Mapping of territorial markets

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Food and Agriculture Organization
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Third edition

MAPPING OF TERRITORIAL MARKETS

METHODOLOGY AND GUIDELINES FOR PARTICIPATORY DATA COLLECTION

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ABSTRACT

Malnutrition in all its forms (undernutrition, micronutrient deficiency, overweight and obesity) is a major global challenge, and improving nutrition is a key priority for global development, as recognized in the UN Decade of Action on Nutrition (2016–2025) and the 2030 Agenda for Sustainable Development. In this context, ensuring availability, physical accessibility and affordability of healthy and nutritious food at territorial level is crucial to ensure the achievement of the Sustainable Development Goals (SDGs). A number of studies show that the majority of fruits and vegetables in low-income countries (LICs) are still purchased through territorial markets.

Territorial markets are not only key retail outlets for fruits and vegetables, but also for animal source foods and staple foods. These trends indicate the relevance of these market outlets on a macro-level. However, data concerning the availability of the different food groups and characteristics of food retailers and consumers in territorial markets are seldom considered in national data collection systems.

This publication presents a structured methodology and a series of guidelines for mapping territorial markets, as developed by the Food and Agriculture Organization of the United Nations (FAO), along with representatives of producer organizations and academics.

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INTRODUCTION

Importance of mapping territorial markets

Malnutrition in all its forms (undernutrition, micronutrient deficiency, overweight and obesity) is a major global challenge, and improving nutrition is a key priority for global development, as recognized in the UN Decade of Action on Nutrition (2016–2025) and the 2030 Agenda for Sustainable Development.

Nearly 2 billion people – the greatest share of whom live in Africa and Asia – do not have regular access to safe, nutritious and sufficient food (FAO *et al.*, 2020). Similarly, and despite progress made in recent decades, there are still over 2 billion people living in poverty, including 736 million who live in extreme poverty (World Bank, 2018). A large majority of the world's poor are smallholders and family farmers, and depend on agriculture for their food and income (FAO, 2017a). In this context, a transition towards sustainable food systems that are inclusive for smallholders and family farmers, and that encourage people to make healthier food choices, is a prerequisite for achieving the Sustainable Development Goals.

Smallholder farmers are responsible for most of the world's food production and most of the investments made in agriculture (CFS, 2016a, 2016b; FAO, 2017b). They also play a major role in preserving biodiversity, which is in turn a key asset for ensuring their own food security and nutrition, and that of their communities (FAO, 2019; Herrero *et al.*, 2017). Yet the markets in which smallholder farmers most commonly operate are systematically neglected, often due to pervasive gaps in information about these markets. The issue therefore is not one of market access in general, but rather of access to remunerative markets that work for smallholders, and of the bargaining power that smallholder farmers have in markets.

In reality, there are many different types of markets with a wide range of characteristics. In recent years however, the term has been identified with a single, specific kind of market, generally referring to agribusiness value chains. This tend to lead to simplistic solutions – for example when 'market integration' is proposed as a one-size-fits-all approach, without considering the type of market and its conditions. It is important to remember that "a market is not only an abstract system of prices, preferences, supply, demand and automatically generated equilibriums. A market is also about concrete transactions between concrete people who exchange concrete products according to concrete infrastructural patterns" (Ploeg, 2015).

The available research and information on markets that are embedded into local, national and regional food systems confirms that they are crucial not only for ensuring market access to smallholder farmers, but also for food security and nutrition, since only 10–12 percent of all agricultural products are traded on the international market (FAO, 2015).

The Committee on World Food Security (CFS) defined these 'embedded markets' as 'territorial markets' (CFS, 2016a), characterized by the following criteria:

- They are directly linked to local, national and/or regional food systems (the vast majority of products, producers, retailers and consumers are from the given territory).
- They are more characterized than other markets by horizontal (i.e. non-hierarchical) relations among the various stakeholders.
- They are inclusive and diverse in terms of stakeholders and products.
- They have multiple economic, social, cultural and ecological functions within their respective territory, and are thus not limited to food supply.

- They are the most remunerative for smallholder farmers (as compared to other kinds of market), as they offer the farmers greater bargaining power over prices.
- They contribute to structuring the territorial economy, creating wealth and redistributing it within the territory.
- They can be formal, informal or a hybrid of the two.
- They can be located at different levels within territories (local, national and cross-border).

Despite increasing awareness, there is still a lack of data on territorial markets. This results in public policies that tend to focus far greater attention on global value chains while seldom supporting and incentivizing these markets.

This underscores the important need for a participatory methodological guide to the mapping of territorial markets, in order to help promote, strengthen and defend this type of market, and further enhance its critical role in benefitting small producers across different contexts and realities, while also ensuring consumer access to healthy and diversified diets.

The COVID-19 pandemic has highlighted the significant vulnerabilities of the world's food systems to disease outbreaks and other phenomena of this kind. In particular, the virus has shown that territorial markets and short supply chains are often a critical component of agrifood systems, improving access to fresh food, ensuring higher farmer remuneration and reducing vulnerability to fluctuations in international markets. Having policies that support and strengthen territorial markets has therefore become twice as important.

