Second edition

MAPPING TERRITORIAL MARKETS IN BURKINA FASO
SUMMARY REPORT

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INTRODUCTION

Smallholder farmers are responsible for most of the food consumed in the world, as well as most of the investments made in agriculture (CFS, 2016; FAO 2017). They operate largely in a range of local and national markets that are embedded in territorial food systems, also known as "territorial markets".

From a consumer perspective, these markets serve as key retail outlets for access to the foods needed for healthy diets, in particular fresh fruits and vegetables, fish, meat and staple foods.

Despite their importance however, data concerning territorial markets – such as the availability of food groups, food retailers and consumer profiles – are not often included in national data collection systems. As a result, they are often neglected in strategies aimed at improving nutrition, reducing poverty and fostering local economies.

This is the context in which FAO conducted a mapping of territorial markets in Burkina Faso. The objective of the mapping was to identify the business and operational models that work best, as well as entry points for the implementation of policy and investment strategies towards more inclusive and nutrition-sensitive markets.

MAPPING PROCESS

The mapping process, which was based on a methodology and set of guidelines as developed by FAO and partners (FAO, 2021), began in Burkina Faso in July 2021. FAO provided training on data collection methods and tools, after which data on territorial markets in the country were collected by the Association for Research and Training in Agroecology ("Association pour la Recherche et la Formation en Agroécologie" or ARFA, in French).

The mapping exercise took place in six markets, selected according to a number of predetermined criteria.[1] As illustrated in Figure 1, the markets included in the sample are located in three different regions of Burkina Faso: Boucle du Mouhoun, Centre-Ouest and Hauts-Bassins.

For each market in the sample, the mapping process involved three stages:

❶ preliminary market analysis to determine a representative sample of retailers;

❷ data collection from the representative sample of food retailers; and

❸ data collection from a non-probabilistic sample of consumers.

Figure 1. Localization of selected territorial markets

Source: Adapted from Map No. 4230 Rev.1 UNITED NATIONS, August 2018. Department of Field Support, Geographical Information Section.

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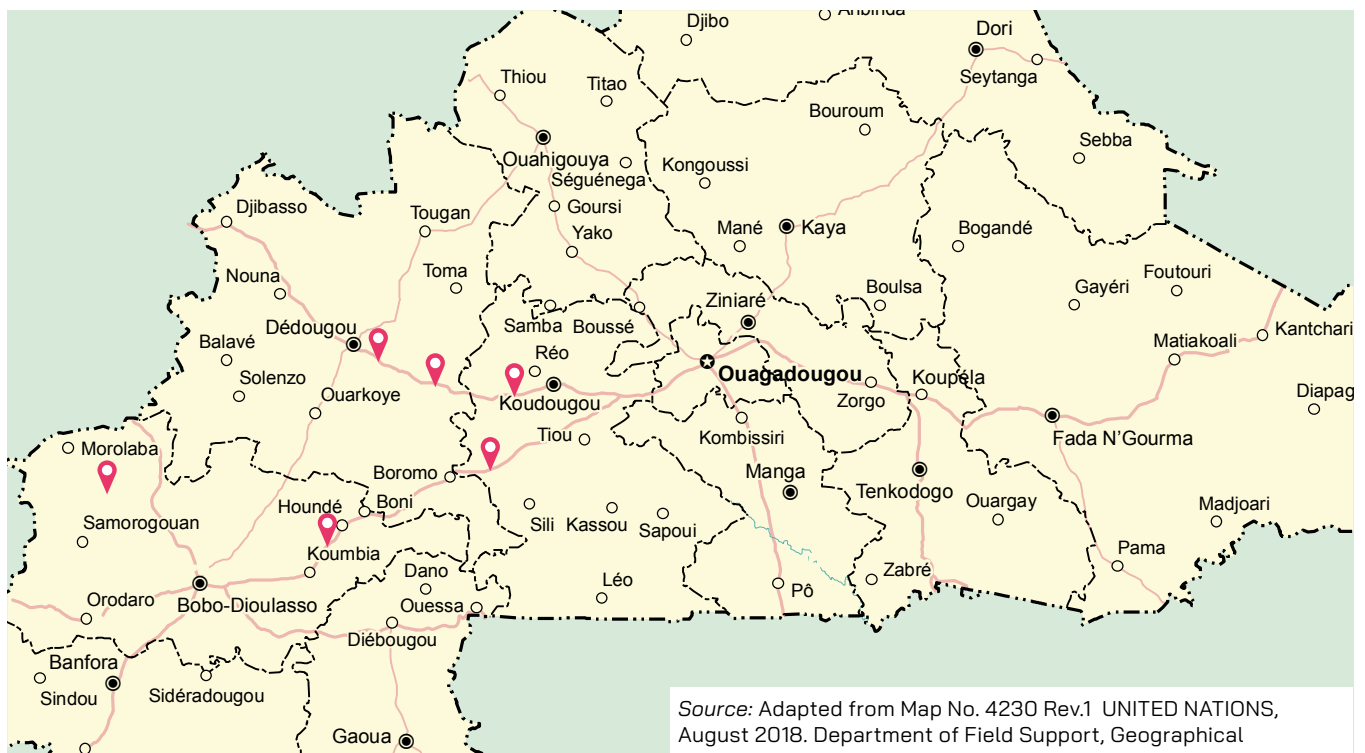
[1] The six markets were selected based on the following criteria: (i) markets that are located in the following regions: Boucle du Mouhoun, Centre-Ouest and Hauts-Bassins; (ii) markets that are recognized by consumers as food markets; (iii) markets in which at least ten retailers operate; and (iv) markets that are held with regular frequency.

