

## **DEFINING A REPORT STRUCTURE AND CONTENTS**

The last phase of the research is to prepare and present a final report. The report should include an executive summary which can be easily consulted by stakeholders and other interested readers. The organization of the text into chapters and sections should ideally follow the general sequential structure of the adopted methodology. Typically, sections are created to comprise each of the chain components. For instance, a section on the overall enabling environment can be followed by sections on each chain component, such as farm production, first and second processing, etc. For each chain component, subsections can be created to include the discussion of the respective performance drivers. These subsections would be repeatedly presented for each component section, as illustrated by the example of Box 12. Alternatively, the drivers of performance could be used to establish the organization of topics in each chapter. For instance, after an introductory chapter, additional chapters or subsections would follow, covering each of the performance drivers, as shown in the example in Box 13. In both of these alternative presentation formats, final chapters can be defined for the overall analysis and policy proposals.

In the example of Box 13, not only is a report structure presented, but also an exhaustive list of contents which are based on the drivers of performance and methodologies of analysis presented in this document. Note that the list should be seen as merely indicative of the types of issues that could be covered in such a report.

## Box 12. Example of report contents

- 1. Introduction
- 2. Methodology
  - 2.1. Conceptual basis
  - 2.2. The agrifood chain delimitation
  - 2.3. Methodology
- 3. The international market
  - 3.1. Production
  - 3.2. Consumption
  - 3.3. Trade flows
  - 3.4. Chain share of world trade
- 4. Analysis of the agrifood chain
  - 4.1. The enabling environment
    - 4.1.1. Macroeconomic issues
    - 4.1.2. International trade
    - 4.1.3. Agrifood chain programmes and special policies
    - 4.1.4. Taxation
    - 4.1.5. Sanitary legislation
    - 4.1.6. Inspection services
    - 4.1.7. Availability of statistical information
    - 4.1.8. R&D
    - 4.1.9. Organizations
    - 4.1.10. Infrastructure
  - 4.2. Consumption
    - 4.2.1. Price demand analysis
    - 4.2.2. Demand projection
    - 4.2.3. Consumer behavior
  - 4.3. Distribution
    - 4.3.1. Distribution channels
    - 4.3.2. Drivers of performance
      - 4.3.2.1. Firm management
      - 4.3.2.2. Inputs
      - 4.3.2.3. Technology
      - 4.3.2.4. Market structure
      - 4.3.2.5. Institutional environment
      - 4.3.2.6. Market relations
  - 4.4. Processing
    - 4.4.1. Sector size
    - 4.4.2. Technology
    - 4.4.3. Inputs
    - 4.4.4. Market structure
    - 4.4.5. Firm management
    - 4.4.6. Institutional environment
    - 4.4.7. Market relations
    - 4.4.8. Infrastructure
  - 4.5. Farm production
    - 4.5.1. Production systems
    - 4.5.2. Technology
    - 4.5.3. Inputs
    - 4.5.4. Market structure
    - 4.5.5. Firm management
    - 4.5.6. Institutional environment
    - 4.5.7. Market relations
  - 5. Performance evaluation
    - 5.1. Institutional environment
    - 5.2. Consumption and distribution
    - 5.3. Processing
    - 5.4. Farm production
    - 5.5. Overall performance
  - 6. Policy proposals
  - 7. Bibliography
  - 8. Annex

**Box 13. Example of a report structure and contents****SUMMARY**

- Executive summary comprising objectives, methodology, main results and policy proposals.

**1. INTRODUCTION**

- Objectives, methodology used for analysis, sources of information, type of information and structure of the document.

**2. AGRIFOOD CHAIN ANALYSIS**

- A brief description of the agrifood chain, its components, agents and organizations.
- A description of the chain map and flows
- Indicate the components of the main products that will be analysed in-depth.

**2.1. Macroeconomic Factors / Determinants**

- Brief description of the current macroeconomic environment including the monetary and exchange-rate policies.
- Show the impacts of these policies in terms of the GDP and the agricultural GDP performance.
- Analyze the impact of macroeconomic policies on the ability of the state to formulate and carry out policies regarding the agrifood chain.

**2.2. Domestic Market**

- Performance of the production and domestic consumption in terms of quantity and the production value. Some determinants of performance can be related to the macroeconomic variables, while others may come from the themes referred below. They may be mentioned in this section, but they are better explained in the following sections.
- Identify the importance of the domestic market concerning the demand of the products. Exportable surplus, deficits or dependency on the international market should be assessed.
- Identify the main productive regions and movements to re-locate production (agriculture, livestock and agro-industrial). Show main causes and main impacts on the agrifood system.
- Identify the importance of the agrifood chain to draw up the agricultural GDP (Value of the production of the products/agricultural GDP). For cases in which the final product of the chain is an industrial product, identify the percentage of the production value in the industrial GDP. For instance, in the milk chain, a final product is powdered milk, a product classified as industrial.

**2.3. International markets**

- Total world-wide consumption, consumption of the main demanding countries and their share in the total worldwide consumption (including your country, in case it is not among the main ones).
- Worldwide production, production of the main producing countries and their percentage in the total worldwide production. Indicate your country's relevance.
- Identify the main producing and consuming regions in the world. The main producing and consuming countries are not always the largest world-wide exporters and importers. Nevertheless, they can be important 'players' in the international market. Changes

in production and consumption of these countries can have an effect on prices and quantities in the international market.

- Identify the importance of the agrifood chain in the world-wide consumption and production. Can changes in domestic production and consumption have an effect on the international market?

*International market flows:*

- Total exports, exports of the main exporting countries and their percentage in the total exports (including your country, in case it is not among the main ones).
- Total imports, imports of the main importing countries and their percentage in the total imports (including your country, in case it is not among the main ones).
- Identify the international market flows and the main participants. Identify the main countries which are able to create surpluses, or which are oriented to the external market, and the main deficient countries, which depend on the international market for their domestic supply.
- Indicate the importance of your country in the international market flows of these products.

*The agrifood chain in your country and the international market:*

- The main export destinations (the main import countries of your product/ products) and their percentage in chain exports. Create a table. Identify dependence or diversification of your destination market.
- Percentage of the chain exports in the total exports of the country.
- Percentage participation of the exports of the agricultural products of your chain in the total agricultural exports of the country. It is important to have in mind that for some chains there are products classified as industrial (i.e. powdered milk). For this reason, identify also the percentage participation of the exports of these products which are classified as industrial in the total industrial exports of the country.
- The main import origins (the main supplier countries of your imports) and their percentage in the chain imports. Identify dependence and diversification of external suppliers.
- Percentage participation of the imports of products of your chain in the total imports of the country. Evaluate the possibility of substitution of imports.
- Percentage participation of the imports of the agricultural products of your chain in the total agricultural imports of the country. Identify the percentage participation of the imports of the products which are classified as industrial in the total industrial imports of the country.
- Identify the importance of the chain products for the external market of the country. High percentage in the imports may indicate a higher governmental interest in the formulation of support policies for the chain.

#### 2.4. International trade policies

- Identify the main tariff barriers, informing: the *ad valorem* tariffs and the main countries responsible for these barriers.
- Identify the main non-tariff barriers; describe them (quotes, sanitary control and phytosanitary, child labour, slave labour, other human rights, environmental issues, etc) and inform the main countries responsible for them.
- Examine the issue of private standards, i.e., these set up by retailers, traders or their associations

- Describe trade agreements in which tariff and non-tariff barriers (which ones?) were reduced. Identify the impacts already observed (or possible ones) of these agreements for the external market flow of your chain.

## **2.5. Industry programmes and special policies**

- Identify programmes and/or special policies that support the chain. Some policies might have been created especially for a particular chain (i.e. a Milk National Programme). Others may be sector policies, but which have impacts on the chain (i.e. National Credit Programme for Agriculture, Price Support Programmes). Describe the general conditions of these policies, their main instruments, interest rates and other credit conditions, explicit and implicit subsidies, private and public funds, non-banking credit, etc.
- Identify the allocated resources for the programme in recent years. The existence of budget allocation for determined policies does not necessarily mean effective disbursements

## **2.6. Domestic taxation**

- Identify existing taxes and levies in the main chain components.
- Identify the taxation on the aggregated value and the cumulative taxation on the final value of the products as well. Evaluate the impact on the final cost of products. A high taxation could suggest a weak point and may mean the need for compensatory policies.
- Draw attention to special regime policies (e.g. tax exemption for farming and first processing products for exports) and regional fiscal policies to lower the taxes such as fiscal competition between states/provinces and/or regional development policies.