Mandate and target audience

In 2016, the CFS adopted policy recommendations aimed at "establishing a link between small producers and markets", highlighting the following as a first recommendation:

Collect comprehensive data on formal and informal markets, both rural and urban, linked to local, national or regional food systems in order to improve the evidence base for policy guidance, including data which can be broken down by age, sex and geographical location, and include this information as a regular feature of data collection systems available to small-scale farmers (CFS, 2016a).

To implement the CFS recommendations, FAO initiated a process of collaboration in the following year, together with producer organizations, non-governmental organizations (NGOs)[1] and research institutions,[2] towards the development of a well-structured methodology for the collection of reliable and comparable data and information on territorial markets at local, national and transboundary level.

This document includes a series of steps and tools that contribute to a better understanding of how territorial markets work, how they are linked to the activities and livelihoods of small-scale food producers, and how they help ensure healthy and diversified food systems. The methodology for collecting data and information on territorial markets is designed for use by a range of different stakeholders; for example it aims to:

- Support policymakers and international organizations in designing evidence-based policies to transition toward sustainable food systems for heathy diets.

[1] These include La Via Campesina, the Network of Peasant Farmers' and Agricultural Producers' Organizations of West Africa (ROPPA) and Terra Nuova.

[2] These include the French National Institute for Agricultural Research (INRA), the Institute for Research and Promotion of Alternatives in Development (IRPAD) and Wageningen University.

- Assist producer organizations in better monitoring the markets where they work and advocating for public policies supporting these markets as primary outlets for small-scale farmers. (It also serves to support members of producer organizations in productivity improvement, production planning and marketing strategies).
- Support research institutions and academia in improved learning on what different food systems look like, thus contributing to a better understanding of how localized food systems can become more sustainable.
- Assist NGOs in supporting producer organizations in their countries, both in order to strengthen territorial markets directly and to influence decision makers on the importance of these markets in the fight against poverty and malnutrition.

How to use this document

This document provides guidance on how to map territorial markets by adopting a common methodology that allows data gathering and comparison among territories within a country as well as among countries. It can be used to develop projects and initiatives aimed at building evidence and collecting data on territorial markets and their role in local food systems. It can also be used to analyse and better understand how to foster the transition towards sustainable food systems and better nutrition.

MAPPING TERRITORIAL MARKETS: A PARTICIPATORY APPROACH

Process

The proposal to develop the present document follows a series of efforts as conducted by FAO in collaboration with small-scale producer organizations. This initiative responds to the CFS recommendations on "Connecting smallholders to markets", adopted in 2016. These recommendations highlight the importance of markets connected to local, national and regional food systems as the markets most beneficial to small-scale producers, as well as to food security and rural economies. The CFS recommendations of 2016 were approved as a follow-up to a preceding set of recommendations on "Investment in small-scale agriculture" (CFS, 2013) and were based on the High Level Panel of Experts on Food Security and Nutrition (HLPE) report on Investing in smallholder agriculture for food security (HLPE, 2013).

In 2017, an ad hoc coordination group defined the objectives and general principles of the mapping process methodology. In June 2018, FAO held an International Workshop on Territorial Market Data Collection in Rome. The workshop was attended by representatives from 15 global and regional networks and producer organizations who shared relevant experiences and made proposals on the variables to be considered for the mapping of territorial markets. In addition, four regional workshops have been scheduled to take place between 2018 and 2021, in order to consult on and validate the methodology for mapping territorial markets with representatives of local institutions and producer organizations in specific regions.

Objectives of the mapping

The overall objective of the mapping of territorial markets is to fully recognize the importance of these markets for greater advocacy and support towards their improvement, and for informed policymaking processes towards sustainable food systems for healthy diets.

Specific objectives of the initiative include:

- making territorial markets more visible, with a view to influencing the public policies adopted to foster them;
- developing mechanisms for data gathering and processing on territorial markets; and
- establishing alliances between different actors, in order to strengthen linkages between markets and production systems;
- identifying strategies for healthier food environments and for reducing malnutrition.

General principles

The following general principles have been identified to guide the development of the methodological proposal and ensure its coherence:

- Inclusiveness: the data collection processes should be conducted with the involvement of relevant actors and stakeholders, in particular producer organizations, relevant institutions and researchers.
- Progressiveness: the mapping process should follow a stepwise approach, first by taking into consideration a limited number of variables and indicators and a specific geographical area, then broadening the process to include other variables and geographical areas.
- Mastery: the mapping process should build on existing experiences so as to enable the lead organizations and/or institutions to develop and master the collection of information and other activities, in synergy with the other actors involved.

- Harmonization: while some variables should be common to all the data collection processes to ensure the comparability of results (see Variables), indicators may vary from one data collection process to another due to local specificities.
- Multidisciplinary approach: the data collection processes should involve and ensure the participation of all the various actors having different domains of experience as needed to understand the different aspects of territorial markets.
- Triangulation: the data should be cross-checked against other types of data and existing information, to corroborate their reliability.

Variables

To allow for the comparability of results from different mapping exercises, the following variables have been identified and should be considered by all organizations and institutions carrying out data collection on territorial markets:

- status of the market, geographical scope and frequency (whether formal, informal, local, national, cross-border, daily, weekly, etc.);
- product supply (characteristics of the provider and of the product itself);
- product demand (characteristics of the buyer and of the product itself);
- infrastructures and basic services supporting the market and fostering the alignment of supply and demand;
- role of price in market organization (including income dynamics and income distribution);
- role of women and youth in the market; and
- standards and rules involved in enabling the functioning of markets, as set forth by relevant actors, local government authorities and the state.