As a first step, the preliminary market analysis collected information on (i) the given market's profile (including name, department, district, market frequency, typology of market and GPS coordinates) and (ii) the distribution of retailers within the given market, based on sex, age and type of food (i.e. food group) sold.

As a second step, and based on the preliminary market analysis, a representative sample of 210 retailers was established, in order to administer a second survey (retailers' survey) composed of 42 questions. The results of this second survey were then analysed to assess each market's performance across the following four synthetic indicators,[2] each of which aggregates key information (variables) collected through the survey: food diversity indicator, economic gender gap indicator, business environment indicator and producer–consumer link indicator.

Finally, a third round of data collection was conducted with a randomly selected sample of 210 consumers who were making their food purchases in the selected markets. This third survey (consumers' survey) was composed of 27 questions. The results of the consumers' survey were then analysed to assess the market's performance against a fifth synthetic indicator: the minimum day-to-day contribution to healthy and diversified diets indicator.

The following sections provide an overview of the results of the mapping process for all six markets across each of the five indicators or dimensions identified, including disaggregated key findings, along with a presentation of results for each synthetic indicator by market.

Table 1. **Preliminary market analysis**

Region	Province	Market	Market frequency	Typology of market	N. of retailers operating in the market	No. of retailers interviewed	No. of consumers interviewed
Boucle du Mouhoun	Mouhoun	Dédougou	Daily	Retail market	2 500	35	35
	Mouhoun	Tcheriba	Weekly	Wholesale and retail market	400	35	35
Centre-Ouest	Sanguié	Tenado	Daily	Wholesale and retail market	150	35	35
	Sanguié	Zamo	Twice a week	Wholesale and retail market	400	35	35
Hauts-Bassin	Tuy	Houndé	Daily	Retail market	450	35	35
	Kénédougou	N'dorola	Daily	Wholesale and retail market	980	35	35

Source: Authors' own elaboration.

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2   A synthetic indicator is a composite measure that mathematically combines several pieces of information into a single measure, allowing for the evaluation and comparison of multidimensional phenomena. Synthetic indicators were useful to the mapping process, as they allowed for the aggregation of several kinds of data on each market (as collected through the survey), and for the assessment of each market's performance against the given dimension.

