higher rate of participation, and in such cases its is necessary to take into account both the enterprises size in terms of employees and the concentration of sales in that industry. In the case of meta-objective 3, the chosen indicators gauge the relative importance of each industry in the generation of value added, as well as the multiplying effect of each industry on the value added of the economy as a whole. Lastly, for the meta-objective related to chain integration, a classification of the different industries based on their linkages with the rest of the economy was employed, as well as a prospective indicator useful for identifying industries in which the resources currently available could be used more efficiently for the elaboration of products of greater technological complexity (see box V.2).

Sausage production, Mexico.

In each of the eight indicators, every industry was classified according to its value in the indicator. In the case of indictors associated with the incorporation of SMES, the classification was conducted in ascending order, while for all others the classification was made in descending order. So as to arrive at an industry short list, five points were assigned to the industry that ranked first in every indicator, four to the second-place finisher and so forth until the industry placing sixth or lower received zero points.[14] As it was decided to assign a homogeneous weight to each meta-ob-

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[14]   In the case of the linkages indicator associated with the meta-objective of chain strengthening, which is the categorical indicator, five points were assigned to those industries that were providers of intermediary inputs, three points to those making products for final consumption, one point for primary producers that attend to intermediate demand and zero points for those who fulfil final demand.

BOX V.2
QUANTITATIVE INDICATORS

Meta-objective 1: Satisfy existing domestic demand for a product

 1.1 **Weight of sales in the chain (industry) in total manufacturing industry sales.** The value used is the average weight in the 2009-2012 period, based on data from the Annual Manufacturing Industry Survey (EAIM in Spanish) at the industry level (6-digit NAICS code).

 1.2 **The ratio of the multiplier for final demand (going forward) for domestic production and the multiplier for imports.** The ratio is calculated as follows: $\sum_{i=1}^{n} b_{i,j}^{d} / \sum_{i=1}^{n} b_{i,j}^{m}$, where superscripts d and m indicate, respectively, the quotients of direct and indirect domestic and imported requirements. Matrices are calculated based on the data from the updated input-output matrix for the year 2012 (AMIP 2012) at the activity industry group level (4-digit NAICS code).

Meta-objective 2: Promote SME insertion into the chain

 2.1 **Number of employees per establishment.** The value used is the average quotient observed in 2009-2012, based on data from the Annual Manufacturing Industry Survey (EAIM in Spanish) at the industry level (6-digit NAICS code).

 2.2 **Ratio of sales (indicator 1.1) to number of establishments.** The value used is the average ratio for the 2009-2012 period, based on data from the Annual Manufacturing Industry Survey (EAIM in Spanish) at the industry level (6-digit NAICS code).

Meta-objective 3: Increase domestic value added (industrialisation, technology)

 3.1 **Value added in proportion to total manufacturing.** The value used is the average for the 2009-2012 period, based on data from the Annual Manufacturing Industry Survey (EAIM in Spanish) at the industry level (6-digit NAICS code).

 3.2 **Value added multiplier.** The value added multipliers for each industry j is calculated by the following formula: $\sum_{i=1} \frac{v_i}{v_j} b_{i,j}$, where $v_i = \frac{vab_i}{X_i}$ represents the ratio of gross value added to gross output value per activity branch while $b_{i,j}$ is the ratio of direct and indirect requirements for activity class from activity j, in other words, the element (i,j) from the Leontief inverse matrix. This matrix is calculated based on the data from the updated input-output matrix for the year 2012 (AMIP 2012) at the activity industry group level (4-digit NAICS code).

Meta-objective 4: Strengthen integration of the chain.

 4.1 **Productive chains.** Here, each industry group (4-digit NAICS code) is classified according to the typology proposed by Chenery and Watanabe (1958), based on the relative value of direct forward and backward linkages:

	$DBL_j < \overline{DBL_j}$	$DBL_j \geq \overline{DBL_j}$
$DFL_i < \overline{DFL_i}$	Primary/Final Output	Secondary/Final Output
$DFL_i \geq \overline{DFL_i}$	Primary/Intermediate Output	Secondary/Intermediate Output

where $DBL_j = \sum_{i=1}^{n} a_{i,j}$ and $DFL_i = \sum_{j=1}^{n} a_{i,j}$ indicate the value of direct backward and forward linkages, respectively, which are calculated based on the matrix of technical quotients $a_{i,j}$ from the updated input-output matric for 2012. $\overline{DBL_j}$ and $\overline{DFL_i}$, in turn, are the values of average linkages in the entire economy.

jective, the compound indictor was constructed with the sum of the individual indicators. During the final selection, all industries classes of activity whose indicator value ranked below the average reading of all classes considered[15] were excluded in order to eliminate from consideration those that failed to meet a single one of the meta-objectives. In the final classification, consideration was given only to those classes that after having been subjected to the exclusion criteria described above continued to register at least one valid indicator for each meta-objective.

Once the compound indicators had been constructed, the two classes with the highest scores were chosen. The Roundtable for Value Chain Development requested ECLAC's technical assistance in strengthening one of them, given that the process with the second one was to be conducted simultaneously under the coordination of the Ministry of Economy. The last step consisted of the delimitation of the chain based on the class of activity chosen, which was done using the analysis of sectorial data provided by public entities and business associations.[16] This analysis made it possible to identify the chain, within the selected class, with the greatest potential to fulfil the meta-objectives.

KEY CONCEPTS

Chain delimitation. Analysis that makes it possible to identify the initial and final link of a chain. It generally begins by identifying the main link of the chain (the core), which is the one that carries out the productive process or key transformation. From that point the linkages moving both backward and forward along the chain are determined until the procurement of inputs and the final consumer are reached.

Qualitative indicators. These are determined on the basis of the opinion or perception reached on a specific topic. The opinions arise out of observation, the groups' dynamics, interviews or prospective techniques and represent information that is hard to measure.

Meta-objective. The ultimate goal sought through the strengthening of a chain and the resolution of bottlenecks observed.

Chain selection. Systematic process through which it is decided to which chains the methodology is to be applied.

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[15]   In the case of the indicators associated with the meta-objective of satisfying one type of domestic demand, those classes of activity whose indicators were below the average of the classes under consideration were eliminated. Moreover, in the case of the linkages indicator those classes classified as primary due to their low linkages were also excluded.

[16]   It is important to remember that a sector or industry almost always contains more than one value chain.

Final verification

- A public body is interested in and committed to the chain strengthening process.
- The meta-objectives have been chosen in alignment with development and sectorial plans (especially those related with the partner public organisation).
- An objective chain-selection process has been defined on the basis of the meta-objectives identified.
- The chain to be strengthened has been chosen.

CHAPTER VI
DIAGNOSTIC

The diagnostic study is directed at identifying potential value chain bottlenecks which hinder the chain's strengthening.

Bottlenecks are the barriers or problems faced by links in the chain or the chain as a whole (systemic bottlenecks), that impede their proper functioning or linkage, as well as their economic and social upgrading. The process of resolving such bottlenecks is understood as value chain strengthening.

Diagram VI.3 summarises the components of the diagnostic. It begins with a mapping of the chain and by identifying its links and main actors. This is followed by an analysis of the chain's international and national context, its economic characteristics, market and governance conditions, relevant support institutions and environmental considerations. It is useful to keep in mind over the course of each step that bottleneck identification is the final objective.

The diagnostic of a value chain begins with mapping it and identifying the role each link plays. It is advised that the mapping process begin by identifying the main link as indicated by the chain's core product or service; this generally is the link that undertakes the key transformation process. Later, backward and forward linkages are built based on the role different links play; for example, the procurement of inputs, transport, and both wholesale and retail commercialisation, all the way through to the final consumer. The key point is to set the chain's boundaries, both forward and backward (see diagram VI.1). Generally the first link corresponds to acquiring inputs, and the end consumer
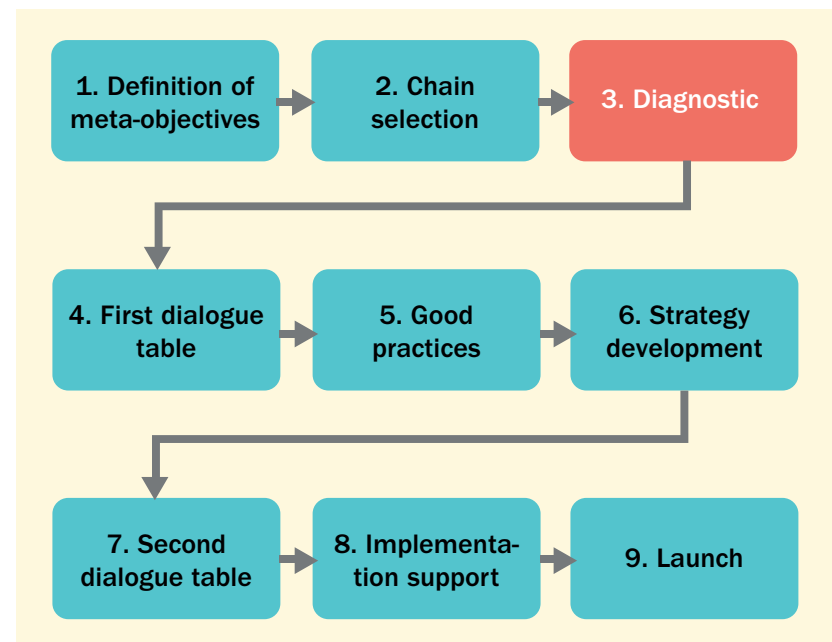
is the final link, although in certain chains the last link is the final disposal of the product and the possibility of beginning a new productive cycle using the waste.

Once an initial diagram of the chain has been built with its respective links, the actors it comprises are identified. After that,

the public and private organisations that regulate and support the functioning of the links and the chain as a whole are mapped (see diagram VI.2). Among the other functions they might fulfil, these organisations are of a techno-normative, financial, research and control character. The organisations can be grouped into five categories: public sector; universities and technical schools; research centres; suppliers of professional and specialised services, and business associations. These groups of organisations influence the governance of the chain as they have a bearing on the system of coordination, regulation and control that contributes to the generation of value added.

The list of questions presented below are directed at this group of economic actors and support organisations. They cover all six levels of analysis in an effort to identify the bottlenecks, systemic and per link (see diagram VI.3). The analysis of the six components yields elements for arriving at a comprehensive understanding of the chain's functioning and characteristics with particular emphasis on its ties to the rest of the national economy and international markets, its economic outcomes (the links' costs and profit margins), and the logic of its internal operation based on the governance concept. Once the analysis is complete, there should be enough evidence to list and explain the bottlenecks facing the chain as a whole (systemic ones) or some individual links.

A list of questions corresponding to the various segments to be applied to the core actors of each link and to the network of support organisations has been drawn up, following the above diagram, which depicts the contents and levels of analysis of a chain diagnostic. The topics and questions constitute a methodological guide that must be adapted for each chain in keeping with its context and characteristics, as well as its relationship to the meta-objectives (see box VI.1).

DIAGRAM VI.1
IDENTIFICATION OF BACKWARD AND FORWARD LINKAGES

Chain core; Chain's main product or service

Backward linkages. Procurement of inputs: components, intermediate goods, machinery and equipment

Production

Forward linkages. Transport, commercialisation, consumption, final disposal, post-sales service

Source: Developed by the authors.

DIAGRAM VI.2
SUPPORT ORGANISATIONS

VALUE CHAIN

Production

Public sector

Universities and technical schools

Research centres

Suppliers of professional and specialised services

Business associations

Source: Developed by the authors.

DIAGRAM VI.3
DIAGNOSTIC OF THE CHAIN

VALUE CHAIN MAPPING AND IDENTIFICATION OF THE MAIN LINKS

IDENTIFICATION AND CHARACTERISATION OF THE MAIN ACTORS IN THE CHAIN

Actors by link	Support organisations

ANALYSIS LEVELS

CONTEXT

- Global trends and regulations, technological changes and growth dynamics
- Domestic socio-political factors

ECONOMIC

- Production, territorial distribution, employment, international trade, investment
- Competitiveness, costs and profits per link

MARKET AND TECHNOLOGICAL KNOWLEDGE

- Demand, product(s) and prices
- Supply, competitors, customers
- Standards and certifications
- Generation and sources of knowledge

GOVERNANCE

- Power relations and cross link ties
- Information flows
- Value-added appropriation

SUPPORT ORGANISATIONS

- In their normative, legal, political, social, eco-financial and techno-sci-entific dimensions

ENVIRONMENT

- Environmental impact
- Sustainability and climate change related adaptations

BOTTLENECKS

Systemic	By link

Source: Developed by the authors.

The guide assumes broad access to information regarding the chain under study. Nevertheless, it is possible to deal with information availability limitations that require adapting the guide. In any event, once the chain has been chosen and defined, it is useful to continue with the following activities:

1) Compiling the information detected over the course of a bibliographic and Internet search (statistics, studies, etc.). There tends to be little in the way of chain specific information and what generally turns up is information from more general documents such as sectorial ones.

2) Asking the counterpart (government institutions) or interest groups (business associations, producer associations, cooperatives and sub-national governments) to provide information that is not publicly available such as official documents and studies related to the chain.

It is advisable to cover all diagnostic elements, as they are necessary for sustaining the study's systemic focus and assuring that all possible areas of bottlenecks and opportunities in the chain's functioning have been explored.

It is especially important to have a local expert consultant who can help with the diagnostic and the organisation of the dialogue tables. An understanding of each chain's strengths and bottlenecks demands specialised knowledge that is acquired through direct contact with the actors. Such contact also makes it possible to identify the key actors that must be interviewed and invited to the dialogue tables.

Tank for shrimp seed production, El Salvador.

Processed fruit production, Costa Rica.

BOX VI.1
BASE-LINE QUESTIONS FOR THE DIAGNOSTIC

Mapping the chain makes it possible to detect the actors and relationships within the links that are the subject of the study, and to determine what information needs to be compiled and where the fieldwork needs to be conducted.

List of questions

- What is the value chain's core (its key transformation process)?
- What main inputs (raw materials, components, intermediate goods) does the core demand?
- What are the core's machinery and equipment requirements?
- What commercialisation and distribution channels exist for the chain's main product or service?
- Who are the consumers of the chain's core product or service?
- What are the main characteristics of each link's products or services, especially the production factors used and the life cycle?