An additional set of variables have been defined as optional. While these variables were identified as important when collecting data and information on territorial markets, they may not pertain to all contexts and/or translate easily into indicators. Along with other variables that may pertain to specific contexts, these variables may or may not be included in each data collection process. The optional variables are:

- regional regulations and the implications of international or regional standards on the markets; for example the rules of the Economic Community of West African States (ECOWAS), the European Union, the Southern Common Market (Mercosur) and the World Trade Organization (WTO);
- different modes of product exchange between actors of the local system;
- consumer perceptions of the quality of the products sold on territorial markets; and
- other non-commercial services provided by the markets.

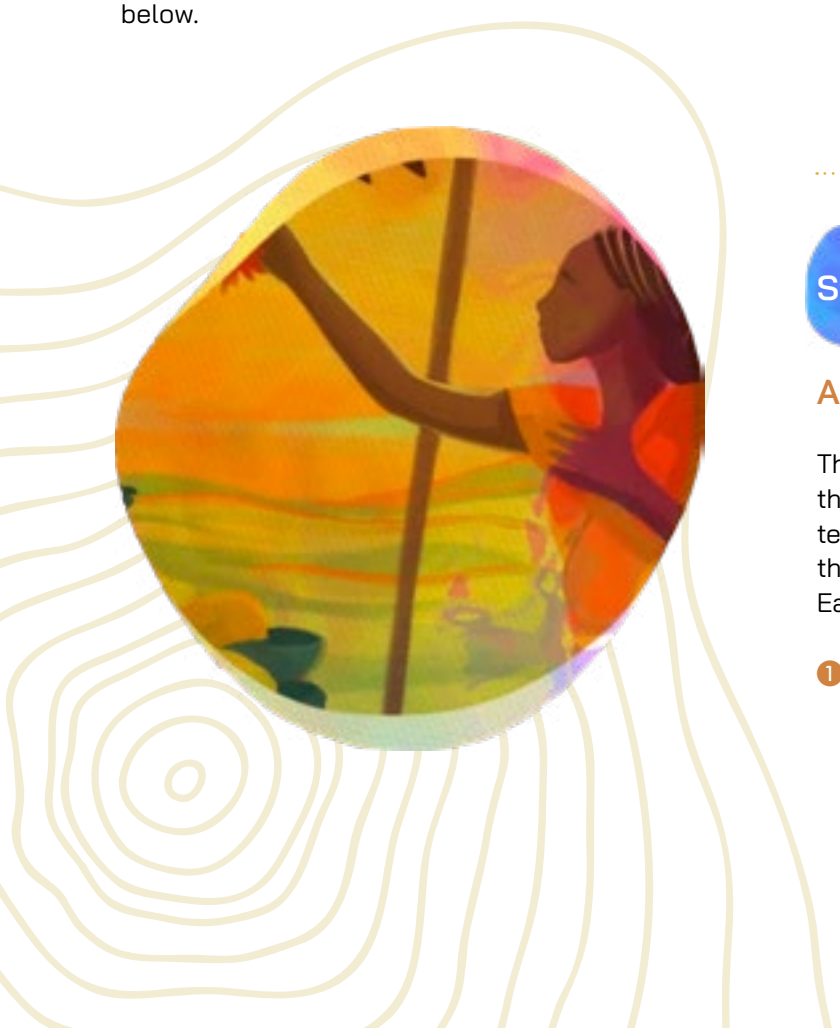
Scale of the mapping process

The scale for conducting a mapping process should be territorial; the recommendation is therefore to work first at a municipal or district level and then progressively cover the entire country. Institutions or organizations are free to choose the geographical coverage that best fits their context. This choice will be justified by the institution/organization itself during the methodological workshop (see Methodological procedure).

METHODOLOGICAL PROCEDURE

The methodological procedure entails the active involvement and participation of producer organizations, institutions and researchers working on market-related issues in the considered territory. A preliminary desk review of previously completed and ongoing market data collection experiences within the target area should be conducted. This ensures that the mapping process builds on existing studies. It also facilitates the identification of all relevant actors that should be involved and improves the overall quality of the process and the analysis of the data collected. The active involvement of relevant actors and stakeholders and their ownership of the process is crucial, as is their participation in the validation workshops. This allows for a process that is well-adapted to the specific context and serves to strengthen the reliability of the collected data.

The methodological procedure uses a stepwise approach, composed of nine steps as described below.



Step 0

Preparatory work

Step 0 is intended to lay the groundwork for the rest of the process. In this step the lead organization/ institution should:

1. Clearly define the target area/territory for the mapping exercise.

   Conduct a desk review of existing documentation in order to:
   a. identify actors within the territory that have worked on this topic;
   b. take stock of the work that has already been done; and
   c. identify the different kinds of markets in the territory (for example, urban food markets, open-air markets, wet-markets and informal markets).

   Propose a sample of markets to be considered for the mapping exercise.