## **2.7. Food safety**

- Being part of international commerce depends on meeting the minimum food safety requirements determined by international trade agreements.
- Describe the main aspects of the country's legislation, specifically showing that international standards are being met: epizootic, agro-chemical residuals, transgenic, etc.
- Having sanitary legislation that meets international standards is not sufficient. The inspection system must be efficient when complying with legislation. Describe the working mechanism of the inspection system to show its efficacy.
- For some chains, private standards and certification systems may be relevant. Identify both the existence and importance of these systems within the context of the international market of these products.

## **2.8. Technology**

- Identify key technologies that help to sustain the competitiveness of the chain in the long run. Key technologies have the potential to reduce costs, ensure quality, increase the aggregated value, etc. In this case, it is important to assess the contributions of these technologies and also assess their diffusion levels based on some indicators such as the proportion of farms or firms that adopted them. Indicators that could be constructed as proxies should also be taken into consideration. If this is not possible, one should carry out a qualitative evaluation based on assessment of experts.
- Yields (factor productivity) concerning farm production.
- Compare the indicators to international benchmarks.

- Identify public and private support to R&D. Indicators of technological support could be: number and quality of the research centres, private and public budget resources allocated to R&D, existence of R&D departments at processing companies, high technological companies (in both public and private sectors), obtained results (patents, ability already observed in terms of creating species adapted to climates and regions, etc).
- Evaluate the ability of the systems to disseminate technology, either by a public system or private mechanisms.
- The analysis must comprise qualitative and quantitative information and also include both the current technological situation and the chain's ability to obtain and disseminate key technologies. It may point out areas in which there is external technological dependence / independence.

### 2.9. Market structure and governance structure

- Identify the market concentration level based on the indicators: number of farms, number of processing companies, number of companies in charge of the international trade, main processing / trading companies and their participation in the market (CR-2, CR-4, Herfindahl-Hirshman index) and/or their real production capacity. Having these indicators as references, assess the competition level of the market (perfect competition, monopoly and oligopoly). In agrifood chains, this analysis is more often important at the processing level, where oligopolies and oligopsonies might have emerged.
- Identify possible barriers to entry by new competitors
- Identify the average size of the processing plants and, if possible, categorize them according to their sizes (e.g. number of units up to 50 thousand tonnes of capacity, up to 200 thousand tonnes, etc). Compare to most relevant competitors in the international market, attempting to identify economies / diseconomies of scale.
- Identify the average size of the farms or plots and, if possible, their distribution according to their sizes. Compare to most relevant competitors in the international markets, attempting to identify economies / diseconomies of scale.
- Identify the ability to diversify products, which enables for value to be aggregated and for meeting the domestic and international demand for differentiated products
- Identify and describe the main coordination / governance structure. Identify positive / negative impacts of the coordination mode with regard to chain performance (e.g. cost reduction, better quality control, access to markets, etc).
- Identify organizations such as farmers' associations, unions, processing firm associations, governmental organizations and their role in defining public or private policies for the chain.

### 2.10. Firm management

- Identify key managerial tools in farm production, processing, distribution, etc. such as costing systems, certifications, quality control, information technologies, logistics, etc.
- Identify the diffusion level of the technologies, using indicators (percentage of adopters in total number of farms / companies), whenever possible, or via evaluation based on what was noticed from stakeholder interviews

### 2.11. Inputs

- Identify the main inputs of rural production (fertilizers, pesticides, animal feeds, etc). Present the recent performance of the exports and imports of these inputs, attempting

to identify if the chain depends on the imports of these inputs, or whether the domestic demand is met by the domestic production. The existence of relevant exports of inputs may indicate domestic production at competitive prices, which can be considered a strength or a high performance score for the chain. Dependence on imports of strategic inputs may indicate a weakness

- Evaluate recent trends of factors in agricultural production: main inputs, land and labour.
- Consider recent trends of labour costs for the processing segment
- Identify land availability to expand production. Identify the existence of unused agricultural land. Identify the possibility of expanding land use by substituting farming activities
- Identify farm production costs (at the farm gate). Assess the cost structure, aiming to identify the major cost items.
- In order to estimate the final cost of the products (FOB), add processing and transport costs (farm to processing unit, processing to port), as well as taxes and port costs. Consider the average cost from the main regions and main ports.

## **2.12. Storage and transport**

- Identify the national capacity of storage, especially for the main products of the agrifood system.
- Analyze the infrastructure available for transport, in terms of quality and capacity. Precarious infrastructure can mean high transportation costs. Identify the need for investments in infrastructure. If possible, show the estimates carried out by secondary sources in terms of investment needs in monetary values. If it is not available, list the needs for physical investments, new road projects, ports, etc.

3. The SWOT analysis

4. Policy proposals

5. Bibliography

6. Annex

Source: Eumercopol

## Final remarks

The methodology for chain analysis presented has proven to be a workable and cost effective approach for the analysis of agrifood systems. In Brazil, many governmental and non-governmental organizations have adopted this general approach in studies that have generated a large set of information on the organization and performance of agrifood chains, at national and regional levels. Many of these studies have supported the design of successful governmental policies and firm strategies, increasing competitive performance in both domestic and international markets. The study on the competitiveness of the Brazilian beef chain, often cited in this text, is a case in point. It has been instrumental in guiding sector stakeholders and government agencies in a process of institutional reforms that allowed the sector to be prepared to benefit from the favorable international market opportunities that appeared in the early 2000s. In a few years, the country achieved leadership in the international beef export market.

There are indeed advantages to the approach. First, it has a solid foundation in systems thinking; the principles of interdependence, propagation, feedback and synergy are considered at all phases of the analysis, from research planning to the design of performance improvement policies and strategies. Second, it draws from an extensively proven framework for the conduct of sector studies in the agrifood domain: the methods and conceptual basis of the commodity systems approach constitute the backbone of the proposed approach. Third, it does not require the application of time consuming, costly data collection and analysis methodologies; RA methods are adopted instead. Fourth, it is conducive to the development of a sense of ownership by chain stakeholders, who become proactive participants in the entire effort. In fact, experience has shown that the methodology can be very simply communicated to stakeholders: by understanding and accepting the analytical approach, stakeholders are more likely to be jointly engaged in search of solutions for their mutual problems.

Finally, it should be noted that there are also challenges to be overcome, in order to successfully apply the methodology. Perhaps the most critical of these is the definition of a multidisciplinary team with appropriate set of skills to perform the required duties within a short time frame; a typical characteristic of these applications. Experienced professionals are needed and depending on the sector under analysis or the regional area of the application, the required expertise might not be readily available. The second challenge has to do with the need to elect partner stakeholders with a truly representative status within the focused chain. It is not uncommon that a chain may have more than one interprofessional association claiming to be the legitimate interlocutor for one or more of its segments - this is a particularly frequent situation when consumer groups are to be brought in as stakeholders in a chain analysis exercise. There might be political divergences or other motivations for antagonism within a chain segment or even among different government ministries that impact the enabling environment of a chain. If not properly considered, these disagreements may jeopardize the information collection activities or lead to other forms of resistance to the analytical efforts.

But the challenges notwithstanding, chain analysis can and should make a contribution to agrifood systems development in lower income countries. It is hoped that the concepts and methodologies here discussed can represent a contribution toward this goal.