Food diversity

Key findings

The first key finding concerns the total volumes of products sold in the territorial markets that were mapped. As seen in Figure 2, the food group "Grains, white roots and tubers, and plantains" has by far the highest volume of sales, at more than 8 000 tonnes per month. On the other hand, the "Dairy products", "Poultry" and "Eggs" food groups have the lowest volumes of sales (at 20, 15 and 8 tonnes per month, respectively). This is likely due to the limited relevance of these products in the diet of Burkina Faso's consumers (as in the case of dairy products),

or because the foods are produced within the household (as in the case of poultry and eggs).

With regard to the diversity of food offered, Table 2 lists the availability of different food products for each food group across the six markets analysed. As the table illustrates, there is a wide variety of food products offered for each food group, with the exception of "Eggs" and "Poultry" – the two food groups with the lowest volumes of sales.

Figure 2. Volumes of products sold, by food group (tonnes/month)
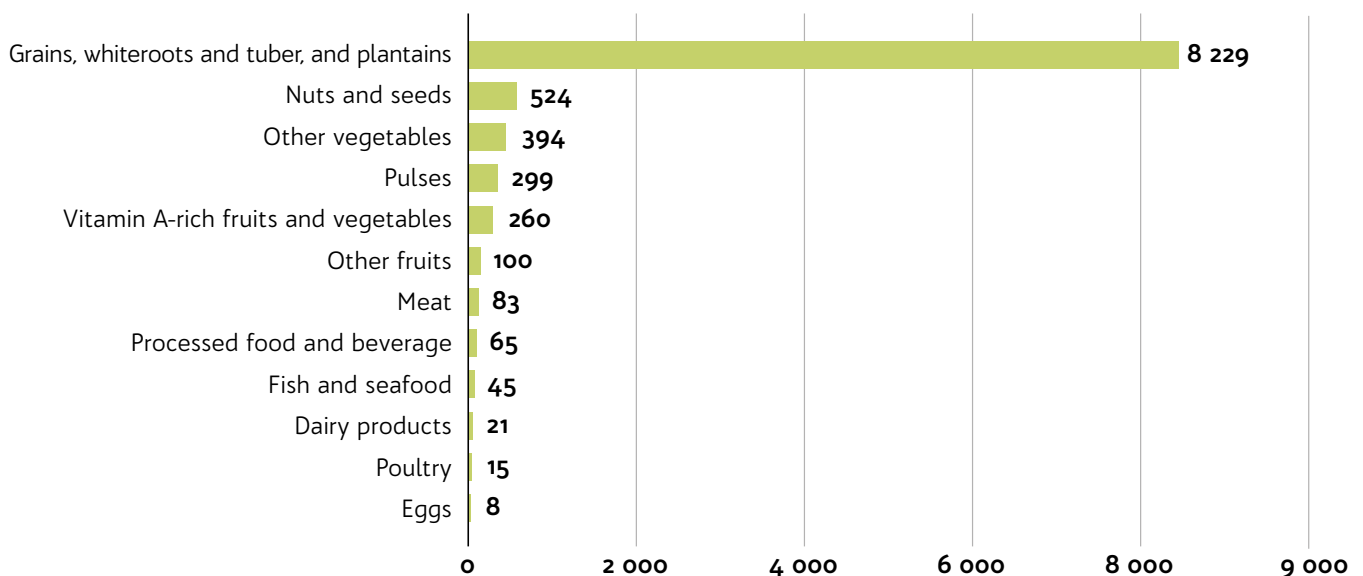
Source: Authors' own elaboration.