Step 1

Adaptation of questionnaires

Three standard questionnaires must be adapted for the local context – one for the preliminary analysis of territorial markets, one for food retailers, and one for the consumers (see Annex I, Annex II, and Annex III). Each questionnaire may require adaptation as follows:

1. The unit of measure for standard questions may need to be revised to ensure it is clear and relevant to the respondents.

2. The options in the standard multiple choice questions may need to be revised to ensure they are relevant to the reality of the context.

3. Further questions may need to be added according to specific needs.

Step 2

Validation workshop

A validation workshop should be organized for the agreement and validation of the data collection plan. This will ensure the participation and involvement of all relevant actors and stakeholders.

Step 3

Adaptation of data collection tools

According to agreements made during the validation workshop, the lead organization/institution should adapt the standard KoBotoolbox data collection tools as developed by FAO.[3] The adaptation should be based on changes as proposed in Step 1 of the methodological procedure and as validated in Step 2.

The KoBotoolbox data collection tools developed by FAO can be used both online and offline, and allow for the easy administration of collected data.

In case the lead organization/institution does not have access to laptops or smartphones with which to record data while in the market, paper versions of the data collection tools can be used. The data entered can then be transferred to the KoBotoolbox data collection tools.

Step 4

Training of enumerators

Before starting the data collection process in the selected sample of markets, enumerators should be trained not only in the use of the tools themselves and the questions included, but also in how best to approach and conduct data collection (for example in terms of overall attitude and behaviour). Training should be facilitated by the appropriate person/s from the lead organization/institution, ensuring they have both relevant experience and knowledge of data collection processes. The duration of the training depends on the needs and capacities of the enumerators.

The training of enumerators should also include a field trial of the data collection tools. One market from the identified sample may be selected for this trial, in which the facilitator should follow and support enumerators in using the data collection tools, ensuring they achieve the competence and skills necessary to carry out the data collection process themselves.

[3] KoBoToolbox is a free and open source tool for field data collection. Most of users are people working in humanitarian crises, as well as aid professionals and researchers working in developing countries. The questionnaires developed by FAO and implemented on KoBotoolbox are adaptable to every specific local context. The tool can be used both online and offline and automatically enters the collected information into a database that can be downloaded as Microsoft Excel file.

Step 5

Data collection

After the enumerators have been trained, the data collection process can begin. This should involve at least two visits to the market, as follows:

In the first visit, the enumerators must carry out a preliminary analysis of the territorial market, in order to define a representative sample of retailers to be interviewed in the second and subsequent visit. As indicated in the standard preliminary market analysis questionnaire, this representative sample of retailers should be defined using the following criteria (see Annex I):

- total number of retailers operating in the market;
- food groups on sale;
- sex; and
- age group.

To save time, this preliminary market analysis can be conducted with the help of key informants such as market managers and/or other officials, and then complemented with direct observation by enumerators.

Once the sample of retailers has been defined, the enumerators are ready for a second visit to the market, during which they will use the data collection tool to interview and gather information from the selected food retailers.

During the same visit to the market, or in a third visit, data will also be collected on consumers making their food purchase in territorial markets. Considering that the population of consumers visiting a specific market is unknown, there is no way to define and select a representative sample. For this reason, the selection of consumers will result from a non-probabilistic sampling design. Considering the non-probabilistic selection of the sample of consumers, and in order to ensure a minimum degree of variability in the sample, the sample should be composed of at least 50 consumers.

It is important to remember that both retailers and consumers are typically very busy and that their time is valuable. Enumerators should therefore seek to demonstrate appreciation and respect for the time they are given and avoid unnecessary or intrusive questions. The key to a successful interview is to build empathy and earn trust.

Step 6

Data processing and analysis

Data collected in step 5 have to be processed and analysed. This requires that all data collected for a given market first be consolidated. The lead organization/institution should analyze both data sets, on retailers and on consumers. Concerning the data on retailers, data processing and analysis should proceed as follow:

1. Cross analysis of data: Given the sample of retailers has been selected based on (i) food groups on sale, (ii) sex, and (iii) age group, all collected data can be disaggregated according to these three dimensions. Cross analysis can then be conducted to identify trends and differences among food retailers. For example, the average net or take-home income disaggregated by sex can thus be calculated to understand if there is a pay gap between men and women.

2. Expansion of data: For answers regarding the volume of product sold, and for other information on the relevance of the market within its food system, an expansion factor may be applied to give a realistic picture at the overall market level. For example, if the selected sample of retailers reflects 20 percent (i.e. one-fifth) of all food retailers operating in the given market, the

data manager can gather the data on the quantity of products sold by interviewed retailers and multiply this quantity by 5 (as an expansion factor), in order to arrive at an estimate of the total quantity of products sold at market level.

Concerning the data on consumers, data processing and analysis should proceed as follows:

1. **Overall distribution of consumers against main variables**: the first step will be to show the overall distribution of consumers against main variables that characterize them: sex, age, household dimension, living area, presence of children under 5 years old within the household, frequency of purchase at the territorial markets, income, market distance from living area.

2. **Cross-analysis of data**: once determined the overall distribution of consumers against main variables, a cross-analysis of data can be performed, for example the volumes of product bought on a monthly base can be disaggregated by the frequency of purchase to the territorial market, thus understanding if consumers visiting the market more frequently tend to buy more or less food products.