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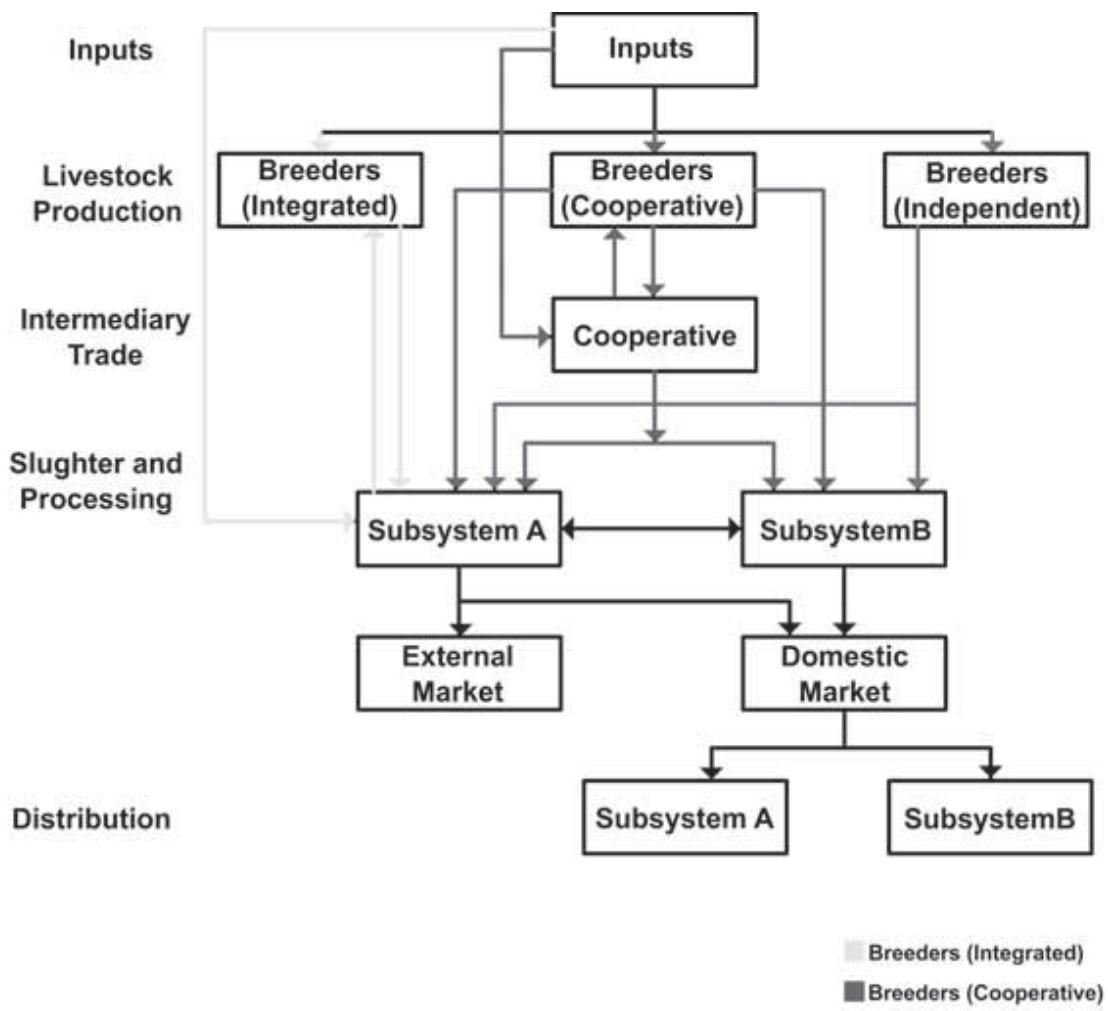
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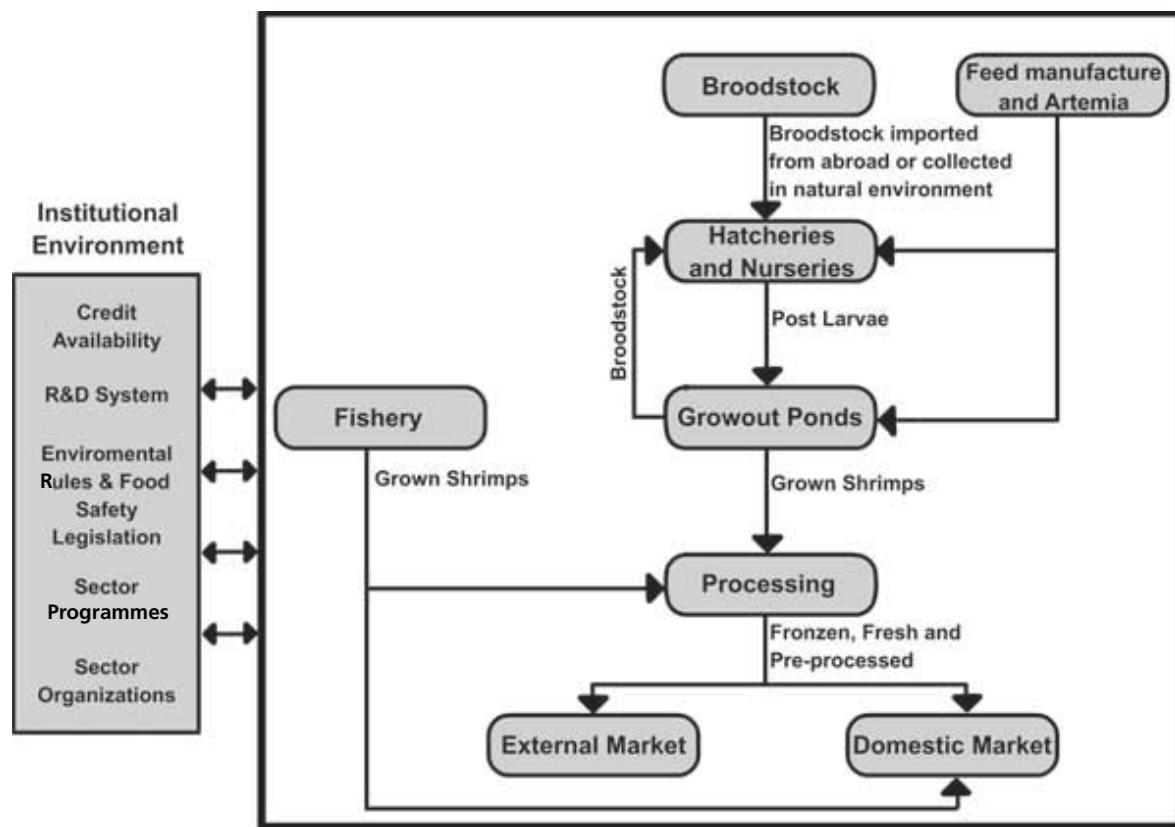
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## Annex 1. Examples of chain diagrams