Table 2. Availability of different food products in selected markets, by food group

Food category	Food products offered by retailers	No. of products
Grains, white roots and tubers, and plantains	Maize, Millet, Rice, Sorghum, Potatoes, Yams, Sweet potatoes, Manioc (or Cassava), Plantains	9
Pulses	Beans, Peas, Lentils, Soy, Cowpea	5
Nuts and seeds	Peanut, Sesame, Shea nut, Groundnut	4
Dairy products	Fresh milk, Condensed milk, Yoghurt, *Gapal*, Sour milk, Milk cream, Deguê (traditional beverage)	7
Meat	Sheep meat, Goat meat, Beef meat, Pork meat, Donkey meat	5
Poultry	Chicken, Guinea fowl	2
Fish and seafood	Mackerel, Carp, Sardines, Catfish, Silure	5
Eggs	Chicken eggs, Guinea fowl eggs	2
Vitamin A-rich fruits and vegetables	Spinach leaves, Eggplant leaves, Sorrel leaves, Squash, Papaya, Mango, Carrots, Oranges	8
Other vegetables	Onions, Tomatoes, Eggplants, Courgettes, Chillies, Peppers, Cabbages, Okra, Baobab leaves, Mushrooms, Cucumbers,	12
Other fruits	Banana, Avocado, Lemon, Pineapple, Watermelon, Tangelo, Guava	7
Processed foods and beverages	Fruit juices, Spaghetti, Oil, Cookies, Bread, Tea, Sugar, Sweets, Soft drinks, Tomato paw, Soumbala, Shea butter, Peanut butter, Beer, Red sorghum (Dolo)	15

Source: Authors' own elaboration.

Food diversity indicator

Figure 3 shows the score of food diversity indicator calculated for each market.[3]

Most of the mapped markets present a high diversification of products offered (five out of six markets have a value higher than 0.6), with N'dorola market exceeding 0.8, while just Dedougou market, shows less food diversity (0.35).

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[3] The food diversity indicator takes into account the number of food products available for each food group offered. The indicator is expressed as a value between 0 and 1, where 0 indicates the lowest level of food diversity (i.e. none of the food products is offered at the market), and 1 indicates the maximum level of food diversity (i.e. four or more products for each food group are available at the market).

Figure 3. Food diversity indicator, by market
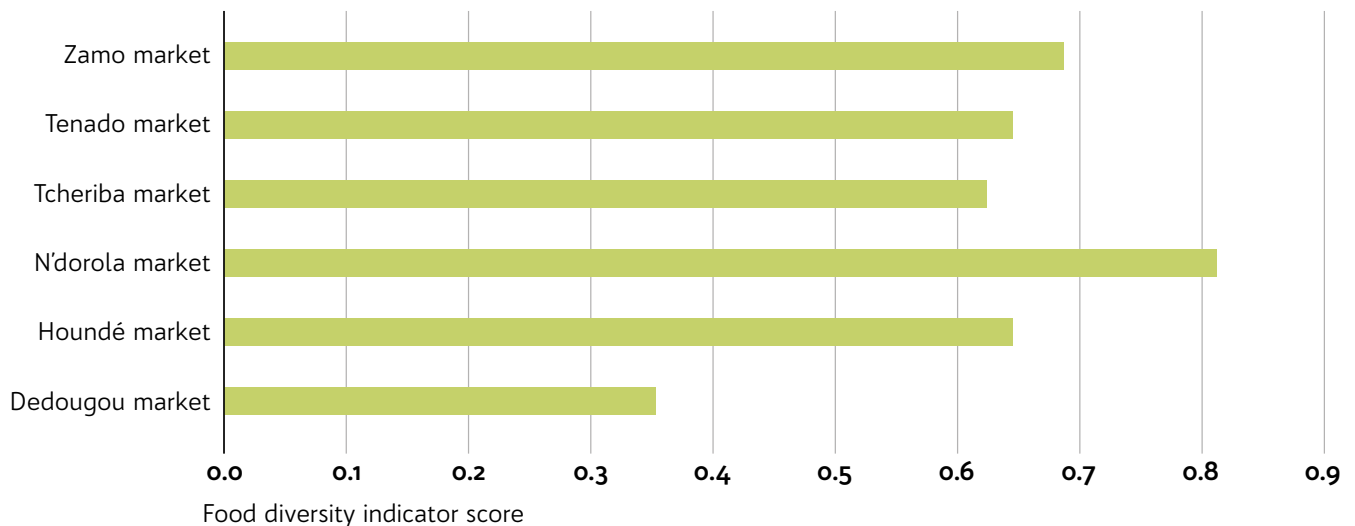
Source: Authors' own elaboration.