The last step to perform in the data processing and analysis is to measure the performance of the different markets through **five synthetic indicators** (see Annex IV):

1. food diversity indicator;
2. economic gender gap indicator;
3. business environment indicator;
4. producer–consumer link indicator; and
5. Minimum day-to-day contribution to healthy and diversified diets indicator.

Step 7

Reporting

A report on the mapping process and the markets mapped should be prepared, including both a narrative of the data collection process and the collected data and analysis. The report allows for the sharing of results with relevant actors and stakeholders, comparison across markets and the eventual identification of entry points for specific interventions at market level. The report may also include an overview of the role these markets play within the territorial food systems.

Step 8

Final validation workshop

A final validation workshop should be organized to share and validate the report with all relevant actors and stakeholders. This allows for participant feedback to be gathered and incorporated into the report, while also providing an opportunity for participants to come up with proposals to enrich the work and to identify domains for more thorough analysis, with a view not only to enhancing the quality of the findings, but also to improving territorial markets.

CONCLUSIONS AND RECOMMENDATIONS

This mapping process aims to provide information on the dynamics of territorial markets, such that collected data can be used to foster dialogue and knowledge exchange between public institutions and a range of stakeholders – including small-scale farmers, processors, herders and other agricultural workers, as well as fishing and forestry communities, artisans and indigenous peoples – in order to support participatory and informed policymaking processes.

Small-scale producer participation is important not only to improve and expand sustainable food production practices and strengthen their capacity to access and generate economic opportunities, but also to allow them better access to the necessary resources, services and markets, and to strengthen their opportunities for collective action and meaningful participation in negotiations and policy processes aimed at reducing malnutrition and poverty.

It is therefore recommended that the mapping process be conducted in an inclusive and participatory way, involving producer organizations, women, youth and other relevant stakeholders, to ensure that all parties contribute according to their particular roles and responsibilities in order to identify and translate the specific needs of territorial markets into concrete action plans at regional and national level.

Territorial markets are typical of short food supply chains, which are generally characterized by the involvement of few intermediaries, as well as by geographical and cultural proximity, trust and high social capital. They promote family farming, market inclusivity for small-scale entrepreneurs and producers, and a direct relationship between consumers and producers, as well as improved availability and accessibility for healthy and diversified diets at territorial level. It is therefore essential that the contribution of territorial markets – both to consumer dietary patterns and to the sustainable development of localities and regions – is made visible through the collection of reliable, timely and relevant data. Such data can also contribute to the design of public policies that support and strengthen this type of market.

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ANNEXES

ANNEX I

PRELIMINARY MARKET ANALYSIS QUESTIONNAIRE

- REGION
- DISTRICT
- CITY/VILLAGE NAME
- MARKET NAME
- GPS LOCATION (LATITUDE)
- GPS LOCATION (LONGITUDE)
- DATE OF DATA COLLECTION

Q1 What is the market frequency?

- Daily
- More than once a week (but not daily)
- Weekly
- Monthly

Q2 On average, how many retailers sell at this market?

Q3 How many retailers are women?

Q4 How many retailers belong to each of the following age groups?

- Less than 25 years old
- Between 25 and 55 years old
- More than 55 years old

Q5 How many retailers sell the following food groups?

- Grains, white roots and tubers, and plantains
- Pulses
- Nuts and seeds
- Dairy products
- Meat
- Poultry
- Eggs
- Fish and sea food
- Vitamin A-rich fruits and vegetables
- Other vegetables
- Other fruits
- Artisanal processed foods and beverages
- Industrially processed foods and beverages

ANNEX II

RETAILERS QUESTIONNAIRE

- Market name
- Name of main respondent
- Contact details
- Date of interview

Retailer characteristics

Q1 Sex

Q2 Age

Q3 Where do you live?

- This village
- Neighbouring village
- Closest town
- Elsewhere in the region
- Elsewhere in the country
- Another country

Q4 How far is the market from your house? (Km)

Q5 Number of household members

Q6 In a typical month, what is the household income?

Q7 Business type

- Wholesaler (Business-to-business)
- Retailer (Business-to-consumer)
- Both

Q8 When did the business start operating in this market?

Q9 In a typical month, approximately how many days do you work in this market?

Q10 Is this business your only source of income?

Q11 Are you a member of an organization or association?

- No
- Yes, I am a member of a farmers' organization
- Yes, I am a member of a cooperative
- Yes, I am a member of a Union
- Yes, I am a member of a market association
- Other

Earnings and costs

Q12 What is the total value of sales in this business in a typical month? That is, how much do you receive from the products you sell?

Q13 After all the expenses in inputs, wages and other costs, what was the net take-home income from the operation of this business, in a typical month?

Q14 Do you rent or own the building/stall/location where this business operate?

- Rent (go to Q15)
- Own (go to Q16)
- Free use (go to Q16)

Q15 Who is the owner of the building/stall/ location where this business operates?

- Private individuals
- Private organization (e.g. cooperative/ farmers organization, etc.)
- Public entity
- Other

Customers

Q16 In a typical month, how many customers come to your retailing point each market day?

Q17 Where do your customers come from?