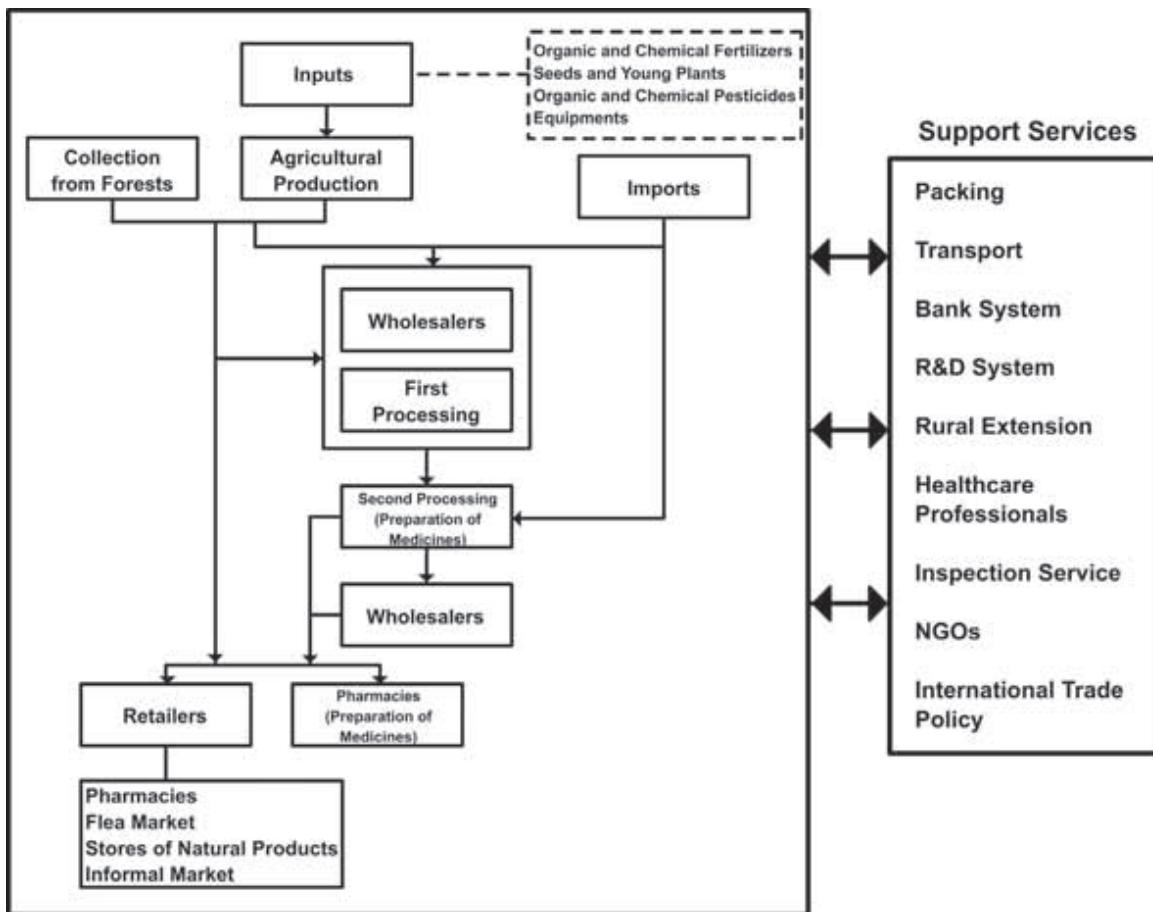
### CHAIN MAP OF SWINE PRODUCTION IN THE STATE OF PARANÁ, BRAZIL



**MAP OF A MARINE SHRIMP CHAIN**



### MAP OF A MEDICINAL PLANT CHAIN





## **Annex 2. Farming contracts in agrifood chains**

In agrifood chains, integration mechanisms via contracts or even full integration are increasingly being adopted worldwide. They prove to be more efficient in various institutional environments. In several countries, chicken and pork producing farms have become integrated with processing firms by strict contracts. Large processing firms strictly coordinate such integration systems. For some commodities, such as orange juice and sugar, major processing companies adopt a dual strategy of obtaining their supplies through full vertical integration (producing oranges or sugar-cane in their own farms) and formal contracts with independent farmers.

For many companies, success in the market may be attributed to this integration system, under which contracts are signed annually with thousands of small farmers. Why processing companies of areas as different as tobacco, chicken, pork, orange or sugar-cane do not buy all their raw material in the spot market, as do the wheat, corn and soy processing companies, for example? Why go through the trouble of setting up an often complex and costly integration system, bearing the cost of maintaining teams of specialists to provide technical assistance to farmers, supplying inputs, monitoring the evolution of farm production, entering into contracts that guarantee advance purchase of crops, providing surety for bank loans to farmers and so forth? And on the other hand, why don't farmers simply take their produce to the spot market, sell it for the best price and use market mechanisms to assure the financial viability of production?

The answers are not straightforward. Let's take the standpoint of first stage processing companies. They act as an intermediary between farmers and second stage processors, such as retailers, with whom they have more stable contractual relationships. These relationships call for continuous product supply to established customers, for trust and reputation building on both sides, and for implicit partnerships to comply with standards and meet requirements of the consumer market. This means that the processors enter into commitments well before farmers start their production activities - to fulfill these commitments they must plan for raw material supplies. A challenge faced by processors is how to meet demand from their priority markets and how to create markets for their product varieties that lack the desired properties. It is important to note that an agrifood chain can maintain its market position with mechanisms for direct control of the supply chain. In this case, an integration system via contracts can be seen as necessary SCM strategy to meet demand with greater economic efficiency than would be possible under a coordination system based on spot markets. In cases where agricultural raw material comes from many farms, contracts between first processors and second processors (retailers or wholesalers) could hardly be maintained by spot purchasing of raw material. The solution is to plan the supply of raw material, so that farmers produce the volumes, quality, timing of delivery and other properties required.

Contract growers and processors formalize their reciprocal commitments and define rights and obligations of each party in a sale and purchase contract signed before the start of the crop

year. From the processor's standpoint, the contract is the key instrument to reduce uncertainty, plan raw material supply and to control quality, quantity and other specifications necessary to ensure that customer demands are met. To assure the flow of raw material supplies, the processor commits to provide services and technological information, and to provide support in obtaining credit to finance production and investment in infrastructure and equipment. The processor can also bear some of the costs of transportation and establishes relations with suppliers of inputs for use in production via its intermediation.

From the farmer's standpoint, a coordination system based on formal or informal contracts can address difficulties they face in many developing countries, such as lack of capital, credit, and technical assistance, as well as the high market risks. A contract can guarantee selling of the crop for a price agreed in advance, as well as the supply of inputs and the access to credit and technology. The contract can also reduce economic risk associated with weather (adoption of insurance policies) and may enable participation of farmers who otherwise would not be engaged in the activity (because of size or other restrictions).

## Annex 3. List of information / variable indicators

Information/variable indicators	Description
<b>Macroeconomics</b>	
<ul style="list-style-type: none"> <li>• Domestic interest rate</li> <li>• Nominal and real exchange rate</li> <li>• Inflation</li> <li>• Gross Domestic Product</li> <li>• Agricultural Production Value</li> <li>• Macroeconomic policy</li> </ul>	<ul style="list-style-type: none"> <li>• Recent evolution of the Treasury bill rate or equivalent.</li> <li>• Recent evolution of US or Euro nominal and real exchange rate.</li> <li>• Recent evolution of consumer price index or equivalent.</li> <li>• Recent evolution of GDP and per capita GDP.</li> <li>• Recent evolution of agricultural production value.</li> <li>• Description of main macroeconomic policies (fiscal, monetary and exchange rate) and how they affect GDP, agriculture, and agri-chain competitiveness.</li> </ul>
<b>Domestic Market</b>	
<ul style="list-style-type: none"> <li>• Domestic production</li> <li>• Domestic consumption</li> <li>• Production regions</li> <li>• Importance of the agrifood chain</li> </ul>	<ul style="list-style-type: none"> <li>• Recent evolution of domestic production in quantity unit.</li> <li>• Recent evolution of apparent consumption of the agrifood chain products.</li> <li>• Main use of products (feed, seed, manufacturing, waste, food)</li> <li>• Importance of domestic market for the agrifood chain (domestic consumption/domestic production)</li> <li>• Identification of main production (farming and processing) regions of the country.</li> <li>• Agrifood chain's shares of GDP and total agricultural production value.</li> </ul>
<b>International Market</b>	
<ul style="list-style-type: none"> <li>• World production</li> <li>• World consumption</li> <li>• World exports</li> <li>• World imports</li> <li>• Destination of exports</li> <li>• Origin of imports</li> <li>• Importance of the agrifood chain</li> </ul>	<ul style="list-style-type: none"> <li>• Recent evolution of world production and indication of main producer countries.</li> <li>• Domestic production's share of world production.</li> <li>• Recent evolution of world consumption and main consumer countries.</li> <li>• Domestic consumption's share of world consumption.</li> <li>• Total world exports and main export countries.</li> <li>• National exports' share of world exports.</li> <li>• Recent evolution of world imports and main import countries.</li> <li>• National imports' share of world imports.</li> <li>• Main destinations of the agrifood chain exports and share of main import countries.</li> <li>• Main origin of the agrifood chain imports and share of main export countries.</li> <li>• Agrifood chain's share of total national exports and imports.</li> <li>• Agrifood chain's share of total national agricultural exports and imports.</li> </ul>