LEVELS OF ANALYSIS		
Context	**Economic**	**Market and technological knowledge**
General chain considerations regarding the sectorial, national, regional and international context: • What are the national trends that characterise the sector in which the chain is inserted (production, employment, foreign trade, main enterprises, degree of concentration)? • What are the international trends of the sector to which the value chain belongs (production, employment, trade, main enterprises, degree of concentration)? • What is the technological dynamic of the chain's main good or service (new product technologies or processes that could influence the chain's behaviour)?	**On the level of production, investment and territorial distribution:** • How has the chain's structure evolved in the past five years? Have new actors emerged or existing ones disappeared? • What is the origin of capital for each of the links (are they domestic or foreign owned companies)? • What is the most frequent type of company (large, medium-sized, small, micro) in each of the links in the chain? • What is the dynamic for generating/closing firms in each of the links in the chain? • What is the chain's level of production (value of sales, value added)? • How has the chain's production evolved in the past five years?	**On the level of market analysis:** • Who are the chain's main consumers and are they domestic or foreign? • What are the characteristics of main customers in terms of buying power, geographic location, habits and customs, and social-demographic elements? • What are the current and projected consumption trends for the chain's products in their target markets? • Who are the chain's main competitors, both domestic and foreign? • What are the competitors' characteristics in terms of the origin of their capital, technological and productive capabilities, and market share, among others?

(Continues)

Box VI.1 (Continuation)

	• Have significant investments (asset purchases, infrastructure investment, etc.) in the value chain's links been made in the past five years? What is the territorial distribution of the actors and links of the value chain in the country or the region? • What are the characteristics of the commercial links in the chain? For example, does the producer also assume responsibility for commercialisation? • What are the characteristics of the logistical linkages? Namely, what costs do they entail and who covers them? For example, is the producer also handling transport? • What form of transport is used for bringing the chain's products and services to market? • What are the characteristics of the production process? Describe the steps. • What are the main technologies used (machinery and equipment, specialised knowledge, etc.)? **With regard to employment:** • How much employment (number of full-time and part-time employees) is generated by each one of the links in the chain and how are those jobs distributed per enterprise within each link? • What types of skilled and unskilled employment positions are created in the chain, and how do they breakdown by gender and educational level? • How has employment evolved in each link of the chain in the past five years? • What is the average wage paid in each link? • How have the wages offered evolved in the past five years? • How many women are participating in the chain and what does their participation consist of?	• What strategies have competitors developed for gaining access to new markets? • Has the chain benefitted from international trade agreements (tariffs, quotas, etc.)? • What tariff conditions apply to the chain's main products? **In the case of market requirements and standards:** • What quality standards must the chain's products comply with? • What domestic and/or international norms and parameters govern production and commercialisation of the chain's main products? • Are chain actors conscious about the need to abide by rules, norms and standards? **With regard to technological knowledge:** • Are formal and informal research, development and innovation (R&D) activities conducted within the links of the chain? • If so, how many of them receive public support? • What are the main sources of knowledge (universities, research centres, consultancies, recruiters of specialised human resources, etc.) in each one of the links of the chain? • What mechanisms exist for transfering knowledge and technologies to the chain's links? • Is there a supply of technical training and/or higher education focused on the chain?

(Continues)

Box VI.1 (Continuation)

- What comparative advantages are provided by the work of women in the chain?
- What gender differences exist in terms of wages and value added appropriation?

With regard to foreign trade:
- What amount of the chain's final product has been exported in the past three years? In the event that more than one link exports a final or intermediate good, take into account each one's exports.
- What share of the export market does the chain's core product command?
- How has foreign demand for the chain's final product evolved? Has demand for it grown or fallen in the past five years?
- How have imports and the mix of their countries of origin evolved in the past five years for those links in the chain that need them?
- Are there imports of products that are similar to or can serve as substitutes for goods produced by the chain? If so, what countries supply them?
- Are there barriers (costs, availability, infrastructure, etc.) to commercialisation and distribution?

In the case of competitiveness, costs and profit margins:
- What are the core competitiveness drivers of the links in the chain? In other words, on the basis of what strategy or comparative advantage (technological or market knowledge, low labour costs, geographical localisation, participation in networks, access to natural resources, etc.) do they compete?

(Continues)

Box VI.1 (Continuation)

	• What endogenous (human resources, techno-logical and productive capabilities, capital) and exogenous (regulations, entry barriers, lack of an offer of financing) factors limit the competitiveness of each link of the chain? • What are the average production costs in each link of the chain? • What are the average profit margins in each link of the chain? • What barriers are faced when trying to obtain financing in the links of the chain (lack of guarantees, high interest rates, absence of proper financial instruments, lack of credit availability in the formal financial sector)? • What are the costs of entering the chain (for example, start-up investment and operating costs)?	
Governance	**Support organisations**	**Environment**
• What is the chain's structure (is it dominated by buyers, suppliers, intermediaries, etc.)? • Who are the dominant links or actors in the chain? • What type of power relations do the dominant links exert (service procurement, purchasing, knowledge, access to networks, the setting of prices, standards and financing)? • What is the nature of relations (formal and informal) between the various links (vertical and horizontal)? With what frequency and quality do these interactions occur? • What share in the chain's total value added is supplied by each one of the links? • Have formal or informal association schemes been observed in the chain (co-operatives, trade associations, business chambers)?	• What are the main public organisations that participle in or support the value chain? • What type of incentives and support mechanisms exist for the value chain, including those of a fiscal nature? • More specifically, are there incentives for research, cooperation programmes, the design of products or the incorporation of new technologies? • Does public support exist for having access to more and better financing conditions? • Have agreements been reached with universities and/or technical schools for purposes of education and training? • Have ties been sustained with universities and/or research centres for purposes of research, development and innovation?	The most common questions when analysing environmental questions in the development of value chains are related to the following matters: • Do the chain's production and processing activities generate adverse environmental effects? • What sources of energy are being used and what are the links in the chain's energy-use efficiency levels? • What water resource management is used in the different links of the chain? • What type and quantity of chemical products are applied in the different chain processes? • What wastes are discharged into the environment and how are they managed in the different links?

(Continues)

Box VI.1 (Continuation)

• If the chain is internationalised, is it integrated into global networks? • How are the global networks in which the value chain participates organised? • Is vertical or horizontal integration observed throughout the length of the chain? • Do industrial agglomeration and specialisation groups and networks operate in the chain? • What are the common communication and information-exchange practices in the chain? • What degree of trust exists among the actors both within each link and throughout the length of the chain?	• Are there business chambers or associations comprising and representing the actors from the central link of the chain? • If the answer is yes, what role do they play? • Does the chain have access to specialised chain-support services (certifications, technical assistance or commercialisation)?	• Are greenhouse gases and other polluting emissions generated during the links' production processes? • What other potential sources of pollutants are recognised, such as acidification and eutrophication? • Are the firms developing climate change mitigation or adaptation measures? • Is climate change affecting the chain's activities? • Are measures being taken to mitigate climate change impact in the chain's activities?

Restrictions

SWOT analysis (strengths, weaknesses, opportunities and threats) (see box VI.2)
- What are the chain's main systemic restrictions?
- What restrictions does each link face?
- Have there been public and/or private actions to deal with these restrictions?

Source: Developed by the authors.

BOX VI.2 SWOT ANALYSIS

Once the study of the six components of the diagnostic have been completed, it is very useful to conduct a SWOT analysis of the chain, an exercise that serves to summarise the capabilities of the actors from each link and throughout the chain, as well as to more easily identify bottlenecks. Internal and external factors that affect the chain's performance are analysed through the SWOT exercise.

STRENGTHS	OPPORTUNITIES
• Internal to the chain • The chain's distinctive capabilities that provide it with advantages/competitiveness in relation to competitors • Possibility of expanding these strengths	• External to the chain • Positive, favourable and exploitable factors • Possibility of taking advantage of these opportunities
WEAKNESSES	**THREATS**
• Internal to the chain • Disadvantageous position relative to the competition. Lack of resources, lack of skills, deficiency in activities • Possibility of reducing these weaknesses	• External to the chain • Risk to the chain's continuing competitiveness (economic, social, technological, and political) • Possibility of neutralising them

Source: Developed by the authors.

Examples of diagnostics

Examples of the methodology being applied are provided below. The first is a map of the pork sausage and other cured pork products value chain in Mexico (see diagram VI.4). As the map shows, at the centre of the chain are the meat processing or packaging plants that produce the sausages that are the chain's main product. Moving backward, the links include the pig farmers (who must also acquire balanced feed, pharmaceutical products and specialised services), the slaughterhouses, meat cutters (rastro), and meat processors (empacadora). Moving forward there are commercialisation and distribution channels as well as consumers (final demand). This chain is highly articulated with import and export markets. Moreover, this chain demands a series of specialised services in matters of finance, infrastructure, equipment and transport.

The next step is to identify the support organisations. In the same sausage chain, the key organisations of both the public and private sectors are listed in box VI.3.

DIAGRAM VI.4
PORK SAUSAGE AND OTHER CURED PORK PRODUCTS CHAIN IN MEXICO

Source: Alvarado et al. (2016).
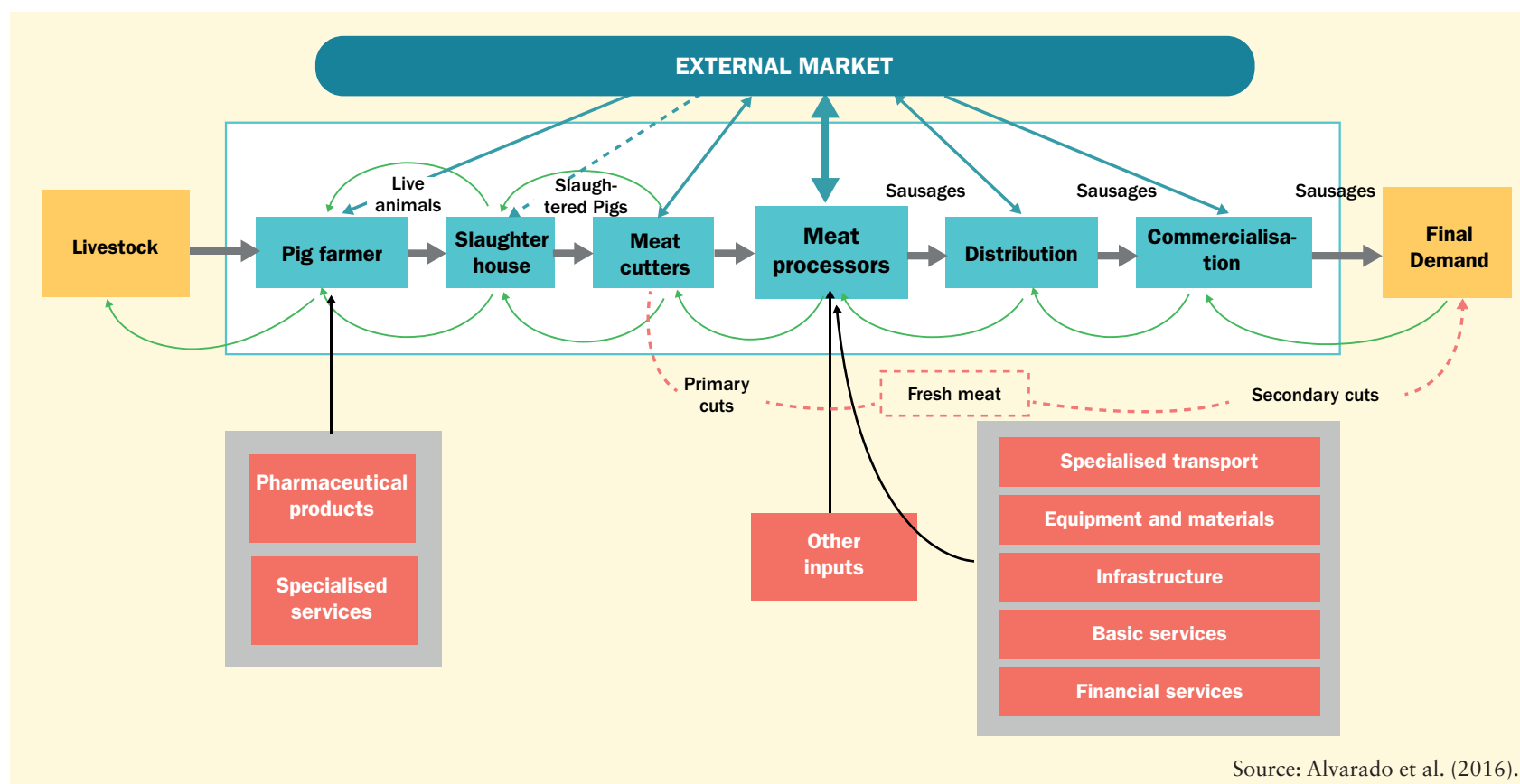
BOX VI.3
CHAIN OF PORK SAUSAGES AND OTHER CURED PORK PRODUCTS IN MEXICO: IDENTIFICATION OF THE MAIN ACTORS

Public organisations	Acronym	Functions related to the chain
Office of Coordination of Livestock of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	CGG/SAGARPA	Promotion of pork production.
National Institute for Forest, Agricultural and Livestock of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	INIFAP/SAGARPA	Research on pork production.
Agricultural Support and Services for Agricultural and Livestock Commercialisation of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	ASERCA/SAGARPA	Support for hog prices hedges.
National Service for Agro-food Health, Safety and Quality of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	SENASICA/SAGARPA	Responsible for food health and safety.
Livestock Shared Risk Trust of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	FIRCO/SAGARPA	Support for federal-inspection-type infrastructure.
National Coordinating Committee of Producer Foundations	COFUPRO/SAGARPA	Support for technology transfer in the country's different states.
National Water Commission	CONAGUA	Regulate the residual waters of pig farms and processing enterprises.
Ministry of Economy	SE	Promote manufacturing production and SMEs.
National Institute on Social Economy of the Ministry of Economy	INAES/SE	Support for small pork producer project implementation.
Agriculture Related Trusts	FIRA	Credit to the primary and industrial production of pork and its derivatives.
Development Bank for Agricultural, Rural, Forest and Fisheries Development	FND	Provides credit for primary production.

Private organisations	Acronym	Functions related with the chain
Mexican Meat Council	COMECARNE	Groups the main meat processing and sausage enterprises.
National Association of Federal Inspection Type Establishments	ANETIF	Unites the main federal-inspection-type enterprises (slaughter houses, meat processors, distributors) of pork sausages and other cured meats.
Organisation of the country's pig farmers	OPORPA	Unites primary producers.
Chairman of the Confederation of Mexican Pig Farmers	CONAPOR	Unites primary producers.
Section 18 of the National Chamber of the Manufacturing Industry	CANACINTRA	Includes the meat cutters in Mexico City and the Greater Metropolitan Area.
National Council of Producers of Balanced Feed and Animal Nutrition A.C.	CONAFAB	Includes the main producers of balanced pig feed.
National Committee of the Pork Product System	CNSPP	Unites the main actors, both public and private, of the pork value chain.
National Agricultural Council	CNA	Business association of the primary, agribusiness and agricultural actors.
National Association of Supermarkets and Department Stores	ANTAD	National association of retailers including the largest chains of supermarkets and department stores as well as smaller retail establishments.