	None	Less than 25%	Between 25% and 50%	Between 50% and 75%	More than 75%
This village					
Neighbouring village					
Closest town					
Elsewhere in the region/ province					
Elsewhere in the country					
Another country					

Q18 To which socio-economic group do the costumers belong?

	None	Less than 25%	Between 25% and 50%	Between 50% and 75%	More than 75%
Poor					
Middle class					
Wealthier class					

Q19 Who is the main customer in terms of volume of sales?

- Private individuals (households)
- Other businesses (store, trader)
- Processors
- Government
- Livestock markets/auctions
- Other

Q20 What share of your sales accrue from your main customer?

Problems and benefits

Q21 What are the main problems that affect your businesses?

	Yes	No
No cold chain		
Poor storing infrastructure		
Poor quality of raw material		
Limited demand		
Low prices		
High food losses		
Security		

Q22 What are the benefit for you to sell at this market?

	Yes	No
Better prices		
Security		
Less price volatility		

Q23 Do you have any line of credit or loan?

- Yes (go to Q21)
- No (go to Q22)

Q24 What type of institution granted the credit or loan?

- Private commercial bank
- State-owned banks or government agency
- Non-bank financial institutions
- Cooperative/ business association
- Other informal

Q25 Why you did not get any line of credit or loan?

- No need for a loan - business had sufficient capital
- Application procedures for formal loans are too complex
- Interest rates were not favourable
- Collateral requirements were too high
- Did not think it would be approved

Product characteristics

Q26 Are you offering the following products?

	Yes	No
Grains, white roots and tubers, and plantains		
Pulses		
Nuts and seeds		
Dairy products		
Meat		
Poultry		
Eggs		
Fish and sea food		
Vitamin A-rich fruits and vegetables		
Other vegetables		
Other fruits		
Artisanal processed foods and beverages		
Industrially processed foods and beverages		

Q27 List the varieties on sale for all the offered food groups

Q28 What is the geographical origin of the products?

- This district
- Elsewhere in the region/province
- Elsewhere in the country
- Another country

Q29 How are the products you sell produced?

	Yes	No
Agroecological		
Organic		
Conventional		
Traditional without agrochemical inputs		
Traditional with agrochemical inputs		
Don't know		

Q30 What is the origin of the products?

- Exclusively my production (go to Q32)
- Partly my production, partly purchase from other producers/traders (go to Q31)
- Exclusively purchased from other producers/traders (go to Q31)

Q31 Did you buy the products directly from the farmer/livestock owners or from a trader?

- Farmers only
- Traders only
- Both farmers and traders

Q32 What are your margins (by percentage of selling price) **on the products?**

- Less than 10%
- Between 10% and 20%
- Between 20% and 50%
- More than 50%

Q33 What is the volume of products that you sell in a typical month? (kg/month)

Sales

Q34 Out of the total volume of products that you offer, how much you manage to sell in a typical market day?

- More than 75%
- Between 75% and 50%
- Between 50% and 25%
- Less than 25%

Q35 What do you do with products that you can't sell?

- I consume them
- I take them back to the manufacturer
- I use them in another marketing channel
- I trade them for another produce
- I have nothing left
- Other

Market management

Q36 Is the market formally recognized by public authorities?

- Yes
- No

Q37 Who established the rules governing the functioning of the market?

	Main regulator	Secondary regulator	Marginal role	No role
Municipal-level				
County/ department/ district level				
Regional level				
National level				

Q38 Who owns the market property and infrastructure?

- Public property
- Private property
- Mixed

Infrastructure

Q39 What are the existing infrastructures in the market?

	Yes	No
Electricity		
Water		
Toilets		
Warehouses		
Cold warehouses		
Retailers' booths		

Q40 Who manages the infrastructures?

- Retailers
- Market owner
- Both

Prices

Q41 Do you think the prices you propose are similar to those offered by other retailers in this market?

- Yes (go to Q43)
- No (go to Q42)

Q42 What is the main factor influencing the price difference?

- Different quality
- Number of intermediaries
- Other

Q43 How do you set your selling prices?

- Considering the cost of production and retailing margins
- Through price setting committees
- Bargaining between retailers and consumers
- Fixed by public authority
- Other

ANNEX III

CONSUMERS QUESTIONNAIRE

- **Market name**
- **Date**
- **Time**

Consumer characteristics

Q1 Sex of the respondent

Q2 Age of the respondent

Q3 How far is this market from your house? (km)

Q4 How would you define the area where you live?

- Urban
- Peri-urban
- Rural

Q5 What is the average monthly income of your household?

Q6 How many people live in your household?

Preferred market outlets

Q7 Where do you source most of the food that you and your household consume during a week?

- Hypermarket/supermarket
- Formal wet market
- Informal street market
- Convenience store/mini-market
- Specialized grocer (e.g. vegetable shop, fruits shop, butcher...)
- Street food vendor
- Produced within the household
- Farmers nearby the house

Q8 How much do the following factors influence your purchasing choices when you buy food for you/your household consumption?

	1= not important and 5= very important
Food can be bought close to where I live or work	
Food keeps me/my household members full during the day	
Food is tasty	
Food is easy to prepare	
Food is safe to consume	
Food is affordable	
Food is healthy and nutritious	

Q9 Do you think that food is safe in the following outlets?