<b>International trade policies</b>	<ul style="list-style-type: none"> <li>• Tariff barriers</li> <li>• Non-tariff barriers</li> <li>• Trade agreements</li> </ul> <ul style="list-style-type: none"> <li>• Identification of relevant <i>ad valorem</i> tariffs on agrifood chain relevant products in the main world markets.</li> <li>• Quotas, technical barriers to trade, SPS barriers, barriers related to human rights, labour and environment on agrifood chain relevant products in the main world markets.</li> <li>• Bilateral and multilateral trade agreements on tariffs, SPS agreements, and their observed impact on the agrifood chain trade flow.</li> </ul>
<b>Industry programmes and special policies</b>	<ul style="list-style-type: none"> <li>• Sector resource allocation</li> <li>• Agrifood chain resource allocation</li> <li>• Support policies</li> </ul> <ul style="list-style-type: none"> <li>• Annual amount of resources allocated to credit and other development programmes for agriculture and processing sectors.</li> <li>• Annual amount of resources allocated to credit and other agrifood chain development programme.</li> <li>• Subsidies, minimum prices, intervention prices, public purchases and other relevant support policies for farmers.</li> <li>• Crop insurance programmes.</li> <li>• Description of special conditions of programmes: loans; interest rate for farmers and processing firms, average interest rate for the sector compared to market interest rates, long-term repayment, rebates, collateral, subsidies, etc.</li> </ul>
<b>Domestic Taxation</b>	<ul style="list-style-type: none"> <li>• Taxes on sales, cascade taxes and other taxes</li> </ul> <ul style="list-style-type: none"> <li>• List of the taxes and how they affect costs.</li> <li>• Share of taxes in the final price or total cost.</li> <li>• Identification of tax exemption for agrifood chain products.</li> </ul>
<b>Food Safety</b>	<ul style="list-style-type: none"> <li>• International food safety regulation</li> <li>• National food safety regulation and policies</li> <li>• Inspection service system</li> <li>• Private certification</li> <li>• Food safety infrastructure</li> </ul> <ul style="list-style-type: none"> <li>• Description of internationally recognized standards, codes of practice, guidelines and other recommendations (FAO-WHO Codex Alimentarius).</li> <li>• Description of relevant regulation on the agrifood chain and how it matches international standards.</li> <li>• Description of the national system and its effectiveness</li> <li>• Identification of private certification systems, and their importance and effectiveness.</li> <li>• Laboratorial capacity for certification, inspection service infrastructure, including staff.</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>• Key technologies</li> <li>• Yields</li> <li>• Public and private R&amp;D</li> <li>• Technology diffusion infrastructure</li> </ul> <ul style="list-style-type: none"> <li>• Identification of relevant technologies for competitiveness (cost reduction, quality, aggregate value, etc.).</li> <li>• Level of diffusion of key technologies.</li> <li>• Yields on relevant farming and processing systems.</li> <li>• Comparison with benchmarks.</li> <li>• Resource allocation to R&amp;D, R&amp;D organizations, firms' R&amp;D, partnership, human resources availability, infrastructure, and patents.</li> <li>• Evaluation of public and private capacity to diffuse technologies (public and private extension service systems), availability of private consultants and other human resources.</li> </ul>

**Market Structure**

• Number of firms in the market	• Number of farms, processing companies and/or trading companies
• Level of concentration	• Participation of small, medium and large farms in total production; CR2, CR4, Herfindahl for processing industries.
• Number of processing plant units	• Identification of barriers to entry.
• Average size of processing units	• Number of processing facilities and their production capacity.
• Average size of farms	• Average processing capacity, distribution of units according to capacity.
• Product differentiation	• Identification of economies of scale.
• Asymmetry of market power and information	• Average area of production.
	• Identification of economies of scale.
	• Identification of firms' capacity to differentiate products.
	• Identification of asymmetry of market power and information among agrifood chain segments.

**Coordination**

• Chain main coordination system	• Description of prevailing coordination systems and their efficiency: vertical integration, spot market, contract farming, etc.
• Sector organizations	• Representative sector organizations and their role in public/private sector policies
• Partnerships	• Strategic partnerships as a way to reach market objectives and policy implementation.

**Firm management**

• Key managerial tools	• Identification of relevant key managerial tools for competitiveness (cost control, quality control, certification, traceability, strategic planning, production planning and control, etc.).
• Diffusion of key managerial tools	• Level of diffusion of key technologies.

**Inputs**

• Farm input prices	• Prices paid by farmers for main production inputs: labour, capital, land, fertilizers and other.
• Prices of inputs for processing	• Prices paid by processing firms for main production inputs: labour, capital, and other strategic inputs.
• Availability of land	• Land used for agriculture and available land (agricultural area, arable land, grazing land, forests and woodland, etc.)
• Availability of labour	• Availability of skilled and non-skilled labour for both farming and processing.
• Availability of other strategic inputs	• Other strategic inputs, such as electricity and water.
• Farm total cost	• Total production cost of adopted production systems.
• Processing cost	• Total production cost of adopted processing systems

**Transport and Storage**

• National storage capacity	• Quantity that can be stored in public and private storage facilities
• Transport infrastructure	• State and availability of roads, railways, waterways, and port infrastructure.
• Cost of transport and storage	• Freights, port and storage expenses.



## Annex 4. Example of an Info-gap matrix

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
<b>I - INSTITUTIONAL ENVIRONMENT</b>					
<b>I.1. Macroeconomics</b>					
Interest rate	IMF, International Financial Statistics	Treasury bill rate or equivalent	Total economy	2000-2004	July 2006
Nominal exchange rate	IMF, International Financial Statistics	National currency per US dollar and Euro, period average	Total economy	2000-2004	July 2006
Real exchange rate	CEPAL Macroeconomic indicators	Index number, vis à vis main trade partners (exports and imports)	Total economy	2000-2004	July 2006
Inflation	IMF, International Financial Statistics	Consumer prices or equivalent	Total economy	2000-2004	July 2006
GDP	WB, World Development Indicators; Anuário Estadístico de América Latina, CEPAL	Total gross domestic product and Gross domestic product per capita	Total economy	2000-2004	July 2006
Agricultural GDP	WB, World Development Indicators; Anuário Estadístico de América Latina, CEPAL	Sector gross domestic product	Total agriculture	2000-2004	July 2006
<b>I.2. International Trade Policy</b>					
Tariff barriers	WITS/TRAINS data bases, World Bank/UNCTAD	Ad valoren/ specific tariffs applied to the country in the main world markets and main country's export markets	Selected products	2000-2004	July 2006

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
Non-tariff barriers	WTO notifications, WITS/TRAINS, World Bank/UNCTAD	Price and quantity control, technical measures, etc applied to the country in the main world markets and main country's export markets; NTBs applied by the country	Selected products	One point year in 2000s	July 2006
Trade agreements	WITS/TRAINS, World Bank/UNCTAD	Tariff preferences in the main world markets and main country's export markets	Selected products	2004 or the most recent available year in 2000s	July 2006

### I.3. Industry programs and special policies (Special conditions of programs and credits)

Sector resource allocation	ALIDE Database	Loans of the main financial institutions to the agricultural sector (US\$)	Total agriculture	2000-2003	July 2006
Product resource allocation	National sources/ interviews	Special public and private loans to farmers: special conditions compared to the sector and to the whole economy	Selected products	Most recent available year in 2000s	May 2006
Sector effective disbursement	IICA Policy Matrix	Amount of public and private loans to agricultural sector	Total agriculture	2003	July 2006
Product effective disbursement	National sources/ interviews	Amount of public and private loans to producers	Selected products	Most recent available year in 2000s	May 2006
Sector special interest rates	IICA Policy Matrix	Average interest rate to the sector compared to market interest rates	Total agriculture	2000-2003 (not all years are available to every country)	July 2006
Product special interest rates	National sources/ interviews	Interest rate of public and private loans to farmers	Selected products	Most recent available year in 2000s	May 2006
Agricultural insurance	National sources/ interviews	Insurance programmes to farmers	Selected products	Most recent available year in 2000s	May 2006