Source: Alvarado, et al. (2016).

The diagnostic's set of questions serves as the basis for constructing the interview guides needed for the fieldwork. What follows is a description of two examples of those scripts.

The first was drawn from the study of the shrimp farming chain in El Salvador. The strengthening of this chain sought to lower poverty in the coastal zone, strengthen the food security of its inhabitants, create new polls of attraction for investment, reduce territorial asymmetries, foster internal market growth and, in a latter stage, expand export capacity. The shrimp farmers that produce under cooperative arrangements constitute the central link of this chain. What follows is the guide for the shrimp farmer interviews (see box VI.4).

BOX VI.4
QUESTIONAIRE FOR SALVADORAN SHRIMP FARMER INTERVIEW

1. What do you regard as the main drivers and hindrances presently facing shrimp farming nationally?
2. What main problems or needs do you identify in each of the following phases of the productive process: purchasing inputs and equipment, transporting inputs and equipment, farming, harvesting, quality control of water and shrimp, processing, conservation, transportation of final products, commercialisation and business management?
3. What is the main market target? Should it be national, regional or extra-regional?
4. Do you regard shrimp imports as putting you at a disadvantage, or is the domestic market broad enough to absorb both domestic and imported seafood?
5. How many people belong to cooperatives and how many of them are effectively engaged in shrimp farming?
6. What tasks do they perform?
7. What training have they had in the past five years?
8. How is the system of remunerations and social security services for the workers?
9. How are the benefits distributed among the chain's stakeholders?
10. Would it be useful or necessary to transform the cooperatives into companies?
11. What advantages and disadvantages do you believe such a process would entail? Would the associates accept the change?
12. How is work progressing on creating the "Salvadoran Association of Shrimp Farmers"?

Source: Oddone and Beltrán (2013).

Based on the information obtained during the interviews, a characterisation was made of the shrimp farmers, which appears in box VI.5.

A shrimp farmer from the Bay of Jiquilisco, Usulután, El Salvador.

Fieldwork on the shrimp farming chain, El Salvador.

BOX VI.5
CHARACTERISTICS OF SHRIMP FARMERS IN EL SALVADOR

Shrimp farming in El Salvador, unlike in other Latin American countries and especially those of Central America, is not developed on an industrial scale, but instead varies between artisanal and semi-intensive exploitation by small production cooperatives. Most of these cooperatives are comprised of former combatants from the armed conflict in that country in the 1980s, and who, as part of the Chapultepec Peace Accords of 1992, received some areas of land including the Bay of Jiquilisco. Initially, they engaged in the production of salt, an activity that ceased to be attractive when the country began importing salt from Mexico at more competitive prices. It was after the artisan salt flats became less competitive that the group decided to take up shrimp farming (today approximately 93.3% of shrimp farmers are concentrated in this area) although some members alternate between both businesses. This link of shrimp farmers consists of the cooperatives and small producers who have settled along the coastal strips of Usulután, La Paz, Sonsonate and La Unión. In the 800 hectares of the shallow stretch of water available for shrimp farming some 44 cooperatives are operating with the participation of approximately 1,500 persons, according to the Aquaculture Chain Programme. On average there are two effective workers for every five hectares working in 24-hour shifts monitoring the salt ponds and distributing balanced feed. Not all of the cooperatives hold shrimp farming concession rights. The process for acquiring such permits is being streamlined thanks to an initiative launched in 2011 by the Ministry of Agriculture and Livestock (MAG), and the Ministry of the Environment and Natural Resources (MARN). But the procedure for obtaining such concessions remains one of the main obstacles because it also entails obtaining an environmental permit. Problems first arose when the Implementing Regulations of the General Law for the Ordering and Promotion of Fishery and Aquaculture (2007) linked aquaculture authorisations to obtaining an environmental permit from the competent authority. Today, shrimp farming in El Salvador is developed under three farming systems: extensive, improved extensive and semi-intensive; the first accounts for 23% of the farms, the second for 32% and the third for 45%. The semi-intensive system, which is the most technologically advanced, involves pumping water to fill the pond, purchasing

Shrimp farmer from Jiquilisco Bay, Usulután, El Salvador.

post-larval shrimp from a laboratory, as well as concentrated feed, and the work of control and periodic monitoring of the physical parameters, chemicals to be applied, periodic sampling, measuring the rate of shrimp growth and basic disease analysis. These operations allow for output levels raging between 1,800 to 2,200 pounds of shrimp per hectare and growing cycle. Output expansion depends on a combination of factors: the application of biosecurity programmes; maintenance and repair of farming infrastructure; technification of production systems; seed improvement and increasing the quantity of seeds planted per square metre; development of the processing and transport links; the association and linkage of producers; commercialisation planning, improvements to support infrastructure (paving of roads linking farms and highways, and expanding public service networks including electric energy access, an aqueduct and drainage). In 2012, the El Salvadoran Association of Shrimp Farmers was established, made up of the cooperatives of the Jiquilisco region, which account for 81% of the country's production of farmed shrimp, and includes socially vulnerable young women who have found in this activity a source of employment.

Source: Oddone and Beltrán (2013).

The quality of the interviews and the agility with which they are conducted with the public and private chain-support organisations is facilitated by the construction of interview guides. For illustrative purposes, in the tourism value chain in the Department of Sacatepéquez, Guatemala, there have been efforts to generate new products and destinations in some rural municipalities surrounding Antigua, the Sacatepéquez Department capital. For that reason it was necessary to analyse the tourism market and standards both on a national level and in Antigua to establish a framework in which to understand governance and inter-link ties, with special emphasis on the role played by the Guatemalan Tourism Institute (INGUAT). What follows is an overview of the interview conducted with INGUAT (see box VI.6).

BOX VI.6
QUESTIONS POSED IN INTERVIEW WITH THE OFFICE OF PRODUCT DEVELOPMENT OF THE GUATEMALAN TOURISM INSTITUTE

1. On the basis of what strategies do Guatemala City and Sacatepéquez compete as tourist destinations?
2. What factors limit the competitiveness of Sacatepéquez as a tourist destination?
3. What barriers do tourism entrepreneurs face when trying to obtain financing?
4. What costs does a tourism entrepreneur incur in order to enter the market, for example, investment and start-up costs when starting a business?
5. What quality standards do tourism services have to meet?
6. What domestic and/or international norms and parameters govern the provision and commercialisation of the main tourism services in Guatemala and Sacatepéquez?
7. How much awareness exists among tourism actors regarding the need to abide by rules, norms and standards? Do they meet the quality certifications norms in Sacatepéquez?

8. What are the main public organisations that participate in or support tourism in Sacatepéquez?
9. What type of incentives and support, including those of a fiscal nature, exist for the tourism sector in Sacatepéquez?
10. More specifically, are there incentives for research, cooperation programmes, the design of tourism products or the incorporation of new tourism technologies?
11. Do tourism entrepreneurs in Sacatepéquez enjoy institutional support for obtaining access to credit and on more favourable terms?
12. Do the public, private and civil sectors conduct tourism-related formal and informal research, development and innovation (R&D) activities?
13. In what way is the competitiveness of tourism in Sacatepéquez to be strengthened?
14. How is the insertion of Sacatepéquez into the global tourism market to be bolstered?

Source: Oddone and Alarcón (2015).

No single format exists with which to build value chains, but they should extend from acquiring inputs through to the final consumer. Some chain studies also consider other links beyond the consumption stage that are linked to final disposal of the product.

As a result of the information search and the interviews, final diagrams are made of the chains to be studied with which to explain each of the links that comprise the chain and their mutual relationships. Diagrams of the vegetable export chains in Guatemala and synthetic fibres in El Salvador appear below (diagrams VI.5 and VI.6).

There are no pre-established formats for building a value chain diagram. ECLAC's experience in the subregion suggests that it is useful to build a specific diagram per chain, one that should be validated directly with the members of the chain in question.

Examples of chain mapping

DIAGRAM VI.5
NON-TRADITIONAL VEGETABLE EXPORT CHAIN IN GUATEMALA

Seed producers → Farming → Processing, packaging and export → Commercialisation

Intermediary

Domestic company: PROSEMILLAS

Foreign companies

Small producers

Groups of producers

Exporting firms

Cooperatives

Brokers

Source: Cordero (2014).
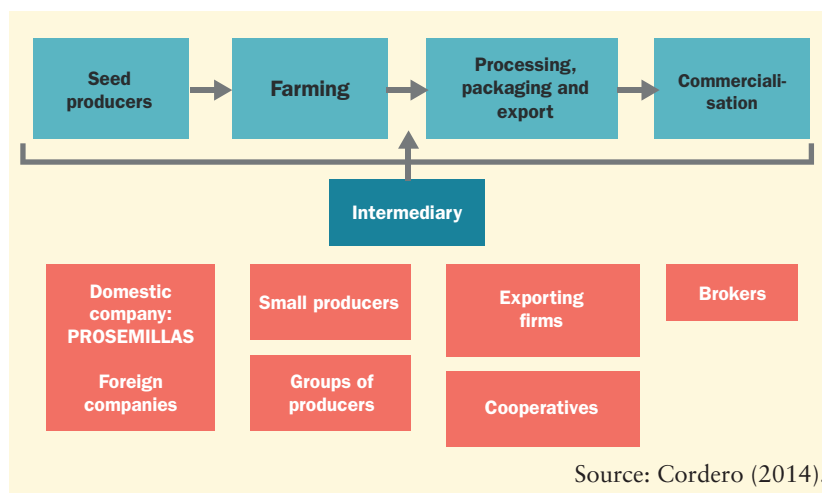
Synthetic fibre-sports apparel dialogue table, El Salvador.

DIAGRAM VI.6
SYNTHETIC FIBER-SPORTS APPAREL VALUE CHAIN IN EL SALVADOR

FOREIGN MARKET | MAIN PRODUCTIVE LINKS | INPUTS

Import of raw materials → Yarn production ← Chemical products and other inputs

Export of yarn ←

Import of yarn → Fibre production ← Chemical products and other inputs

Export of fabric ←

Import of fabric → Apparel production ← Components and accessories

Design

Export of sports apparel ←

Import of sports apparel → Local market

Services and inputs that cross cut to the various links

Energy

Academia, education and training

Transport and distribution

Public services

Environmental services

Financial services

Source: Antunes and Monge (2014).

Examples of bottlenecks

The bottlenecks become apparent through analysing the links, their interrelations and support organisations. It is essential that all six areas of the diagnostic be included in order to arrive at a complete and systemic image of the chain. Examples of bottlenecks encountered in the shrimp farming chain in El Salvador (diagram IV.7), and the tourism chain in the Department of Sacatepequez, Guatemala (box VI.7) appear below. The box offers a synthetic view of the identified bottlenecks. The table provides a more detailed look at the bottlenecks, and distinguishes between the systemic ones and those at the link level. Moreover, an *ad hoc* typology is proposed for each group of bottlenecks.

DIAGRAM VI.7
BOTTLENECKS IN THE SHRIMP FARMING CHAIN IN EL SALVADOR

Source: Oddone and Beltrán (2013).
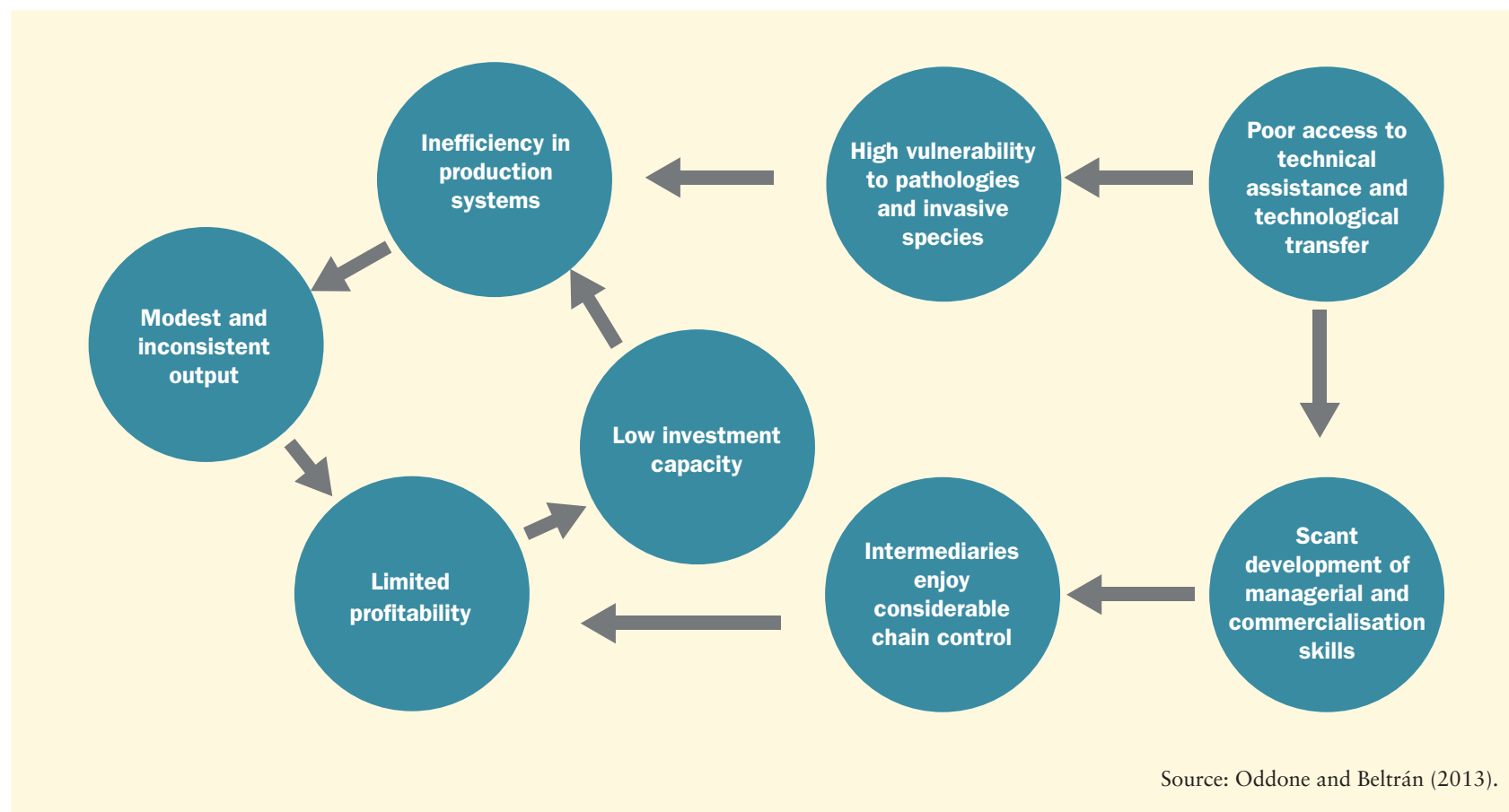
BOX VI.7
BOTTLENECKS IN THE TOURISM CHAIN IN ANTIGUA GUATEMALA AND THE RURAL MUNICIPALITIES OF THE DEPARTMENT OF SACATEPÉQUEZ