Economic gender gap

Key findings

Data collected on sex distribution indicate that the majority of food retailers operating in the selected markets are women (69 percent), while only 31 percent are men. As shown in Figure 4, the highest share of male retailers (40 percent) is in N'dorola.

Even if women are the majority in the markets, when the net take-home income is disaggregated by sex,[4] as in Figure 5, results show a major gap between male and female retailers. On average, the monthly net take-home income of male retailers is more than double that of female retailers (83 022 CFA francs per month, as opposed to 39 233 CFA francs per month).

To assess whether women and men have equal opportunities to develop their business, data on access to credit were also disaggregated by sex. As shown in Figure 6, the share of female retailers with access to credit (both formal and informal) is higher than that of male retailers. Likewise, the share of retailers who reported that they do not need credit or loans is predominantly female, while the share of retailers who reported that they do not have access to credit (due to lack of opportunities or capacities) is 62 percent male and 44 percent female. These figures therefore indicate a slightly more favourable situation for women than for men in accessing credit and financial services.

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[4] Net take-home income was calculated as the difference between total monthly revenue and total monthly expenses related to the business.

Figure 4. Distribution of retailers by sex, by market
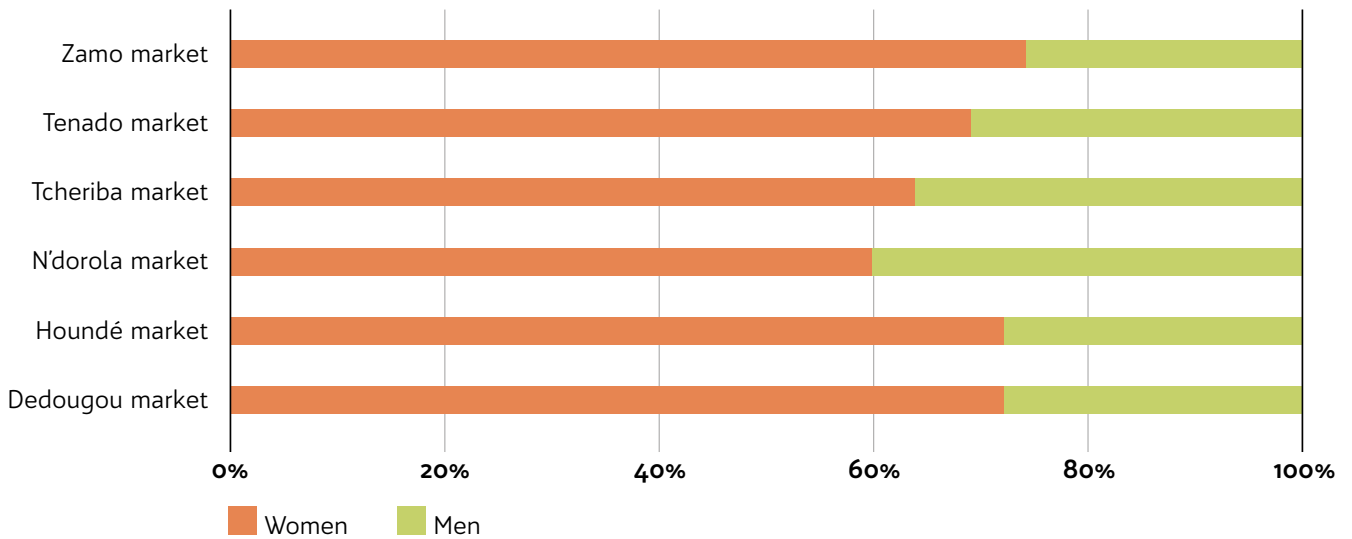
Source: Authors' own elaboration.