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
Main support policies	National sources/ interviews	Subsidies, minimum prices, public purchases and other relevant support policies to farmers	Selected products	Most recent available year in 2000s	May 2006
<b>I.4. Domestic taxation</b>					
Export tax	National sources/ interviews	Domestic tax as a % of the final value of the product	Selected products	Most recent available year in 2000s	Aug 2006
<b>I.5. Food safety and inspection service</b>					
Food safety policy	National sources/ interviews	Description of the food safety problems affecting exports, food safety legislation (national, supranational)	Selected products	Most recent available year in 2000s	Aug 2006
<b>II - TECHNOLOGY</b>					
Product specific indicators	National sources/ interviews	Yields, chain's key technologies, R&D	Selected products	Most recent available year in 2000s	Aug 2006
<b>III - MARKET STRUCTURE</b>					
Number of firms in the market	National sources/ interviews	Number of farms, processing companies and/or trading companies	Selected products	Most recent available year in 2000s	Aug 2006
Level of concentration	National sources/ interviews	% of small, medium and large farms in total production; CR2, CR4, Herfindahl indexes for processing industries	Selected products	Most recent available year in 2000s	Aug 2006
Number of processing plant units	National sources/ interviews	Number of processing facilities and their production capacity	Selected products	Most recent available year in 2000s	Aug 2006
Average size of processing units	National sources/ interviews	Average processing capacity, distribution of units according to capacity	Selected products	Most recent available year in 2000s	Aug 2006

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
Average size of farms	Agricultural Census / Household Surveys Microdata	Average area of production	Selected products	Agricultural Census / Household Surveys years	July 2006
Product differentiation	Comtrade, United Nations	Share of product value in total chain export value, 6 digit level HS96	Selected products	2000-2004	July 2006
<b>IV - GOVERNANCE STRUCTURE</b>					
Main chain governance structure	National sources/ interviews	Prevailing governance structure: vertical integration, spot market	Selected products	Most recent available year in 2000s	Aug 2006
Sector organizations	National sources/ interviews	Representative sector organizations and their role in public/private sector policies	Selected products	Most recent available year in 2000s	Aug 2006
<b>V - FIRM MANAGEMENT</b>					
Diffusion of key managerial tools	National sources/ interviews	Description and level of diffusion of main managerial tools (ISO, certification quality, HACCP)	Selected products	Most recent available year in 2000s	Aug 2006
<b>VI - INPUTS AND INFRASTRUCTURE</b>					
Prices paid by farmers for inputs	National sources/ interviews	Prices paid by farmers for main production inputs	Selected products	Most recent available year in 2000s	Aug 2006
Rural labour price	National sources/ interviews	Prices paid by farmers to workers	Selected products	Most recent available year in 2000s	Aug 2006
Processing plant labour price	Household Surveys Microdata	Wages received by workers in the food industry	Total food industry	Agricultural Census / Household Surveys years	July 2006
Land price	National sources/ interviews	Prices paid by farmers for land	Selected products	Most recent available year in 2000s	Aug 2006

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
Availability of land for future expansion	FAOSTAT Database	Land use (Total area, land area, agricultural area, arable land, permanent crops, permanent pasture, forests and woodland, all other land)	Total agriculture	1995-2004	July 2006
Farm total cost	National sources/ interviews	Methodology to be defined	Selected products	Most recent available year in 2000s	Aug 2006
Final commodity cost	National sources/ interviews	Methodology to be defined	Selected products	Most recent available year in 2000s	Aug 2006
National storage capacity	National sources/ interviews	Quantity that can be stored in national storage facilities	Selected products	Most recent available year in 2000s	Aug 2006
Transport and domestic port costs to main ports	National sources/ interviews	Cost of freights and port expenses	Selected products	Most recent available year in 2000s	Aug 2006

## VII - DESCRIPTIVE INDICATORS

### VII.1. Domestic production and consumption

Domestic production	FAOSTAT Database	Domestic production in Tons; Stock in Heads	Selected products	1995-2004	July 2006
Domestic consumption	FAOSTAT Database	Domestic use (feed, seed, manufacturing, waste, food)	Selected products	1995-2004	July 2006
Domestic consumption / Domestic production	FAOSTAT Database	Domestic utilization (feed, seed, manufacturing, waste, food) / Domestic Supply (%)	Selected products	1995-2004	July 2006
Regional production	National sources/ interviews	National production by administrative regions	Selected products	1995-2004	Aug 2006
Value of domestic production / Agricultural GDP	FAOSTAT Database	Value of production / Total agricultural value of production or Agricultural GDP (%)	Selected products	1995-2004	July 2006

DRIVERS	SOURCE	INDICATORS DESCRIPTION	PRODUCTS	YEARS	DEADLINE
<b>VII.2. International trade</b>					
World consumption	FAOSTAT Database	World utilization (feed, seed, manufacturing, waste, food)	Selected products	1995-2004	July 2006
Domestic production / World production	FAOSTAT Database	Domestic Production / World Production (%)	Selected products	1995-2004	July 2006
Domestic exports / World exports	Comtrade, United Nations	Domestic exports / World exports (%)	Selected products	1995-2004	July 2006
Production of main countries	FAOSTAT Database	Main countries, domestic production in Tons; Stock in Heads	Selected products	1995-2004	July 2006
Destination of exports	Comtrade, United Nations	Share of main import countries in the country's exports (%)	Selected products	1995-2004	July 2006
Origin of imports	Comtrade, United Nations	Share of main export countries in country's imports (%)	Selected products	1995-2004	July 2006
Domestic exports of chain products / Domestic agricultural exports	Comtrade, United Nations	Domestic exports of selected products / agricultural domestic exports (%)	Selected products	1995-2004	July 2006
Domestic imports of chain products / Domestic agricultural imports	Comtrade, United Nations	Domestic imports of selected products / agricultural domestic imports (%)	Selected products	1995-2004	July 2006
Domestic exports of chain products / Domestic total exports	Comtrade, United Nations	Domestic exports of selected products / Total domestic exports (%)	Selected products	1995-2004	July 2006

## **Annex 5. Example of questions for an interview guide**

This annex draws from the already cited study of the Brazilian Beef chain (Silva & Batalha, 2000). A set of guides was designed for respondents from the three major chain segments, namely cattle farmers, slaughterhouses / processors and distribution (wholesalers and retailers). A separate guide was prepared to cover issues related to the enabling environment. It was used in interviews with chain analysts, government officials and other key respondents.

### **A – INSTITUTIONAL (ENABLING) ENVIRONMENT**

Impacts of the exchange rate devaluation and the interest rate increase on slaughterhouses and processing companies<sup>6</sup>

1. How do you expect the demand (domestic and external) to behave after the exchange rate devaluation and the economic recession?
2. What is the level of firm indebtedness? Are there debts related to the exchange rate? What is the effect of the interest rate increase on indebtedness?
3. Will the increase of costs (mainly of cattle) eliminate profits? Is the increase of costs being entirely transmitted to the product prices?

#### **Credit availability**

4. How are companies financing their operations or investments (self-financing or bank credit)?
5. If companies have not access to credit, specify the reasons. (risk perceptions by banks, have high level of indebtedness, other).
6. What are the financial agencies/banks providing access to credit (National Development Bank, provincial state commercial banks, private banks, others)? Are there special credit conditions offered under government credit programmes?

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<sup>6</sup> The interviews were held a few months after major changes in macroeconomic policy took place, in particular the sharp exchange rate devaluation and a marked increase of interest rates. Also, new sanitary legislation had been recently enacted in the beef sector. Many questions were designed to capture stakeholders' perceptions of the effects of these changes.

7. What types of credit does the firm need most or has had more access to? (working capital, investments, export financing)

### **Taxation and exemptions**

8. Which were/are the tax exemptions conceded to slaughterhouses/processing?
9. What is the importance of these exemptions in the location decisions?
10. Do slaughterhouses have accumulated VAT credits?
11. How do VAT regulations affect the trade of live cattle and carcasses between agents of different states?
12. What are your expectations about the impending reform of national the tax system and proposals you have for it?

### **Sector programmes**

13. Are there sector support or incentive programmes in you region? If so, what is the level of participation of the chain's agents?
14. What are the real advantages of participating in the programmes? Are tax exemptions the main motivation or are there other advantages (access to technology, increase of market-share through product differentiation, reduction of underutilized capacity, other)?
15. What are the producers' perceived advantages of the programmes?
16. What are the reasons for the success or failure of the sector support programmes?

### **Sanitary legislation and Foot and Mouth Disease**

17. How have companies been adapting to the new rules on food safety and animal health? (refurbishing and expanding industrial plants, packing, distribution/logistics, out-sourcing transport and distribution)
18. Do retailers prefer to buy boneless beef from slaughterhouses or do they prefer to invest in new facilities and equipments for boning and packing beef themselves?
19. How do wholesalers intend to supply small municipalities under the new regulations, given the high transport costs of the small volumes typically bought by butcheries and small supermarkets?
20. What is the expected impact (in terms of cattle trade and price) of the possible certification of this state (or neighboring States) as a foot and mouth disease free area?