	1= fully disagree and 5 = fully agree
Wet market	
Supermarket	
Street food vendors	

The territorial market

Q10 Please rank from 1 to 10 how much you agree with the following statements concerning this market:

	1= fully disagree and 5 = fully agree
Price is convenient	
It's close to my home	
It's located on the way from home to work/school/family members...	
The food offered is safe for consumption	
I have a valuable personal contact with the vendor	
Several days per month" with "Several days a month	
There is a wide assortment of *healthy* food	

Q11 Do you think there are food safety risks at this market?

- Yes, I think there are high risks
- Yes, I think there are some risks
- No, I don't think there are risks
- I don't know

Q12 How often do you come to this market to buy food?

- Daily
- More than once a week
- Once a week
- Several days a month
- Once a month
- Once every few months

Q13 How often do you buy this food group at this market?

	Every time I come to the market	Most of the time when I come to the market	Sometimes when I come to the market	Never
Grains, white roots and tubers, and plantains				
Pulses				
Nuts and seeds				
Dairy products				
Meat				
Poultry				
Fish and seafood				
Eggs				
Vitamin A-rich fruits and vegetables				
Other vegetables				
Other fruits				
Artisanally processed foods and beverages				
Industrially processed foods and beverages				

Q14 What is the reason for not buying this food group more frequently?

	The products are too expensive	I don't like these products	The products are not safe	The products are not healthy	The products are not 'ready to use'	I don't know how to use/cook the products
Grains, white roots and tubers, and plantains						
Pulses						
Nuts and seeds						
Dairy products						
Meat						
Poultry						
Fish and seafood						
Eggs						
Vitamin A-rich fruits and vegetables						
Other vegetables						
Other fruits						
Artisanal processed foods and beverages						
Industrially processed foods and beverages						

Q15 On average, what is the monthly volume of food products that you buy at this market? (Kg/month)

Children under 5

Q16 How many children under 5 years live in your household?

Q17 Do you buy the following food group for children under 5?

	Every time I come to the market	Most of the time when I come to the market	Sometimes when I come to the market	Never
Grains, white roots and tubers, and plantains				
Pulses				
Nuts and seeds				
Dairy products				
Meat				
Poultry				
Fish and seafood				
Eggs				
Vitamin A-rich fruits and vegetables				
Other vegetables				
Other fruits				
Artisanally processed foods and beverages				
Industrially processed foods and beverages				

Q18 What is the reason for not buying this food group more frequently?

	The products are too expensive	Children don't like these products	The products are not safe	The products are not healthy	The products are not 'ready to use' for children under 5 years	I don't know how to use/cook the products
Grains, white roots and tubers, and plantains						
Pulses						
Nuts and seeds						
Dairy products						
Meat						
Poultry						
Fish and seafood						
Eggs						
Vitamin A-rich fruits and vegetables						
Other vegetables						
Other fruits						
Artisanal processed foods and everages						
Industrially processed foods and beverages						

Diet diversity

Q19 In the last 24h (yesterday during the day and night), have you consumed the following foods or beverages?

	Yes	No
Grains, white roots and tubers, and plantains		
Pulses		
Nuts and seeds		
Dairy products		
Meat		
Poultry		
Fish and seafood		
Eggs		
Vitamin A-rich fruits and vegetables		
Other vegetables		
Other fruits		
Artisanal processed foods and beverages		
Industrially processed foods and beverages		

ANNEX IV

PROPOSAL FOR SYNTHETIC INDICATORS

Food diversity indicator

This indicator may be calculated as follows:

1. Consider Q27 of the food retailers questionnaire and list how many varieties are available at the market level for each food group.
2. According to the number of varieties available for each food group, assign a score as follows:
   - 0 if no varieties are available for the given food group (i.e. the food group is not available);
   - 0.25 if only one variety is available for the given food group;
   - 0.5 if two varieties are available for the given food group;
   - 0.75 if three varieties are available for the given product category; and
   - 1 if four or more varieties are available for the given food group.
3. Add up the obtained scores.
4. Calculate the ratio between the sum of the obtained scores and the maximum score (the maximum score corresponding to the number of food groups). A value between 0 and 1 will be obtained. The closer the value is to 1, the more the offer of food products is diverse (i.e. when there are 4 or more varieties available for all food groups).

economic gender gap indicator

This indicator may be calculated as follows:

1. Consider Q13 of the food retailers questionnaire:
   - Calculate the average net take-home income disaggregated by sex.
   - Calculate the ratio between the average net or take-home income of women (as numerator) and the average net take-home income of men (as denominator). The obtained value is between 0 and +∞, where 0 reflects total inequality affecting women and +∞ reflects total inequality affecting men. The closer the value is to 1, the greater the equality between men and women in terms of net take-home income. This is the first value to be retained in order to calculate the indicator.
2. Consider Q25 of the food retailers questionnaire:
   - Calculate the number, disaggregated by sex, of men retailers who selected Application procedures for formal loans are too complex', 'Interest rates were not favourable', 'Collateral requirements were too high', and 'Did not think it would be approved' for Q25, and calculate the ratio against the total number of men retailers. Do the same for women retailers. The obtained value is a share to be provided as a value between 0 and 1. Calculate the ratio between the two values, using the value for men as numerator and the value for women as denominator. The result is a value between 0 and + ∞, where 0 reflects total inequality affecting women and +∞ reflects total inequality affecting men. The closer the value is to 1, the greater the equality between men

and women in terms of access to financial services. This is the second value to be retained in order to calculate the indicator.