Figure 5. Average net take-home income, by sex (CFA francs/month)
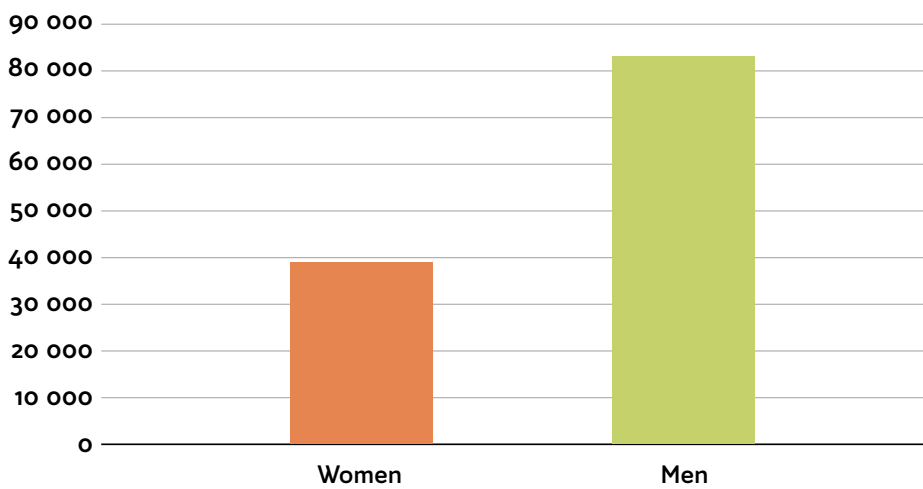
Source: Authors' own elaboration.

Figure 6. **Access to credit or loans, by sex**

Source: Authors' own elaboration.

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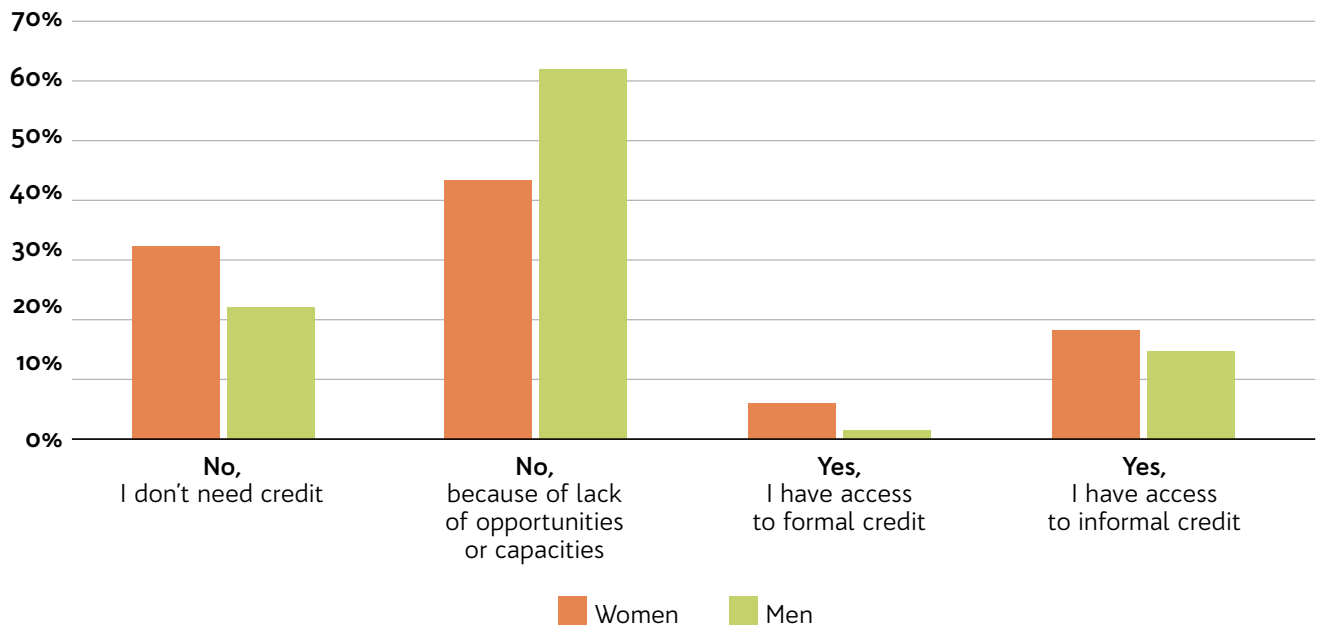
Economic gender gap indicator

Figure 7 shows the economic gender gap indicator,[5] as calculated for each market.