The next questions should be answered by respondents from the Ministry of Agriculture (Department of Inspection, and Federal Inspection Service) and State agencies of agricultural policies (adapt the questions according to the agent)

### **Economic restructuring (public expenditure reduction)**

21. Which meat chain policies were affected by the recent public sector restructuring and budget cuts? (hiring of inspectors, reform of the Federal Inspection Service, combat of foot and mouth disease, other)

### **Reform of the Federal Inspection Service**

22. The Ministry of Agriculture plans to transform the Federal Inspection Service into an independent Agency. What exactly is this Agency? What will its duties be?
23. What is the new policy regarding food safety?
24. What is the Ministry's proposition for the new inspection service policy (inspection of retailers versus inspection of processing companies)?

### **Certification and the 'Baby Beef' Programme**

25. What is the 'Baby Beef' Programme of the Ministry of Agriculture? Which are the participating States? How does the programme articulate with the provincial state programmes? Characterize its present stage (regions and percentage of production attained).
26. What is the Programme of Certification of the Brazilian Association of Baby Beef Farmers? Characterize its present stage (regions and percentage of production attained). How does it articulate with provincial state programmes?

### **Food safety and sanitary legislation**

27. In which way did the different agents of the chain participate in the design of the recent regulations that affect the sector, especially regulations 304 and 145?
28. Have the agents been complying with the regulations? If not, what are the reasons for non-compliance?
29. Do the regulations converge to a common legislation for Mercosur countries? Is there any move towards harmonization of the food safety regulations of Mercosur countries?
30. Regulation 145 opens a possibility for the Federal System of Inspection (FSI) to coordinate the inspection of operations in all slaughterhouses installed in the country. Is FSI prepared to assume this task?

31. Concerning the agreement between FSI and FUNDEPEC for training inspection personnel in the State of São Paulo, how is it progressing? What are the perspectives for similar agreements in other provincial states?
32. In which implementation stage is the programme aiming at the creation of a new carcass classification system?

### **Foot and Mouth Disease**

33. Given the last cases of foot and mouth disease in the state of Mato Grosso do Sul, how is the issue of inspection at the borders (state and international) being dealt with?
34. How the combat against foot and mouth disease is being planned in the provincial states of the north and northeast regions, where infrastructure is poor?
35. Have special funds for disease prevention and combat programmes, including the support to acquisition of equipment, been established? If so, how is the implementation progressing?

### **International trade**

36. How are the discussions in preparation the next WTO conference progressing? Are the beef sector's entrepreneurs participating in these talks? If so, how? What will be the stance of Brazil? Is there a common position being articulated among Mercosur countries regarding beef trade?
37. What are the quotas currently available for Brazilian exports into key international markets (Hilton quota, quotas for other cuts, quotas for fresh beef)?
38. Are the negotiations to increase Brazilian quotas in international markets advancing? If so, how?
39. How are the quotas distributed among the different slaughterhouses / exporters? What are the selection criteria?

### **Taxation**

40. How are the different chain products (live cattle, calf, carcasses, other) taxed in the State of the respondent?

## **B – INTERVIEW GUIDE FOR CATTLE FARMERS**

### **General issues, including technology**

1. What are the general perspectives of the cattle farming business in your region?
2. What is the average age of animal termination?

3. Is planted or natural pasture predominant in your State/region? What are the predominant varieties?
4. What are the main breeds used? Zebuine? European? Mixed breeds Zebuine-European? Indigenous breeds?
5. What are the advantages and disadvantages of the breeds used in your region?
6. What is the importance and what are the perspectives of the following production systems in your state/region: baby beef; intensive; semi-intensive (supplemented feeding); winter pasture?
7. What are the advantages and disadvantages of the adopted systems?
8. What is the level of diffusion of the following methods: artificial insemination, selected breeds, new reproduction techniques, and use of growth hormones?
9. What are the criteria used for discarding brood stock?
10. How do cattle farmers obtain technical assistance? (Hiring their own experts, commissioning private extension providers, accessing public sector providers, assisted through the farmers' associations, cooperatives, input suppliers, others)?
11. In your opinion, what are the main technological problems and what could be done to increase the efficiency of beef production in your region?

### **Government programmes**

12. What are the existing support programmes in the region? What are the most important benefits perceived? What is the importance of tax exemption provisions for the success of the support programmes?
13. What are the reasons for the success or failure of the current and past programmes? How do these programmes affect(ed) the adopted production systems?

### **Taxes and exemptions**

14. Which types of taxes are paid by farmers? In which way do these taxes interfere in cattle trade with agents of other States? What are your expectations regarding the forthcoming national tax system reform and what do you propose for it?

### **Credit availability and access**

15. How are cattle farmers financing their operations and investments (self-financing or reliance on financial agents)?

16. If there is no access to credit, specify the reasons. (risk perceptions of the activity by the official lenders, level of indebtedness precluding further loans, etc.).
17. What are financial agencies/banks supplying credit (National Development Bank, provincial state commercial banks, private banks, other)? Are there special credit conditions under government programmes?
18. What types of credit do cattle farmers need most or have had more access to (working capital, investment credit, others)? What have been the main effective uses of credit resources?

### **Leather**

19. Is any special care regularly taken in raising and transporting cattle in order to avoid skin? If not, why? (Ask new questions to ascertain the difficulties faced by the sector in order to obtain better quality leather).
20. Are premium prices paid for leather quality in sales for slaughterhouses and/or intermediaries?
21. Are there any sector programmes aiming to improve cattle leather quality? What are your views regarding this type of initiative? What would be the conditions to ensure farmers' participation?

### **Market**

22. To which market agents (intermediaries, slaughterhouses, etc.) do cattle farmers usually sell their animals and what are the common payment conditions?
23. In your opinion, what are the advantages and disadvantages of the current system of pricing and payments?
24. Are the market decisions influenced by the type of commercial relationships slaughterhouses and or processors have with the retail sector?

### **Animal Health**

25. What are the perceived threats regarding animal health prevention and combat in your region?
26. How does the animal health issue affect profits and competitiveness?
27. What is being done by the institutions (public and private) in order to improve animal health issues related to cattle farming in your region?

## **C – INTERVIEW GUIDE FOR SLAUGHTERHOUSES AND PROCESSORS**

### **Company's activities:**

Sectors: ( ) slaughtering ( ) boning (partial or complete) ( ) processing

Number of years in business:

Number of years of the main industrial plant:

Time in use of major equipment lines:

Area occupied by plant:

Installed production capacity (per sector): ton./month

Current and projected production (per sector): ton/month

Number of employees:

### **Technology (current level; identification of bottlenecks; suggestion of policies)**

1. Compare your installations/ equipment / processes with the top benchmarks you know.
2. Is there use of electrical stimulation for meat quality improvement
3. Is there use of ultra-sound; magnetic resonance; optical 'probes', or others, for evaluation of carcasses?
4. Are there regular investments in R&D? Are there partnerships for R&D?
5. The location issue (how your location influences your performance)
6. Which sectors/areas of the business have received new investments (automation, new facilities)?
7. Are there any foreseen investments?
8. Byproducts processing (if not processing, how are byproducts being disposed?)
9. The issue of leather quality: perceptions of the respondent
10. Level of idle capacity (how much and why)/scale issues (size versus operational costs). What is the ideal capacity of the plant, considering economies of scale?

### **Management**

11. General issue: evaluation of the administrative efficiency in relation to the competition
12. Are there systems of quality management? (Which? HACCP, TQC, ISO, other) Are you satisfied with the systems in place? Emphasize aspects of food safety.
13. Are there managerial systems for cost control? Which? (direct, absorption, ABC, other)?
14. Are there systems for monitoring input usage, workforce (technical coefficients)?