Systemic			By link		
International connectivity and domestic transport	Of the market	Institutional	Departmental and local transport	Of the market	Institutional
Weak air connectivity with only a few international carriers.	Some agents that offer services within the chain lack experience and chain-specific knowledge.	Few public incentives for private investment in tourism. The National Tourism Promotion Law was repealed in 1997 and Guatemala is the only country in the region lacking any such laws.	Lack of modern or well-maintained infrastructure for connecting Antigua with surrounding municipalities where complementary supply is to be found.	Most chain agents share a traditional concept of tourism, especially the tour operators.	Debate about interest in and political capital for converting INGUAT into a tourism ministry, which undercuts inguat's legitimacy.
High international airfares.	Technical problems with the supply and commercialisation of other products/destinations in the department.	Lack of statistical information for public policy design.	Traffic and other congestion problems in Antigua's urban centre. No consideration to alternative tourism arrangements.	Tour operators unwilling to incorporate new products.	Scant INGUAT coordination with local governments.
No proposal for a consolidated domestic carrier.	Marked seasonality with high dependence on the external market.	Difficulties with the promotion of the destination country, which is almost always conducted in a traditional format.		Local tour operators lack bargaining capacity relative to the larger local or foreign operators.	Legitimacy problems in CNPAG and the Municipality of Antigua.
	Products/destination don't compete under a single collective brand.			There are no municipal or inter-municipal tourism enterprises.	

Traffic and other forms of congestion problems affect transit between Guatemala City and Antigua	High concentration of products and services in Antigua.	Lack of positioning in alternative markets such as South America and Asia.		Smaller tour operators face problems of scale in gaining access to international fairs.	Need to update regulations for classifying lodging in line with the National Policy for the Development of Sustainable Tourism.
	Lack of associativity among the actors comprising the links.	Duplication of tourism-certification efforts. INGUAT's proposed Q seal suffers from limited legitimacy.		A relative lack of innovation in local and artisan products. More intense competition on the level of prices than tourism quality and value added.	Absence of specific programmes for creating capabilities related to tourism intermediation.

Source: Oddone and Alarcón (2016).

San Juan del Obispo, Sacatepéquez, Guatemala.

Local enterprise, San Juan del Obispo, Sacatepéquez, Guatemala.

The bottleneck analysis is of fundamental importance to the next stages of the process. Once they have been identified it is possible to begin the search for good practices and future strategy generation.

KEY CONCEPTS

Cost and profit margin analysis. Cost and profit margin studies are employed to determine the income and profit levels of the various chain actors. Opportunity costs are useful for evaluating whether an alternative use of resources might generate higher incomes.

Governance analysis. The study of mechanisms, processes and rules that govern the chain in general and within each of its links, as well as the role of public and private support organisations.

Market analysis. A study that collects information essential for understanding the workings of a market and the type of decisions that should be made in relation to the product or service on offer, consumer profiles, prices and distribution channels, among other factors.

SWOT analysis. A study of the chain's strengths, weaknesses, opportunities and threats that is useful for synthesising the capabilities of the actors from each link and from the chain as a whole, as well as to more easily identify bottlenecks.

Mapping the chain. A technique that helps to identify the chain's different links and actors, their functions, degrees of power and interdependences.

Bottlenecks. The barriers faced by links in the chain or the chain as a whole (systemic restrictions) that do not allow for their proper functioning or articulation and which impede economic and social upgrading. The process for resolving such bottlenecks is understood as the strengthening of a value chain.

Final verification

- The chain was mapped: central link, main suppliers, commercialisation and distribution channels, and consumers.
- The main functions of each link and the relations that exist between them were identified.
- Support organisations and their functions were identified.
- The six themes of the diagnostic (context, economic, market, governance, support organisations, environment) were analysed.
- The bottlenecks were identified (by link and systemic).

CHAPTER VII
DIALOGUE TABLES

The organisation of tables enables the validation and enrichment of the diagnostic and strategies, makes the process more transparent, empowers actors and facilitates reaching agreements.

One of the most distinctive features of the methodology is that it is built around spaces for dialogue among the chains' stakeholders and with support organisations.[17] These spaces embody a process of communication and cooperation on a specific topic between actors who must collaborate for their mutual development and that of relational system to which they belong (identification of solutions and their application).

A dialogue space is an opportunity for holding discussions around a well-defined objective for identifying and putting into practice solutions that go beyond individual decisions. Dialogue spaces serve as collaborative platforms for the exchange of ideas and the fluid application of courses of action. They may also come to be regarded as a space for consulting about or making suggestions regarding public policies.

Dialogue table objectives: diagnostic and strategies

This methodology proposes the organisation of dialogue tables at two specific points in the process: the validation and enrichment of the information processed in the diagnostic, and the strategies. The dialogue tables tend to be convened by the public and private sectors, and are attended by representatives of links in the value

chain and support organisations. The discussion in the dialogue table facilitates advances in analysing the preliminary results obtained in the diagnostic and in the formulation of the proposed strategies, at the same time as it favours transparency and actors committing to the process.

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[17]   For more details on the dialogue tables, see Rayo (2014).

Objectives of the first dialogue table

1. Validate the information collected during the mission and synthesised in the diagnostic.
2. Assure that all the bottlenecks of the chain have been considered through a direct dialogue with the actors involved in the links.

Objectives of the second dialogue table

1. Validate the strategies for resolving bottlenecks identified in the links.
2. Socialise the strategies that can be executed with public-private support based on an implementation timetable, a relative cost analysis and each strategy's impact.

What are the dialogue tables?

Dialogue spaces between key actors are increasingly important and necessary for developing integral and sustainable initiatives. The creation of dialogue spaces contributes to the establishment of alliances and the emergence of join public and private projects both by bringing together the actors and for collectively building solutions. Despite such benefits, dialogue is not a common practice within value chains.

Both consultative (short-term), and cooperative (medium-, long-term or permanent) dialogue spaces (see box VII.1) exist. The former constitute a valuable bridge for consulting, validating and generating contributions to policy formulation. The latter provide an opportunity to advance toward the implementation stage thanks to their more permanent character. In the framework of the ECLAC methodology the first type of space was employed throughout the accompaniment process (diagnostic and strategic dialogue tables), although it has evolved toward one of a cooperative character with a long-term working agenda.

What is the composition of the dialogue tables?

There are three key factors in the selection of the actors that are to participate in a dialogue space: the intended objective, the level at which the process is to be conducted (international, regional, national or local) and the character of the dialogue (consultative or cooperative). The participating actors should be directly connected to each chain. Over the course of the interviews conducted for the diagnostic, the actors are identified and chosen based on their representation in the chain. Their territorial representation, scale of business and weight in private sector associations should also be taken into account. In the case of public sector organisations with ties to the chain, it is worthwhile to make an effort to involve all of those who to a greater or lesser extent comprise the industrial fabric in which the chain's stakeholders work and interact. The accompanying photo is of a meeting of a value chain dialogue table.

Dialogue table of the dairy product chain, Dominican Republic.

BOX VII.1
DIALOGUE SPACES: TYPES AND CHARACTERISTICS

Consultative dialogues	Cooperative dialogues
Characteristics	
Actors contribute their knowledge, points of view and experiences. Dialogue initiators are usually responsible for subsequent implementation of recommendations and conclusions.	The actors share responsibility and actively collaborate to implement solutions or actions. The greater the emphasis on implementation, the greater the willingness to cooperate and assume responsibility for achievements.
Subcategories	
• Singular/group consultation. • Institutionalised consultation. • Platform of multiple actors for exchanges.	• Initiative by multiple actors. • Platform of multiple actors for implementation. • Association of key actors.
Examples	
• New policy consultations with different sectors conducted either separately or in different geographic spaces. • Virtual exchange platforms.	• Councils, boards or other sectorial business schemes. • Innovation dialogue tables (public, private and academic sectors jointly promoting innovation).
ECLAC experiences that evolved from the chain's consultative dialogue toward the establishment of cooperative spaces	

• Farmed shrimp chain: Reactivation of the Aquaculture Technical Roundtable in El Salvador.
• Tomato and green sweet pepper chain: Establishment of the National Vegetable Value Chain Roundtable in El Salvador.
• Chain of dried fruit based nutritional snacks: Establishment of the Association of Dried Fruit Producers of El Salvador (ADEFRUDELSAL).

Source: Developed by the authors based on GIZ (2011), Rayo (2014) and experiences developed by ECLAC (2013-2016).

As previously indicated, in ECLAC developed experiences the format initially chosen works as a consultative dialogue table, convened ad hoc to validate results obtained during the diagnostic as well as the proposed strategies.

Key elements for the success of a dialogue table

The following factors are essential for the success of the value chain dialogue tables:

- Broad commitment and coordination with the public sector
- Clear and concise agendas
- Detailed knowledge of each actor's characteristics
- Dialogue and conflict-management principles
- Quick outcomes and socialisation of results
- Strengthening human relations and associativity processes among the actors that comprise different links of the chain.

The dialogue tables tend to generate great expectations and, on occasion, might lead to conflicts. It is uncommon for participants (public officials, producers, intermediaries, suppliers of inputs, commercialisation agents and distributors) to attend the same meetings other than these dialogue tables. For that reason, it is useful to have a participatory work methodology so that, participants willing, it is possible to transition from a consultative (short-term) space to a cooperative (long-term) space. It is best to clearly describe the dialogue tables' objectives and to rigorously limit speaking times so that the meetings do not go on too long, and make sure they do not become sessions for venting personal interests or raising unrealistic requests. Limiting the experience to just two dialogue tables –one to validate the diagnostic and another to agree on the strategies– has proven to be a good practice. When more meetings are held, interest tends to ebb or confusion arises as to the amount of time and steps necessary for completing the process. It is also advisable to avoid the diagnostic and strategy design discussions becoming politicised or the actors feeling they are caught up in a political process other than the one to which they were initially invited. Credibility is essential to private sector participation and strategy implementation.

Associativity among the chain's stakeholders exerts a positive influence on its strengthening, especially in those chains in which small producers have a significant presence. Associativity supplies the possibility of joint machinery and equipment purchases, collective commercialisation of products and services, shared use of specialised equipment and machinery, joint development of new processes and products and certification payments, access to fi-

BOX VII.2
BENEFITS OF ASSOCIATIVITY

- Joint commercialisation
- Joint purchasing of inputs/machinery
- Shared use of specialised equipment
- Joint development and enhancement of products and processes
- Sharing of market information
- Economies of scale for exporting
- Access to financing (more favourable terms)
- Certifications

Source: Developed by the authors.

nancing on more favourable terms and realisation of economies of scale for exporting, among others benefits. Empirical evidence points to two key elements in associativity: a) benefits from geographic proximity and grouping around an activity are greater when there is active and deliberated cooperation among the productive actors (Nadvi, 1999; Schmitz, 1995), and b) in addition to the concentration of enterprises and skilled labour, the presence of local organisations –universities, research centres and business associations, among others– is very important for realising the benefits derived from pooling (Saxenian, 1990) (see box VII.2).

Example of dialogue tables

The following box summarises the essential aspects of dialogue table organisation. Each box corresponds to the dialogue tables conducted for the tourism chain in Antigua, Guatemala, and of the rural municipalities of the Department of Sacatepéquez.

BOX VII.3
TOURISM CHAIN DIALOGUE TABLE, ANTIGUA, GUATEMALA

First dialogue table	
Issue	**Detail**
Name of the event	First dialogue table of the tourism chain of Antigua Guatemala and of the rural municipalities of the Department of Sacatepéquez
Date	1 December 2014, 9:00 am to 12:00 noon.
Purpose of the event	The dialogue table's objective was to discuss the preliminary results of the value chain diagnostic, with particular emphasis on the main bottlenecks confronted by the chain's links and at a systemic level.
Type of participation	By invitation
Place of the event	Hotel Villa Colonial, Antigua Guatemala
Institutions that organised the event	Ministry of Economy (MINECO) National Competitiveness Programme (PRONACOM) ECLAC Mexico Subregional Headquarters
Event coordinator	ECLAC Mexico Subregional Headquarters

Second dialogue table	
Issue	**Detail**
Name of the event	Second dialogue table of the tourism chain of Antigua Guatemala and of the rural municipalities of the Department of Sacatepéquez
Date	6 March 2015, 9:00 am to 12:00 noon
Purpose of the event	The objective of the second dialogue table was to present and validate the strategies and lines of action identified in relation to the main bottlenecks faced by the chain, which were both analysed in the diagnostic and validated in the first dialogue table.
Type of participation	By invitation
Place of the event	Hotel Villa Colonial, Antigua Guatemala
Institutions that organised the event	Ministry of Economy (MINECO) National Competitiveness Programme ECLAC Mexico Subregional Headquarters
Event coordinator	ECLAC Mexico Subregional Headquarters

Source: Developed by the authors.

Consultative dialogues. These are valuable meeting spaces for consultation, validation and idea generation for public policy formulation. They are generally short-term processes. The consultative spaces can evolve into cooperative spaces.

Cooperative dialogues. These are more enduring spaces that can extend through to the implementation of public policy actions.

Dialogue space. Their main purpose is to create a process of communication and cooperation on a specific topic between different relevant actors that need to collaborate for mutual development and that of the relational system to which they belong (identify solutions and implement actions).

Final verification

- The dialogue tables were organised and had the participation of the chain's central actors.
- The information collected in the diagnostic for which they were convened was validated.
- The proposed strategies were also validated and enriched.

CHAPTER VIII
GOOD PRACTICES

> *These complement the diagnostic as an input for the design of strategies. A selective observation of practices in different contexts is made in order to extract lessons with which to overcome bottlenecks.*

What are good practices?