3. Add up the two obtained values and divide by two. The closer the obtained score is to (but lower than) 1, the more there is equal inclusion of/for both men and women. The closer the score is to 0, the less inclusion there is of/for women. The higher the score is above 1, the less inclusion there is of/for men.

Business environment indicator

This indicator may be calculated as follows:

1. Consider Q39 of the food retailers questionnaire:
   - Calculate the average share of retailers who reported the existence of infrastructures (i.e. if 60 percent of retailers reported the existence of toilets and 20 percent of retailers reported the existence of cold storage warehouses, then the average share is 40 percent). Provide the share as a value on a scale between 0 and 1. The obtained value lies between 0 and 1, where 0 reflects a total lack of infrastructures and 1 indicates that all infrastructures are available to all. This is the first value required in order to calculate the business environment indicator.
2. Consider Q23, Q24 and Q25 of the food retailers questionnaire:
   - Consider those retailers who reported to have access to credit and loans to question Q23.
   - Among retailers who have access to credit and loans, calculate the number of retailers who selected answers 'Private commercial bank', 'State-owned banks or government agency' and 'Non-bank financial institutions' to Q24. Calculate the share of these retailers over the total number of retailers in the sample, excluding from the denominator only those retailers that, for Q25, reported to not have a line of credit or loan because they do not need it.
   - Provide the obtained share as a value between 0 and 1, where 0 reflects a total lack of access to formal financial services and 1 indicates that all retailers have access to formal financial services. This is the second value required in order to calculate the business environment indicator.
3. Add up the two obtained values and divide by two. The result is a score between 0 and 1. The closer the score is to 1, the more the business environment is favourable to food retailers.

Producer–consumer link indicator

This indicator may be calculated as follows:

1. Consider Q30 of the food retailers questionnaire:
   - Calculate the share of retailers who selected 'Exclusively my production' and 'Partly my production and partly purchased from other producers/traders' for Q30 about the source of products on sale. Provide the share as a value between 0 and 1. The closer the value is to 0, the lower the number of retailers who are also producers. The closer the value is to 1, the higher the number of retailers who are also producers. This is the first value required for the producer–consumer link indicator.
2. Consider Q31 of the food retailers questionnaire:
   - Calculate the share of retailers who selected 'Farmers only' for Q31 about the source of those products that are not self-produced by the retailers. Provide the share as a value between 0 and 1. The closer the value is to 0,

the lower the number of retailers who purchase directly from farmers. The closer the value is to 1, the higher the number of retailers who purchase directly from farmers. This is the second value required for the producer–consumer link indicator.

- Add up the two obtained values and divide by two. The result is a score between 0 and 1. The closer the obtained score is to 1, the greater the degree to which farmers are directly linked to consumers, without intermediaries.

Minimum day-to-day contribution to healthy and diversified diets indicator

This indicator may be calculated as follows:

1. Consider Q19, Q13 and Q12 of the consumer questionnaire:

   a. For each food group, select those consumers who, for Q19, reported to have consumed the specific product during the last 24 hours;

   b. Among consumers who have consumed each specific product, select those who responded 'every time I come to the market' and 'most of the time I come to the market' to Q13 for the same food group;

   c. Among those consumers buying the food group every time or most of the time they go to the market (point 'b' above), consider those consumers who responded 'every day' and 'more than one day per week' to Q12 about the frequency of their market visits.

   d. Once calculated the total number of consumers buying a specific product every time or most of the time they go to the market and visiting the market very frequently, calculate the share of these consumers over the total of consumers who reported to consume the product (point 'a' above);

   e. Calculate the average among the obtained shares (one per food group). Provide the average share as a value on a scale between 0 and 1. The closer the value is to 1, the more the market contribute to consumers' consumption of food. This is the first value to be retained in order to calculate the indicator.

2. Consider Q12 and Q13 of the consumer questionnaire:

   a. Select those consumers who responded 'every day' and 'more than one day per week' to Q12 about the frequency of their market visits.

   b. Select those consumers who, for question Q13, reported to have purchase every time they go to the market or most of the time they go to the market at least for 5 food groups, of which at least three distributed as shown below:

Grains, white roots and tubers, and plantains	
Pulses Meat Poultry Fish and seafood Eggs	At least one of these food products
Vitamin A-rich fruits and vegetables	At least one of these food products
Other vegetables	
Other fruits	

c. Once calculated the total number of consumers buying at least 5 food groups (of which at least one is cereals, one is protein-rich food and one is fruits or vegetables) every time or most of the time they go to the market and visiting the market very frequently, calculate the share of these consumers over the total number of consumers;

d. Provide the share as a value on a scale between 0 and 1. The closer the value is to 1, the more the market is relevant in ensuring access to healthy diets to consumers. This is the second value to be retained in order to calculate the indicator.

3. Calculate the average between the two obtained values. The closer the obtained score is to 1, the more the market contributes to ensure access to healthy and diversified diets to consumers.

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