15. The workforce issue (qualification, turn-over, absenteeism, ergonomics/ RSI-Repetition Strain Injury)
16. Is there formal strategic planning?
17. Level of diffusion of information technology, in management of information systems, decision support systems, chain linkages.
18. Financial controls (cash flow, investment analysis, other)
19. Credit (operating/investment/exports) availability and access.
20. Marketing strategies (brands, media, other)
21. Level of indebtedness & investment capacity

### **Supply chain**

22. General issue (general evaluation of system efficiency).
23. Forms of cattle acquisition, governance structure (spot market, contracts, other).
24. Payment practices (pricing, live weight, carcass evaluation, other, grace period).
25. Is there any programme/concern for improvement of cattle quality? (age, sex, breed, average weight, origin, other).
26. Average distances from suppliers, type and costs of transport (who is responsible for transport, supplier or buyer?).
27. Efficiency of transport system (type of vehicle, losses, out-sourcing versus own fleet).
28. Other inputs (electric power, water, other)
29. Are there monitoring/technical assistance programmes for cattle suppliers?

### **Market**

30. General issue (trends, evaluations, other).
31. Main products (cuts, sausages, ready-to-eat, other).
32. Main markets (local, regional, national, international, institutional).
33. Governance structures (vertical integration, contracts, partnerships).
34. The effect of regulations 304 and 145 (mix of production, clients, prices, other).

35. Traceability (Are there any initiatives? How do you evaluate the system?).

### **Institutional issues**

36. The issue of Federal/State/Municipal inspection service.

37. The taxes issue (tax exemptions, influence of location, issue of VAT credits).

38. Proposals and expectations of the reform in the tax system.

39. The effects of Illegal slaughter.

40. Effect of exchange rate devaluation and increase of interest rate on business.

### **Leather**

41. Does the slaughterhouse / processor pay the cattle supplier any premium for leather quality? How? (Ask questions in order to obtain information on pricing, grace period, contracts).

42. Does the slaughterhouse / processor get any premium price for better quality leather? If yes, how is this premium shared with the cattle supplier?

43. In the slaughterhouse /processing facilities, what cares are taken in order to prevent damages to cattle skins (since arrival of the cattle until slaughter and skin storage)?

44. What is the slaughterhouse's final leather product?

□ raw leather □ salted leather □ processed leather. What type of processing?

45. Does the slaughterhouse /processor execute any stage of leather processing in own facilities (classification, salting, wet blue, other)? Why?

46. Has the slaughterhouse / processor any experience of outsourcing or partnership with leather processors?

47. How are pricing and payment conditions of leather traded with processors and exporters set? (ask questions on pricing, grace period, contracts)

48. Is there any contract of exclusive supply between slaughterhouse and processor or exporter?

49. Have you ever heard of cattle leather improvement programmes? What do think of these initiatives? Under what conditions would you participate in such programmes?

## **D – INTERVIEW GUIDE FOR THE DISTRIBUTION SEGMENT**

If supermarket:

Number of stores of the supermarket chain:

Number of check-outs:

Area:

### **Retailer-slaughterhouse relationship**

1. Supply logistics (transport, freight): how do you evaluate?
2. Forms of relationship (coordination) with suppliers (contracts, partnerships, marketing, other)
3. Influence of regulation 304/145 on forms of relationship (coordination)
4. Pricing
5. Frequency of supply

### **Technology**

6. Are there projects to share information with suppliers?
7. Are you aware of 'Efficient Consumer Response' initiatives? Are you considering its adoption?
8. Do you adopt 'Electronic Data Interchange' in operations with suppliers?
9. Do you use 'intranet' or other networks for information interchange between branch stores, distribution center, stores, other?
10. How do you evaluate the traceability issue (impacts, need of investments, cost-benefit)?
11. Impact of regulation 304 on operational/technological issues for retailers (boning in slaughterhouse versus by retailer).
12. Are you planning adoption of new technologies to comply with regulation 304?
13. How do you compare your technological standard to a top benchmark (especially to cold chain, packaging, shelf product presentation, other).

### **Retailer-Consumer relationship**

14. How does regulation 304 affect the supermarket-traditional butchery competition? What is the strategy to increase/maintain market-share?

15. Pricing (compare to other meat markets, price differentiation, margins)

### **Consumer's Perceptions**

16. Consumers' perception of beef attributes (taste, health, appearance, preparation, price, food safety, convenience)
17. Which information do consumers consider important?
18. Is consumer willing to pay premium price for better quality and traceable beef?
19. Expectations of demand change, given recent exchange rate devaluation and increase in interest rates.



## Annex 6. Components of an enabling environment

### A) GENERAL ASPECTS

1. General investment policies regarding property protection, non-discrimination among foreign and domestic investors, transparency, commitment to international treaties regarding protection of investments and contractual enforcement
2. Investment promotion and facilitation, covering the existence and effectiveness of promotion agencies, as well as the incentives offered at the central and provincial levels to attract international and domestic agribusiness investors
3. Public governance, with focus on the processes and institutions dealing with the formulation of policies and laws affecting the business environment as well as anti-corruption measures, institutional and political stability and mechanisms for public-private sector dialogue
4. Corporate governance laws and regulations, including those related to the observation of shareholders rights as well as to corporate disclosure, transparency and accountability
5. Human resource development, taking into account factors such as the availability of labour at different levels of skills and schooling, labour market regulations and laws and regulations affecting expatriate employees, child labour and gender equality.
6. Policies to promote responsible business conduct, considering the country's adherence to internationally recognised concepts and principles in this regard
7. Exchange rate policies, including regulations and controls on profit remittances
8. Tax policies at the central and provincial level, with emphasis on their effects on the costs of doing business in the country (corporate income tax, property taxes, sales taxes, etc.)
9. Competition policies, especially those affecting entry into specific industries, as well as non-discrimination among investors and anti-trust legislation

### B) SPECIFIC ISSUES FOR AGRIBUSINESS AND AGRO-INDUSTRY DEVELOPMENT

1. Financial services, encompassing access to and conditions of short and long-term financing and risk management mechanisms for agriculture and agro-industry development

2. Trade policies, including tariffs and quotas for imports of inputs and equipment, costs of customs, regulatory and administrative procedures, as well as agro-export promotion and facilitation.
3. Policies, tariffs and quotas for imported products that compete directly with products manufactured by local industry, with particular attention to policies affecting the availability of inputs and equipment of relevance to agribusiness and agro-industries.
4. Simplicity and cost of licensing and business registration procedures
5. Infrastructure, covering aspects such as the availability and conditions of transportation networks, public storage, packing houses, processing and cold chain facilities, telecommunications and energy
6. Provision of Business Development Services (BDS) (including training and extension advice) to small and medium agro-enterprises, indicating who are the key providers (NGOs, government, private sector) and how successful are they
7. Business linkages between large and small agro-industries; are there incentives for large companies to develop linkages with small enterprises, thereby improving technology transfer, information flow, subcontracting arrangements and marketing opportunities?
8. Research and development institutions supporting technology transfer to agribusiness and agro-industrial enterprises
9. Norms, standards, regulations and services related to the production, processing and distribution of agri-food products, especially those related to quality and safety, taking into consideration the different requirements for domestic, regional or international markets
10. Laws and regulations regarding land tenure and access to land (for production and establishment of factories etc)

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## Guidelines for rapid appraisals of agrifood chain performance in developing countries

International experiences have often demonstrated that chain analysis can be an important tool in enhancing the performance of agricultural, food and fibre systems. By revealing strengths and weaknesses, the analysis helps chain stakeholders and policy-makers to delineate corrective measures and to unleash the development of areas and activities where the potential for growth is identified. When properly conducted, it can also help create a shared vision among chain participants regarding challenges and opportunities, thus facilitating the development of collaborative relationships. Agrifood chain analysis is also used for other related purposes, these include; the promotion of enterprise development, the enhancement of food quality and safety, the quantitative measurement of value addition, the promotion of coordinated linkages among producers, processors and retailers and the improvement of an individual firm's competitive position in the market place, to name a few.

One of the main reasons for preparing these guidelines was the need to promote a pragmatic approach to agrifood chain analysis. Based on a set of fundamental principles, the paper proposes a rapid appraisal methodology that can be readily followed by field practitioners interested in examining agrifood systems with the purpose of understanding their organization and functioning and identifying possible areas for performance improvement.

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