The diagnostic provides fundamental information for becoming familiar with the current situation in a specific value chain, especially the bottlenecks and opportunities it faces. The diagnostic is a first step towards defining the strategies that lead to overcoming or minimising the bottlenecks, as well as taking advantage of opportunities with an eye toward realising the defined meta-objectives for developing the value chain. Even so, the identification of bottlenecks and opportunities necessary for defining actions and policies is insufficient. In this sense, it is useful to examine other comparable realities in order to identify experiences and extract lessons abut the ways in which similar barriers have been overcome in different contexts.

   Good practices[18] research is based on **the selective observation of a number of experiences in different contexts for the purpose**

of **extracting more generalizable principles** (Overman and Boyd, 1994). It is a structured process far removed from informal exercises in the search for and description of successful practices. From this perspective, it is necessary to observe what questions have proven useful for solving similar problems in other chains, what factors determined their success –they are generally factors of "context"

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[18]   It is important to clarify that in this methodology the adjective "good" is used in relation to practices. Other studies, however, commonly refer to "best practices". The analysis of a set of practices does not preclude the possibility that there might exist better practices other than the ones being considered in this strengthening process, so there is no way to be certain that the practice that one wishes to take advantage of is really the "best". Due to the lack of universality, this toolkit uses the term "good practices". It is also common to use the term "intelligent practices".

such as legal or regulatory aspects, inter-institutional agreements, etc.- and how much of a probability exists for being able to recreate these contextual elements and replicate the practice.

How to search for them?

The process of searching for good practices and especially for explanations of the success of observed practices can be conducted informally or through structured mechanisms. In the context of the value chain strengthening methodology, the use of a formal process of critical analysis of observed practices facilitates adaptation to the situation in need of transformation. It begins by becoming familiar with the restriction or bottleneck that the value chain needs to resolve through the application of the good practice (see diagram VIII.1). It is useful to make a list of bottlenecks and compare them with the practices observed in other situations beginning with a general description, the results obtained and the context elements. On this last point, the data obtained can be used, for example, to determine up to what point the practice is usable regardless of the context (application) or whether there exists some condition that it would be necessary to reproduce in order for the practice to have the hoped for success (adaptation). If the application and the adaptation of the good practice prove impossible, it is necessary to restart the search process in other contexts.

A qualitative focus for identifying good practices can be used with the criterion of prioritising searches regarding effective and sustainable practices with the potential to overcome

deficiencies detected in the situation analysed. This coincides with the definition that a good practice has the capacity to provoke real changes in the desired direction when there is an innovative, replicable and sustainable approach (Rhi-Sausi, Conato and Lamela, 2011). It is also possible to employ a quantitative approach to identify possible good practices using statistical techniques for analysing and identifying whether different practices fulfil conditions such as universality and mutual comparison. These good-practice search procedures are more commonly referred to as benchmarking.

The transfer or incorporation of the identified practice to another context is referred to as extrapolation and is susceptible to various interpretations. Adaptation to the desired situation is fa-

DIAGRAM VIII.1
PROCESS OF GOOD PRACTICE ANALYSIS

Source: Oddone, Padilla Pérez and Antunes (2014).
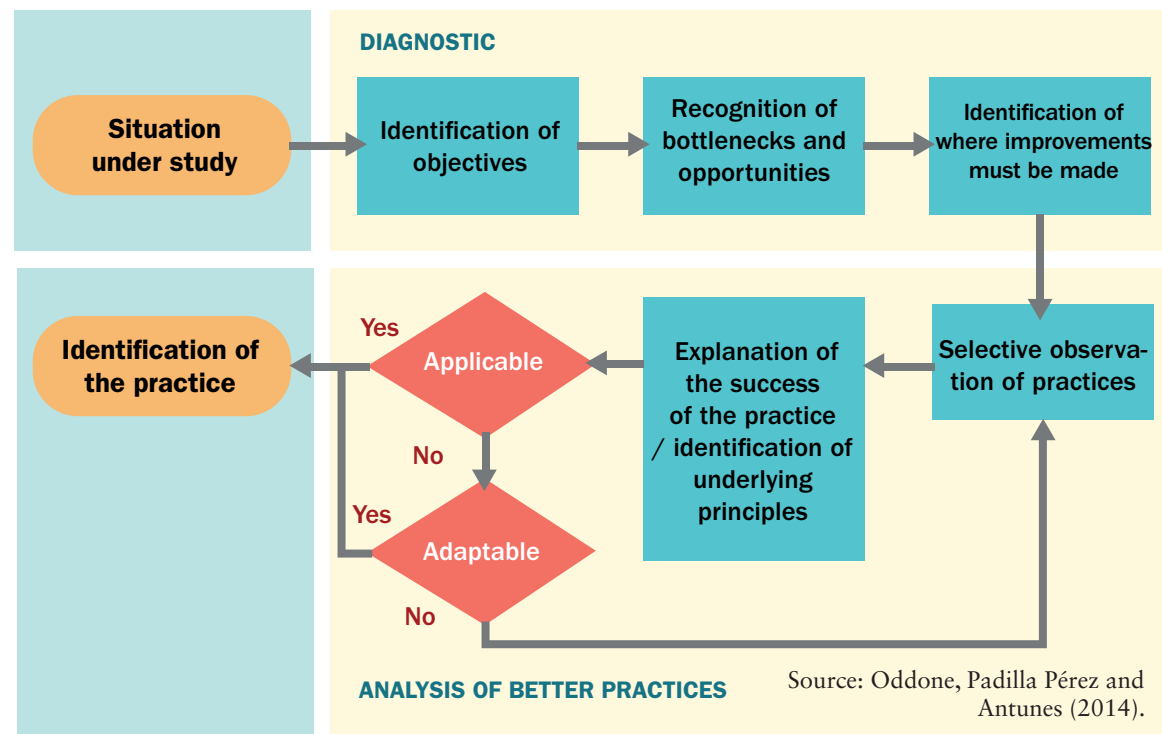
cilitated when the extrapolation is employed in a formal process of critical analysis of the observed practices. It is also necessary for the counterparts involved to be open to the changes that will arise as a result of extrapolating the experience. When analysing the context, special attention must be paid to the level of development of the country in which the practice was observed, given that this is a key factor in determining whether the transfer to the new situation proves possible or successful (Veselý, 2011). In order to extrapolate to a less developed chain a measure that was applied to a much more advanced chain inserted in a more favourable context, attention must be paid to context analysis for identifying the underlying success factors and determining the necessary adaptations (see boxes VIII.1 and VIII.2). It is essential to evaluate the implementation and results of actions that can be transposed according to an analysis of good practices. This determination makes it possible to identify whether it is valid to apply additional adaptation measures in order to effectively contribute to the previously determined objectives, such as the meta-objectives, as well as to enrich the process of analysis and extrapolation of good practices.

While the search for good practices can produce valuable results, there exist empirical risks capable of affecting their interpretation. Firstly, and as has occurred in most of the cases studied, the information relative to the practices most likely will not be readily available. More specifically, information regarding the practices centred on elevating the performance of the private sector economic agents may be regarded as privileged or confidential. Secondly, even when the information is not defined in such restrictive terms, the fact that it is not registered or that there is a reticence to make it public acts as a barrier to its use in analytical processes of successful measures. But even in such a scenario, many opportunities would exist for making progress in managing knowledge relative to research on good practices.

Example of the process of extrapolation
The following box displays an example of good practice extrapolation in the synthetic fibre-sports apparel chain in El Salvador.

Tomato farmer, El Salvador.

The process begins with the studied situation in need of reform (bottleneck) followed by identifying a good practice, which will be briefly described and its results and context determined. Given the specificity of this task and the importance of context elements, the process in which the proposal to create an innovation and technological development centre for the textile and garment sectors in El Salvador arose (see Antunes and Monge, 2014), is explained based on the observed experience of an accredited laboratory in Guatemala.

BOX VIII.1
EXAMPLE OF A PROCESS OF EXTRAPOLATION IN THE SYNTHETIC FIBRE – SPORTS APPAREL CHAIN IN EL SALVADOR

Bottlenecks	*Good practice*	*Source / brief description*	*Comments*
List of bottlenecks that must be minimised or overcome, and of opportunities to be exploited.	It is necessary to identify the main objective in each observed practice.	It is necessary to identify in the practice observed the mechanisms to be employed to improve the situation studied.	Make a list of each practice's results including sensitivity analysis and registering secondary effects. Describe the situation in which the practice was observed and the relevant context factors for later adapting the practice.

EXAMPLE MADE OF THE SYNTHETIC FIBRE CHAIN IN EL SALVADOR BASED ON THE GUATEMALAN EXPERIENCE REGARDED AS GOOD PRACTICE

Bottlenecks	*Good practice*	*Source / brief description*	*Comments*
Firms in El Salvador's cluster must use the central offices of accredited laboratories or the accredited laboratory in Guatemala, as no such service is available in their home country.	The development of an accredited laboratory in the domestic market.	Laboratory accredited in metrology and international quality certification that under approval of the American Society for Testing and Materials can analyse and approve the fibres faster and at a lower cost.	Time and cost reduction. Key export certification. Commercialisation based on the product's functional capabilities. The laboratory is located in the neighbouring country of Guatemala, in contextual conditions similar to those of the country in which there is a desire to extrapolate the practice.

Source: Developed by the authors based on Ongaro (2009) and Antunes and Monge (2014).

Example of identifying good practices

The following box describes an example of identification of good practices in the process of strengthening the tomato and green sweet pepper chain in El Salvador. The first column lists the bottlenecks identified as a result of the diagnostic. The second column specifies whether it was a systemic bottleneck or one specific to a link. The third column lists the topic or general subject of the good practice, while the source of information is specified in the fourth column along with a brief description. Lastly, the fifth column offers a synthesis of what the good practice consists of.

BOX VIII.2

TOMATO AND SWEET PEPPER CHAIN IN EL SALVADOR: GOOD PRACTICES CHOSEN FOR SOME OF THE SYSTEMIC BOTTLENECKS IDENTIFIED

Restriction	Level of restriction	Good practice	Source/Brief description	Comments
Lack of trust among chain actors	Systemic	A national roundtable	Panama's Ministry of Agricultural Development (MIDA) convened a dialogue table to analyse the "Current situation and perspectives of Panama's vegetable sector and the agrifood-chain focus as an alternative", in which suppliers of inputs, producers, commercialisers and consumers participated. The event discussed products such as tomatoes, sweet peppers and carrots.	Bringing the different actors of the chain together and exchanging ideas can help generate agreements, build common objectives, and define the next joint steps.
Multiplicity and discontinuity of institutional support	Systemic	Inter-institutional coordination of support programmes	The Coordinating Committee on Agribusiness Industry Chambers and Issues (CGAC) of Brazil's Ministry of Agriculture, Livestock and Supply (MAPA) promotes the integration of actions between public institutions and outreach to the private sector. Another interesting arrangement is the Leadership and Coordination Mechanism between the central administration and the territories of Mexico's Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA). The central government provides a "menu" from which state representatives make their choices for structuring agribusinesses promotion programmes. Another attractive example is provided by Colombia's Regional Evaluation and Resource Allocation Committees (CREAR), structured around the needs of producers and the technical services provided as part of the Rural Opportunities Programme of the Agricultural and Rural Development Ministry (MADR).	Coordination is an especially important challenge for El Salvador, considering the multiplicity of supports executed by different central offices or MAG departments. The possibility of structuring a multilevel coordination between the State and municipalities can also contribute to a greater availability of options chosen based on each territory's specific needs as agreed to with the local authority.

(Continues)

Low level of investment in research and development	Systemic	Ties with research sources that are developing new extension schemes and with universities with recognised technical credentials.	The Latin American Network for Rural Extension Services (RELASER) works for the improvement of rural extension programmes in Latin America by establishing ties between universities and research centres, international organisations, and the private sector. Among the identified educational institutions that chain actors recommend having contact with are the Universidad de Almería (for the development and enhancement of seeds and new varieties), the Universidad de Murcia (for issues of nutrition and tomato bromatology), and Wageningen University and Research in the Netherlands (for rural farm extension practices).	RELASER was established in 2010. At the time groups of public and private institutions, under the leadership of the Centro Latinoamericano para el Desarrollo Rural (RIMISP) and the Global Forum for Rural Advisory Services (GFRAS), decided to establish a space for debating the State and the current evolution of rural extension systems in Latin America, for the purposes of working toward its betterment. RELASER poses a new paradigm that integrates extension into the innovation system, interacting with research and education as an effective way to generate the economic and social value that rural society requires. The fundamental components of this new paradigm are: 1) decentralised services; 2) multidimensional focus; 3) pluralism in service delivery; 4) market orientation, and 5) demand oriented extension. Source: http://www.relaser.org/index.php/quinne-somos.

Source: Oddone et al. (2016).

Dialogue table of the dried fruit based nutritional snacks chain, El Salvador.

Harvesting tomatoes, El Salvador.

Good practice. Also referred to as "intelligent practice" or "better practice", it is the selective observation of a set of experiences in different contexts in order to derive principles that are generalizable to another context (Overman and Boyd, 1994).

Extrapolation. Operation in which a good practice is transferred and incorporated into a new context for the purpose of causing positive changes in a desired direction.

Final verification

- Good practices that supply elements for overcoming the bottlenecks were identified.
- Good practices were extrapolated to the context under study as a strategy-development input.

CHAPTER IX
STRATEGIES, IMPLEMENTATION SUPPORT AND LAUNCH

> *Strategies are the principal means for resolving bottlenecks to strengthen the chain.*

This chapter describes the final three steps in the methodology: strategy development, implementation support and the launch.

What are strategies?

Strategies constitute the principal means for resolving each bottleneck observed in a chain. They tend to be based on researched good practices, and on other sources of knowledge, analysis and reflection, such as interviews with specialists or prominent experts.

The strategies are organised by programmes, which are the main areas around which the intervention for strengthening the chain has been planned and systematised. They are built around a series of lines of action whose objective is the promotion and achievement of strengthening, and they are directed at all of the chain's stakeholders, not just the public sector (see diagram IX.1). In this way, the actions each actor must undertake to strengthen the chain are specified, and are supported by the creation of consensuses and agreements promoted in the dialogue tables.

How are they constructed?

There is neither a maximum or minimum number of strategies for each programme nor lines of action for each strategy. The needs and capabilities in a chain are the bases for defining the breadth and depth of actions required at a systemic level and by link.

As the name of the programme indicates the area of intervention, it is best if they are formulated in general terms, for example: "strengthening the innovation capabilities of the chain's producers". The strategies identify in greater detail the actions laid out in the programme, for example: "increase the resources available
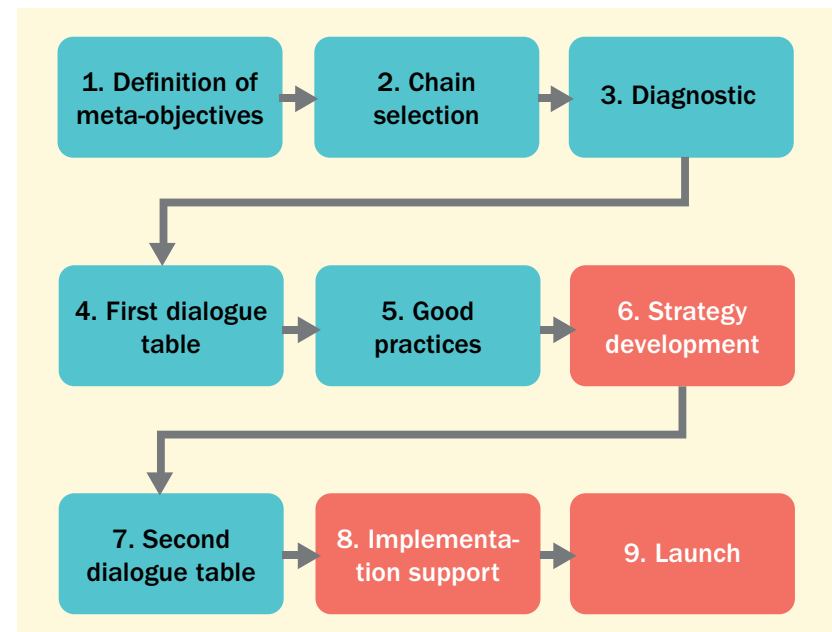
for hiring qualified personnel" or "tighten bonds with enterprises through specialised research centres". The lines of action detail the activities that should be undertaken during strategy implementation and make them concrete. One example of how they can be formulated is "create an exchange programme between researchers, universities and enterprises on previously chosen topics of central importance to developing the chain".

Examples of strategy development

The strategies are constructed based on the bottlenecks identified in each chain and are aimed at responding to and achieving the meta-objectives posed at the beginning of the process, as shown in the following example regarding the farmed shrimp chain in El Salvador. The lower portion of diagram IX.2 contains the identified bottlenecks, which are dealt with using the strategies (central circles) and which lead to fulfilment of the meta-objectives (upper rectangle).

Box IX.1 lists the six programmes and 21 strategies developed for strengthening the tourism chain in Antigua Guatemala and other rural municipalities in the Department of Sacatepéquez. Diagram IX.3 was designed to show the ties between the chain-strengthening centred action proposals.

DIAGRAM IX.1
PROCESS OF DEVELOPING STRATEGIES

Source: Developed by the authors.
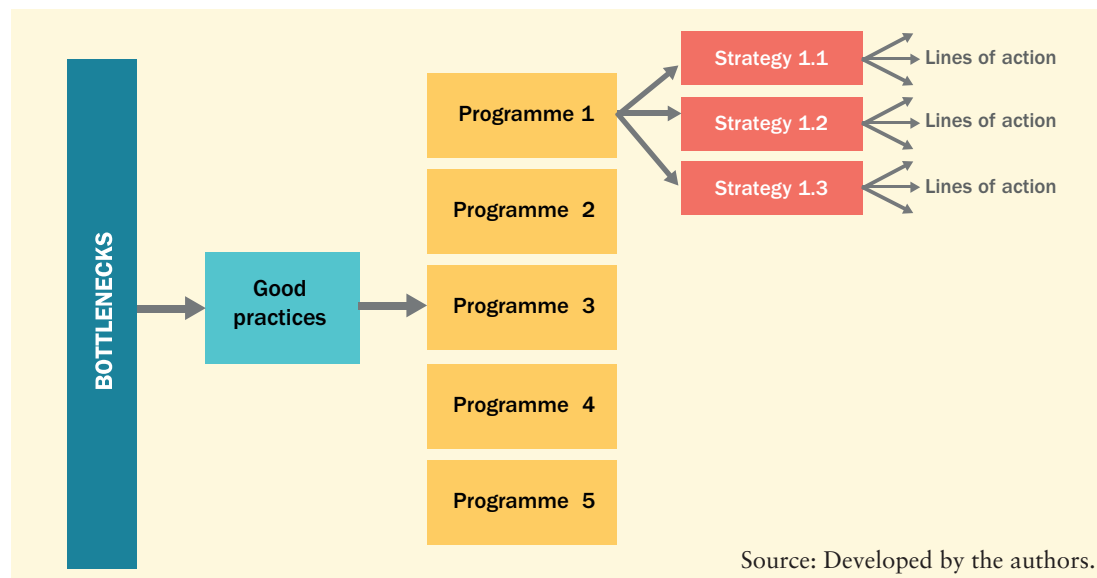
DIAGRAM IX.2
CONSTRUCTION OF THE STRATEGIES BASED ON THE META-OBJECTIVES POSED

Source: Developed by the authors.
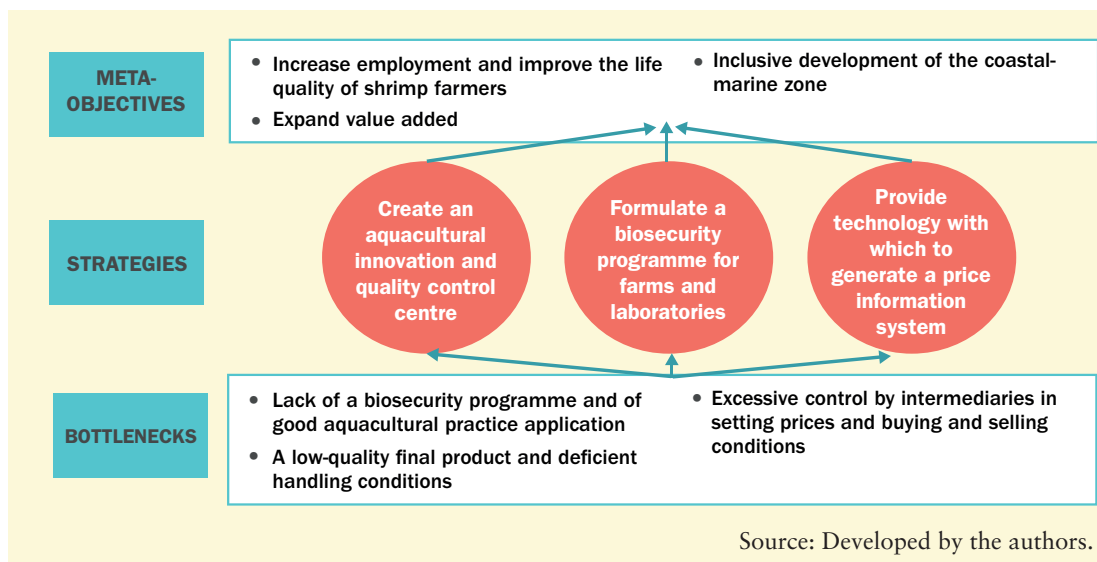
BOX IX.1
STRATEGIES FOR STRENGTHENING THE TOURISM CHAIN IN ANTIGUA GUATEMALA AND OTHER RURAL MUNICIPALITIES IN THE DEPARTMENT OF SACATEPÉQUEZ

P. 1. Tourism risk and resilience management.	P. 2. Existing and complementary tourism services.	P. 3. Quality tourism services.
S1: Design and apply in a co-ordinated manner a tourism risk management plan.	S2: Implement a programme of tourism culture and public tourism awareness. S3: Generate complementary products and services. S4: Create a network of towns. S5: Design a touristic zoning of the historical cities. S6: Design a promotional and marketing system for destinations. S7: Put into practice a programme of gamified tourism experiences. S8: Update regulations on temporary lodging establishments. S9: Promote a foodie gastronomic corridor.	S10: Care for the sustainability of the chain's tourism services. S11: Promote high standards of tourism promotion. S12: Develop capabilities with skill certifications. S13: Design a system for queries and complaints.

P. 4. Innovation in tourism promotion.	P. 5. Information for tourism decision-making.	P. 6. Tourism governance.
S14: Design a comprehensive plan for digital tourism marketing.	S15: Strengthen the Tourism Satellite Account (TSA). S16: Integrate and harmonise the Tourism Satellite Account and Culture Satellite Account. S17: Create a tourism observatory. S18: Create a digital tourism repository.	S19: Establish a Sacatepéquez municipal network. S20: Build public-private municipal tourism enterprises. S21: Incentivise public-public and public-private dialogue for on-line work.

P: Programme / S: Strategy

Source: Oddone and Alarcón (2016).

Fuente: Oddone y Alarcón (2016).
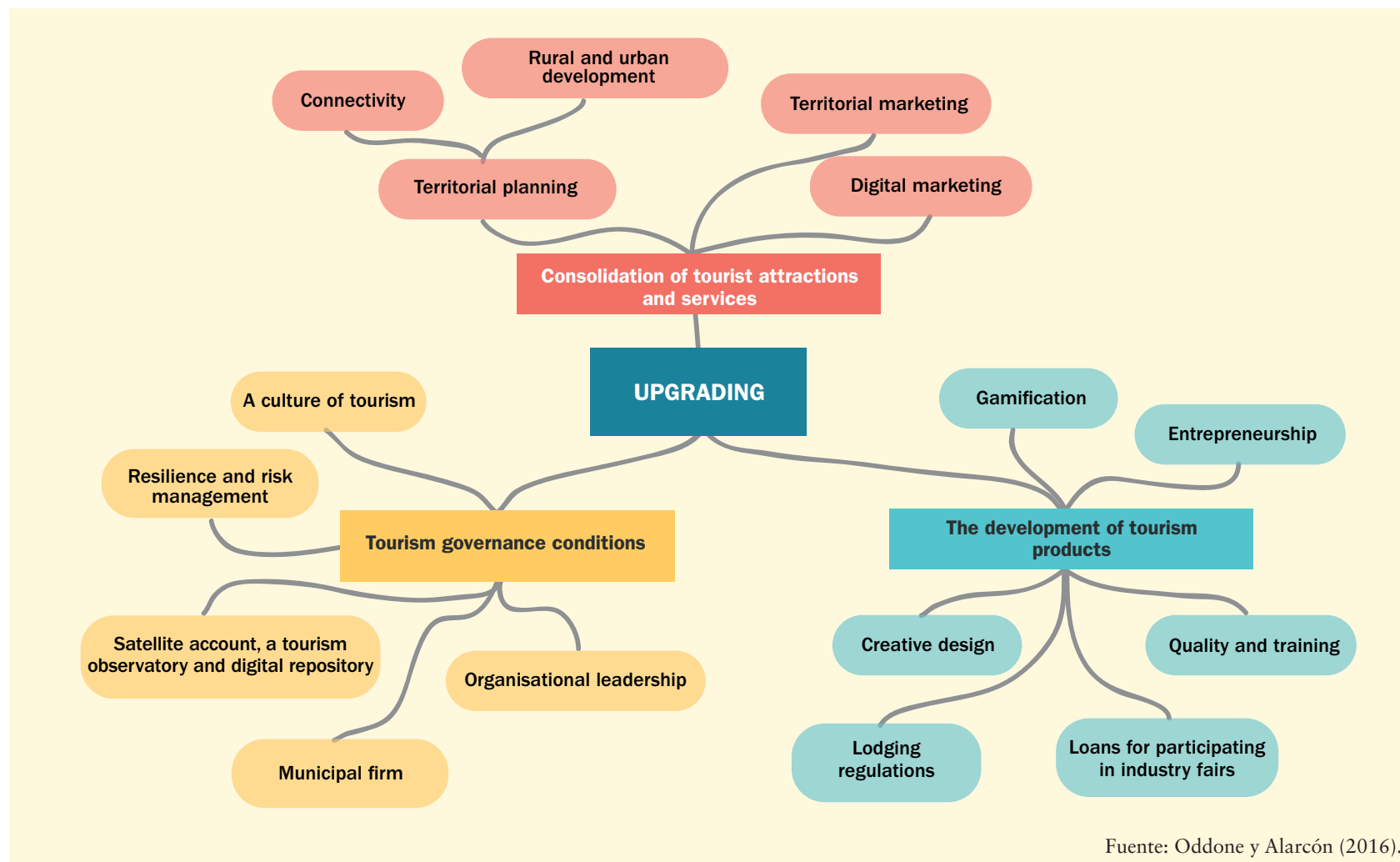
Diagram IX.4 summarises the programmes and the designed strategies for addressing the meta-objectives of the tomato and green sweet pepper chain in El Salvador. The diagram shows the four designed programmes and identifies the type of restriction addressed (whether systemic or by link). The columns show the strategies for each of the programmes.

DIAGRAM IX.4
STRENGTHENING THE TOMATO AND GREEN SWEET PEPPER CHAIN IN EL SALVADOR: SYNTHESIS OF THE PROGRAMMES CORRESPONDING TO THE MAIN IDENTIFIED BOTTLENECKS AND PROPOSED STRATEGIES, BY PROGRAMME

TOMATO AND GREEN SWEET PEPPER CHAIN IN EL SALVADOR

| Programme 1 CHAIN GOVERNANCE Systemic bottlenecks	Programme 2 SUPPORT FOR PRODUCER PRODUCTIVITY AND FINANCING Bottlenecks in input procurement and production links	Programme 3 IMPROVE COMMERCIAL INFRASTRUCTURE AND LINKAGE WITH PRODUCERS Bottlenecks in commercialisation and consumption links	Programme 4 INDUSTRIAL PROCESSING AND UPGRADING Productive transformation bottlenecks: absence of a processing link
Strategy 1. Create the National Vegetable Value Chain Roundtable (MNH). **Strategy 2.** Create the multi-annual strategy for the tomato and green sweet pepper value chain, including the transition phases between the support programmes that the produce subsector receives. **Strategy 3.** Maximise scientific and educational cooperation for reinforcing endogenous capabilities. Promote cooperation between institutions in the national education, research and development system that are related to the chain, the CENTA and other strategic actors. **Strategy 4.** Foster the application of BPA regulation and generation of a national tracking plan. **Strategy 5.** Strengthen the national biosecurity system and create an early warning system for farming and commercialisation areas, as part of the National Vegetable Value Chain Roundtable (MNH). **Strategy 6.** Coordinate the different inter-institutional support programmes.	**Strategy 7.** Improve the productive and management capabilities of Salvadoran producers. **Strategy 8.** Draft a plan for the consolidation and reinforcement of CAS, cooperatives and other associative forms for the purpose of helping tomato and green sweet pepper producers to move toward protected agriculture and create capabilities for generating profitable, solid and sustainable agro-businesses. **Strategy 9.** Design a plan for access to financing services for vegetable production with special attention to farming under protected conditions. **Strategy 10.** Develop a programme for the development of agricultural insurance for chain actors. **Strategy 11.** Improve irrigation systems and expand water productivity through technology implementation, raising awareness about water usage, protecting against pollution and working toward soil restoration. **Strategy 12.** Promote domestic production of organic fertilisers. **Strategy 13.** Maximise the opportunities derived from the country's trade agreements.	**Strategy 14.** Renovate the physical infrastructure of La Tiendona. **Strategy 15.** Link producer cooperatives with commercialisation cooperatives operating in La Tiendona and other municipal markets. **Strategy 16.** Reinforce general ties between producers and the formal commercialisation channel. **Strategy 17.** Create a MAG market intelligence strategy in alliance with MINEC's Economic Intelligence unit. **Strategy 18.** Eliminate unfair black-market competition. **Strategy 19.** Generate a programme for supplying the government with tomato and green sweet peppers. **Strategy 20.** Raise consumer awareness about the importance of BPA, organic production and support for small producers.	**Strategy 21.** Generate the bases for the production of salsas and promote ventures in the agricultural sector. **Strategy 22.** Promote backward and forward linkages.

Source: Oddone et al. (2016).

Greenhouse farming, El Salvador.

Each strategy offers a series of specific lines of action. Turning again to the example of tomato and green sweet peppers, in the framework of Strategy 1 - Create the National Vegetable Value Chain Roundtable (MNH), the lines of action proposed were to: a) Convene and establish the MNH as the axis for coordinating and establishing strategic alliances between the chain's stakeholders. The MAG Rural Development Secretariat was to act as aliaison between the MNH and other government institutions; b) Establish the guidelines of the multi-year strategy for the tomato and green sweet pepper chain; and c) Organise the work of the MNH in relation to subcommittes or thematic dialogue tables such as ones on production, commercialisation, quality and safety, research and development and post-harvest management.
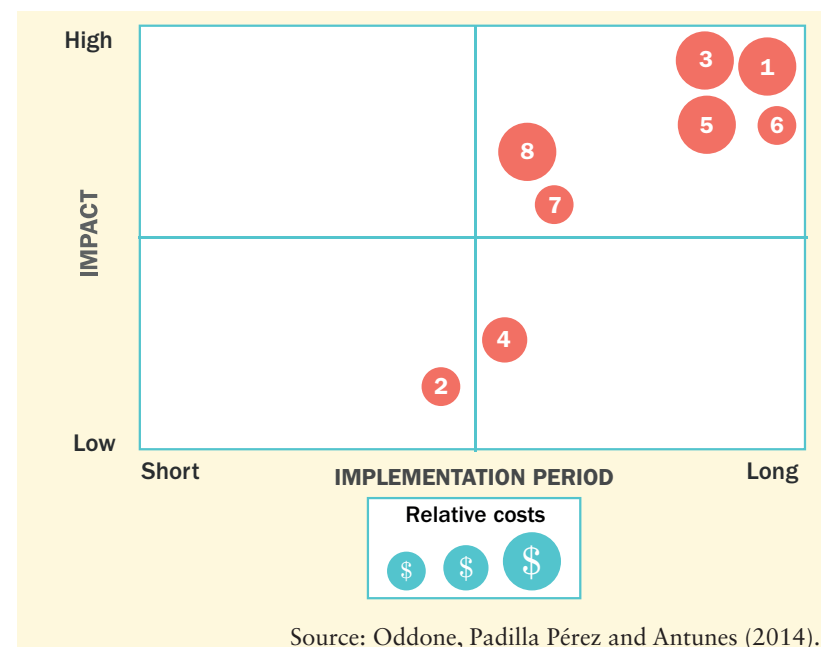
Strategy comparison matrix

The following tool has been approved by public sector decision makers as being useful for them, along with private actors, to

prioritise the execution of designed strategies according to costs, the time needed for implementation, and relative impacts (see diagram IX.5). It is a tool designed to facilitate the decision making process while factoring in the political will, financial resources and time available for its execution. The X-axis represents the implementation period, which extends from short to long; the Y-axis defines strategy impact in a range between low to high. The size of each circle indicates each strategy's relative cost.

This exercise is indicative in nature, so its construction requires the knowledge and experience developed by people responsible for the chain strengthening process. A more precise exercise for defining costs, times and impacts would entail considerable additional efforts, so that is proposed for a later phase of the process.

DIAGRAM IX.5
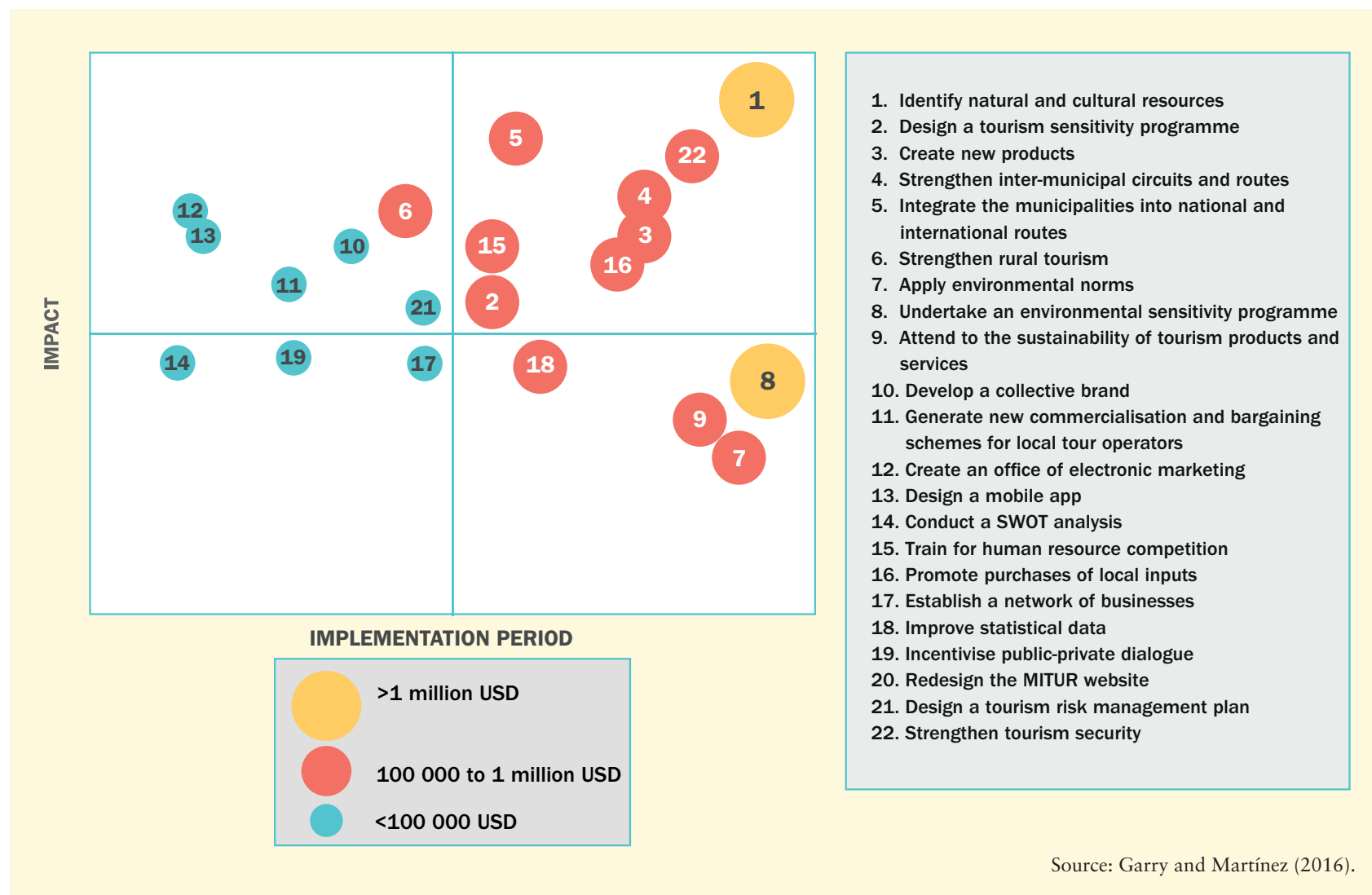**COMPARISON MATRIX OF STRATEGY COSTS, IMPLEMENTATION PERIODS AND RELATIVE IMPACTS**

Source: Oddone, Padilla Pérez and Antunes (2014).

Comparison matrix example

The matrix prepared for the tourism chain in the Department of La Libertad in El Salvador, which compares strategies in terms of costs, relative impacts and implementation periods, appears below (see diagram IX.6).

DIAGRAM IX.6
TOURISM CHAIN IN THE DEPARTMENT OF LA LIBERTAD IN EL SALVADOR

IMPACT

IMPLEMENTATION PERIOD

>1 million USD

100 000 to 1 million USD

<100 000 USD

1. Identify natural and cultural resources
2. Design a tourism sensitivity programme
3. Create new products
4. Strengthen inter-municipal circuits and routes
5. Integrate the municipalities into national and international routes
6. Strengthen rural tourism
7. Apply environmental norms
8. Undertake an environmental sensitivity programme
9. Attend to the sustainability of tourism products and services
10. Develop a collective brand
11. Generate new commercialisation and bargaining schemes for local tour operators
12. Create an office of electronic marketing
13. Design a mobile app
14. Conduct a SWOT analysis
15. Train for human resource competition
16. Promote purchases of local inputs
17. Establish a network of businesses
18. Improve statistical data
19. Incentivise public-private dialogue
20. Redesign the MITUR website
21. Design a tourism risk management plan
22. Strengthen tourism security

Source: Garry and Martínez (2016).

Construction of monitoring indicators

An important component in developing the intervention strategy is the effort to evaluate and monitor its instrumentation. When implementing an evaluation system it is essential to design and incorporate a measuring system that employs quantitative or qualitative indicators which estimate the progress achieved. To that end, it is necessary to compile a list of indicators by programme linked to the agreed upon meta-objectives and the strengthening strategies designed for each chain. These indicators help with monitoring strategies in their implementation phase, following up the agreements reached, and realising the previously established meta-objectives. As an example, box IX.2 shows the indicators proposed for the rural tourism chain in the Department of La Libertad, El Salvador.

BOX IX.2
INDICATORS FOR MONITORING THE IMPLEMENTATION PROGRESS OF INTERVENTION PROGRAMMES

Programme	Indicator	Source of verification	Frequency of measurement
1: Consolidation of tourism offer and the generation of new products, circuits and complementary routes	1. Number of new products and tourism routes that have been launched or which tour operators sell each year.	National Tourism Registry (MITUR/CORSATUR)	Annual
	2. Number of visitors to the municipality's town centre and outlying or rural areas.	Mayor's office	Six-month
	3. Number of busses and routes being operated in the municipalities.	Deputy Ministry of Transport	Annual
	4. Number of persons trained and training courses offered in each municipality.	Mayor's office and INSAFORP	Annual
	5. Number of households registered with the network of rural lodgings.	MITUR/CORSATUR	Annual
	6. Average stay per tourist in the destination.	MITUR/CORSATUR	Annual
	7. Average amount spent in the destination per tourist, per night.	MITUR/CORSATUR	Annual
	8. Degree of customer satisfaction with the tourism experience.	MITUR/CORSATUR	Annual
2: Management of the environment and natural resources in building and broadening tourism services and products	1. Number of environmental inspections.	MARN	Annual
	2. Number of municipalities that incorporate environmental norms in their local development plans.	MARN and COMURES	Annual
	3. Number of persons trained and/or certified in cleaner production.	Mayor's office and Central American Commission on the Environment and Development (CCAD)	Annual
	4. Monthly water usage (average per person, per establishment).	National Aqueduct and Water Supply Administration (ANDA)	Monthly
	5. Energy (gas / electricity) usage, per person, per establishment.	National Energy Council (CNE)	Monthly

(Continues)

Box IX.2 (Continuation)

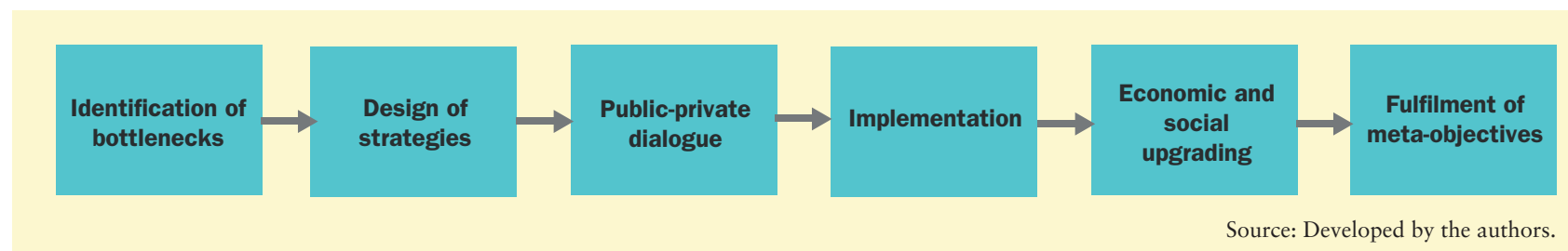|			
3: Promotion of tourism destinations through new technologies	1. Number of enterprises and actors that use the destination brand in their advertising and promotional activities.	MITUR/CORSATUR	Annual
	2. Number of persons trained and training courses offered in each municipality.	MITUR/CORSATUR	Annual
	3. Number of people attending technical courses on digital marketing.	INSAFORP	Annual
	4. Number of friends and "likes" in social networks.	MITUR/CORSATUR	Monthly
	5. Number of users of the mobile app (number of downloads, etc.)	MITUR/CORSATUR	Monthly
4: Strengthening productive development and chaining of municipalities	1. Number of personnel trained in tourism related technical programmes.	INSAFORP	Annual
	2. Number of entrepreneurs that comprise the network of tourism businesses.	MITUR/CORSATUR	Annual
	3. Consumption of local primary products purchased for the tourism chain as a percentage of total primary consumption in the La Libertad tourism value chain.	MINEC, MAG, BCR, DYGESTIC	Every seven years (in cooperation with the Agricultural Census)
5: Institutionality and information for tourism decision making	1. Number of memberships in the regional networks linked to tourism.	MITUR/CORSATUR	Annual
	2. Number of visitors to the MITUR/CORSATUR webpage.	MITUR/CORSATUR	Monthly
	3. Number of documents downloaded (reports, tourist information brochures, etc.).	MITUR/CORSATUR	Monthly
6: Tourism risk and resilience management	1. Number of persons doing security work in the municipalities.	Mayoralties and POLITUR	Six-month
	2. Rate and type of crime reported in the zone (number of crimes per inhabitant).	POLITUR	Six-month
	3. Percentage of coverage of access to public services in the municipalities (potable water, sanitation services, etc.)	MOP and Mayoralty	Annual
	4. Number of municipalities with tourism risk management action plans.	MITUR/CORSATUR	Annual
	5. Number of training events or courses provided (and number of people who attended) in La Libertad in relation to tourism risk management and awareness.	MITUR and INSAFORP	Annual

Source: Garry and Martínez (2016).

In addition to the information presented in the table above, before beginning programme and strategy implementation it is necessary to establish a baseline and intended target value for each indicator.

Methodology implementation contributes to chain strengthening through the resolution of identified bottlenecks and fulfilment of the meta-objectives that were agreed upon with the government or other counterparts at the beginning of the process. The process flow is summarised in diagram IX.4.

DIAGRAM IX.4 METHODOLOGY AND RESULTS

Identification of bottlenecks → Design of strategies → Public-private dialogue → Implementation → Economic and social upgrading → Fulfilment of meta-objectives

Source: Developed by the authors.

Implementation of strategy support

Strategies and lines of action are specific and focused, two basic conditions for quickly initiating the execution of chain strengthening activities. The main challenge ECLAC identified in the countries of the region, once the strategies had been designed, is a lack of public financial resources with which to put the strategies into practice. ECLAC has provided timely technical assistance for the purpose of promoting the public-private chain strengthening process and taking advantage of the commitment of the actors, which tends to be felt at the conclusion of the second dialogue table.

Implementation support has followed three mechanisms:

1) Assistance for managing domestic public funding, which in turn can be achieved by means of three mechanisms. The first is the identification of strategies that do not require significantly greater funding, such as the drafting of new laws or regulations or changes to existing ones, and the modification of administrative procedures. Such actions generally have a significant effect on the chain's functioning and they have low implementation costs. Secondly, expert advise can be provided to the partner public body so that it can line up specific resources for supporting a chain; for example, the Ministry of Economy can request additional funds from the Presidency or the Ministry of Finance, on the basis of diagnostic and strategy documentation, and from the dialogue tables. Third is to provide support to reorient existing programmes to include spaces specifically for strengthening the chain; for example, as part of a rural financing programme, open a special line of credit for small rural producers of the chosen chain.

2) Support for managing international cooperation funding. The diagnostic, strategies and dialogue tables can be used to negotiate financing from international cooperation agencies and international banks. For example, in Guatemala the Ministry of Economy (MINECO) applied funds drawn from a World Bank loan to support the designed strategies, with ECLAC's technical assistance, for the export vegetable

value chain. Similarly, and as part of one of its cooperation programmes in Central America, GIZ opened a special credit line in Guatemala, to support chosen value chains.

3) Timely assistance for the execution of lines of action related to training or the formulation of specific plans derived from the strategies. All of the strategies for strengthening the chains frequently include training needs on specific topics oriented towards elevating the actors' capabilities, as well as the realisation of feasibility studies and the formulation of concrete execution plans. For example, as a result of the strengthening process in the tourism chain in La Libertad, El Salvador, the Ministry of Tourism asked ECLAC to provide suppliers of local tourism services a training course about on-line marketing tools.

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Implementation support

- Technical assistance in managing public resources
- Support in applying for international financial resources
- *Ad hoc* assistance in the execution of lines of action related to training or the formulation of specific plans derived from the strategies

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The strategy execution process is also facilitated by promoting the institutionalisation of the dialogue tables as mechanisms for joint work. As already explained, the dialogue tables initially assume an advisory role and are convened for very specific tasks: discussing the diagnostic and strategies. The strengthening actions

Launch event for the nutritional-snack chain, El Salvador. Minister of Economy Tharsis Salomón and Deputy Minister of the Economy Merlin Barrera.

Training course in digital commercialisation, El Salvador

get a major boost when stakeholders get organised and transform the dialogue tables into a cooperative space. The establishment of cooperative spaces helps joint decision-making, empowers the chain's stakeholders, promotes accountability, and stimulates action, as well as public sector commitment.

Examples of implementation support processes

The process of strengthening the chain of pork sausages and other cured pork products in Mexico is an example of implementation support based on concrete actions. The participants in the second dialogue table prioritised the strategies and chose the three they felt would contribute the most to strengthening the chain. The Ministry of Economy, the main public body in this process, asked for ECLAC's technical assistance in drawing up a plan for implementing those strategies. In response, ECLAC drafted land-use consolidation and slaughterhouse productive reconversion plans that would serve as the basis for initiating public support for the chain.

> The strengthening of the nutritional-snack value chain in El Salvador is a good example of the benefits of associativity for strategy implementation. In the second dialogue table, snack producers decided that establishing the Association of Dried Fruit Producers of El Salvador (ADEFRUDELSAL) was a priority action for the chain. In response, the same producers proposed taking advantage of the opportunity at the conclusion of the dialogue table to hold a conversation regarding the objectives for establishing their association and the steps that they would need to take to create it. El Salvador's Ministry of Economy provided advice for establishing the association. MINEC asked for ECLAC's technical assistance in attending to a specific request from ADEFRUDELSAL: conducting a market study in El Salvador that would help them adapt their products to better respond to domestic demand, and upgrade the operation of their commercialisation channels and strategies.

The launch

The launch is the last step of the methodology. It is a participatory and media event in which the chain's private and public actors are called on to participate, and it includes a presentation of the main results in terms of identified bottlenecks, strategies and implementation support. It also serves to announce the commitments that have been reached. The event has two main objectives:
a) Strengthen commitment among the chain's stakeholders and socialise the agreements reached; and
b) Disseminate the results achieved and spark interest among other chains that might wish to embark on a similar process.

In ECLAC's experience, the event is convened by the public sector in association with the private sector. Some central aspects of the launch that fulfil its main objectives are:
a) Guaranteeing the broadest participation by the chain's stakeholders, public and private support organisations;
b) Assuring the presence of high level public and private representatives such as cabinet ministers and deputy ministers, heads of business chambers and cooperative leaders, among others; and
c) Announcing public and private commitments, and the financial resources committed for strategy implementation.

Chain of dried fruit based nutritional snacks, El Salvador

Launch of the nutritional-snack chain, El Salvador

BOX IX.3
EXAMPLE OF A LAUNCH

Item	Details
Name of the event	Launch of the value chain of dried fruit based nutritional snacks in El Salvador
Dates	11 May 2016, 9:00 am to 12:00 noon
Purpose of the event	The objective of the launch is to present the study's complete cycle (the chain bottlenecks identified and strengthening proposals) to all the members of the chain, public and private support institutions as well as the news media and the general public.
Type of participation	By invitation
Location of the event	Central American Bank for Economic Integration (CABEI), San Salvador, El Salvador
Institutions that organise the event	Ministry of Economy (MINEC) ECLAC Mexico Subregional Headquarters
Coordinator of the event	Ministry of Economy (MINEC) ECLAC Mexico Subregional Headquarters

Source: Developed by the authors.

Strategy. The main instrument for resolving each of the bottlenecks observed in the chain. It tends to be based on good practices and other sources of knowledge, analysis and reflection, such as interviews with specialists or prominent experts.

Implementation. The process through which the strategies proposed on the basis of the application of the methodology are initially executed.

Launch. A participatory and media event attended by representatives of the links in the chain and support institutions, and in which the commitments obtained are made public. This event consolidates the public-private consensus between actors and institutions.

Comparison matrix. A tool with which to prioritise implementation of the designed strategies in line with costs, timing and relative impacts.

Final verification

- Strategies for resolving the bottlenecks identified in the diagnostic have been designed.
- Designed strategies include identified good practices extrapolated to the context under study.
- Strategies have been compared in terms of relative cost, impact and implementation time.
- Tracking indicators have been generated.
- Strategies for incentivising the institutionalisation of the dialogue tables have been designed.
- Mechanisms for implementation support that may or may not involve financial resources have been designed.
- A media event to disseminate the main results of the process and announce chain-strengthening commitments has been organised.

CHAPTER X
FINAL REFLECTIONS: VALUE CHAIN STRENGTHENING AS AN INDUSTRIAL POLICY INSTRUMENT

In terms of productive development, the countries of Latin America generally suffer from low productivity growth, increasing productive heterogeneity, and difficulties in linking their SMEs to the most dynamic segments of the economy. These results have been closely associated with insufficient rates of long-term economic growth and the persistence of significant social deficits. From ECLAC's perspective, social and economic development requires profound changes to the productive structure of the countries of the region capable of transforming the composition of production, employment and the pattern of international insertion (ECLAC, 2012). Active and integrated public policies are absolutely essential to any effort to achieve structural change through activities characterised by greater productivity, a more intensive use of technological knowledge and growing participation by small enterprises. **This toolkit offers a methodology for the design of participatory strategies focused at the level of concrete actors forming part of a value chain.** Moreover, the methodology aims at assuring that such actors acquire an active role in the design of policies and that they assume a commitment to complementary actions on the part of the private sector.

Value chain strengthening is an instrument of a renewed industrial policy emerging in the current context of open economies

El Tunco Beach, La Libertad, El Salvador.

and trade agreements, both multilateral and bilateral. This entails an industrial policy in which the State assumes an organising role capable of identifying the needs and capabilities of the diverse actors, and designing mechanisms that incentivise coordination and association. It is a policy that assumes a broad focus and is not

restricted to manufacturing: it also designs strategies for structural change in the primary and tertiary sectors.

The design of public interventions into value chains is a very useful strategy for facilitating industrial policy implementation in its ability to concentrate strategic actions designed to overcome bottlenecks that affect each link, organise public interventions within a hierarchy of priorities that has been jointly agreed upon with private sector actors and systematise them, and streamline coordination of measures taken by public entities that extend support to the chain.

The methodology has been designed and developed in projects jointly undertaken by ECLAC, GIZ and IFAD. This toolkit revises and enriches the methodology initially developed in the project "Insertion of agro-industrial SMEs in value chains in Central America", financed by GIZ and executed by ECLAC (Oddone, Padilla Pérez and Antunes, 2014), thanks to experience with eight new value chains financed by IFAD and executed by ECLAC as part of the project "Inclusive growth, rural industrial policy and participatory value chains in Latin America and the Caribbean". **The methodology centres on identifying bottlenecks that can hinder the upgrading of the diverse links of the value chain, with special attention given both to each link and the chain as a whole.** The methodology also leads to identifying public-private strategies for overcoming existing obstacles, among others things, through the innovation of products and processes, strategies intended to improve quality, strengthen business and competitive capabilities, disseminate market information and promote exports. Bottleneck analysis and strategy design is conducted in close collaboration with those who constitute each link of the chain, whether producers or other private sector actors (for example, suppliers of goods and services, intermediaries and distributors), the public institutions involved and the academic sector.

Four distinguishing strengths characterise this methodology. First, it conducts a **thorough microeconomic analysis,** both in examining the value chain in the context of the diagnostic and when proposing strategies. This microeconomic focus makes it possible to identify the existing bottlenecks in specific links, de-

Antigua, Guatemala.

termine if some links are missing and conclude whether there is a lack of linkage or connectivity between those that do exist. Due to their level of analysis, sectorial diagnostics are unlikely to supply this information of fundamental importance to the design of targeted strategies. Moreover, this focus facilitates the design of programmes for the incorporation of small producers into the productive process, and takes into account factors such as gender and environment.

Second, it maintains a **participatory** approach throughout the entire process that further strengthens the methodology. One of the central elements is the organisation of dialogue tables to analyse and validate the proposed diagnostic and strategies. A wide range of chain members attend those dialogue tables (including producers, intermediaries, suppliers of inputs and services, wholesale and retail merchants and others), as well as representatives of the relevant public bodies (ministries of the economy, environment, education, science and technology, agriculture and healthcare, among others), non governmental organisations, universities

Tikal, El Petén, Guatemala.

and firms that certify compliance with environmental protection norms. The dialogue tables offer a transparent mechanism for analysis and decision making that favours the adoption of agreements between the public and private sectors.

Third, it points to **the development of local capabilities.** Public officials and in some cases, representatives of private organisations such as business associations actively participate in all phases of the process. These actors contribute information for elaborating the diagnostics, accompany the working team in charge of drafting the field study, support the organisation of the dialogue tables and provide inputs for formulating strategies. In addition, technical assistance tends to be accompanied by training workshops for public officials to prepare them to apply the methodology in future activities.

Fourth, it is based on a **systemic industrial policy focus.** Support for the chains is not centred exclusively on the main link, comprised by the producers of final goods and services, but rather extends to the suppliers of inputs and equipment,

services (quality control, dissemination of new technologies and transport, among others), and commercialisation. Value chain strengthening demands the reinforcement of each link, the consolidation of relationships between all of them, and perfecting the capabilities of the institutions that provide them with support (universities, research centres, business associations and certification bodies, among others).

Three final considerations should be noted. First, this toolkit is not oriented exclusively toward the value chains of any specific sector. As previously indicated, the methodology has been applied to chains of primary products, manufactures and services. It is advisable to follow the nine steps described above with the adaptations deemed necessary in the specific context of the chain with which one is working. It becomes enormously important to consider the degree of internationalisation of the chain and the type of governance that characterises it. Second, the general structure of the nine steps and each of their contents have been conceived for intervening in chains that are currently operating. The methodology should be adjusted to chains that are being built or are to be developed. For example, whether it would be necessary to introduce market and feasibility studies rather than diagnostics (for greater detail see Cordero and Padilla Pérez, 2016). Lastly, readers interested in applying this methodology are invited to consult the publications listed in the references section that summarise the main cases that have served as the basis of this toolkit. All of these experiences are available for free at the CEPAL/ECLAC website: repositorio.cepal.org

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Colofón

This toolkit offers a methodology for strengthening value chains through the design of participatory strategies focused at the level of stakeholders forming part of a value chain. It aims to facilitate the implementation of a modern and innovative industrial policy, oriented towards a broad range of sectors such as agriculture, livestock, fishing, manufacturing and tourism. The toolkit documents ECLAC's experience in providing technical collaboration to diverse countries in the region, as part of the project "Inclusive growth, rural industrial policy and participatory value chains in Latin America and the Caribbean", funded by the International Fund for Agricultural Development (IFAD).