Three markets score very close to 1, indicating that they provide equal opportunities to women and men retailers to benefit from their participation in these markets. The other three score lower than 1 but higher than 0.7, indicating that – although the gap is not extremely large – women retailers in these markets face more challenges than men.

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[5] The economic gender gap indicator takes into account the income gap by sex (calculated as the ratio of women's net take-home income to men's) and the gap between male and female retailers who do not have access to financial services. The synthetic indicator is expressed as a value between 0 and +∞, where 1 indicates equal economic inclusion of men and women, a value close to 0 indicates that women are not included, and a value higher than 1 indicates that men are not included.

Figure 7. Economic gender gap indicator, by market
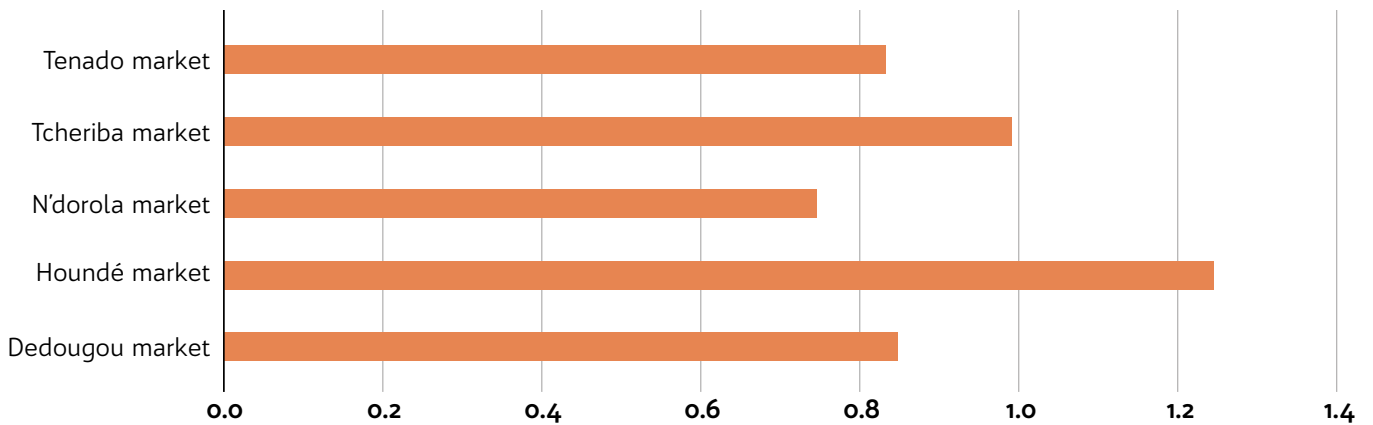
Source: Authors' own elaboration.

Business environment

Key findings

Assessing each territorial market's business environment involved a consideration of market infrastructure, as well as access to credit (both formal and informal) and financial services. Based on this assessment, and as seen in Figure 8, access to credit is most challenging in N'dorola market and Tcheriba market; these two markets have the highest proportion of retailers who reported difficulty in accessing credit due to a lack of opportunities or capacities.

With regard to infrastructure availability across all six markets, and as shown in Figure 9, while retailers' booths are available for the vast majority of retailers, electricity and toilets are only available for about half of them. Water is available to an even smaller proportion of retailers, and warehouses and cold warehouses in particular are available in the smallest proportions by far.

Figure 8. **Access to credit or loans, by market**

Legend:
- No, I don't need credit
- No, because of lack of opportunities or capacities
- Yes, I have access to formal credit
- Yes, I have access to informal credit
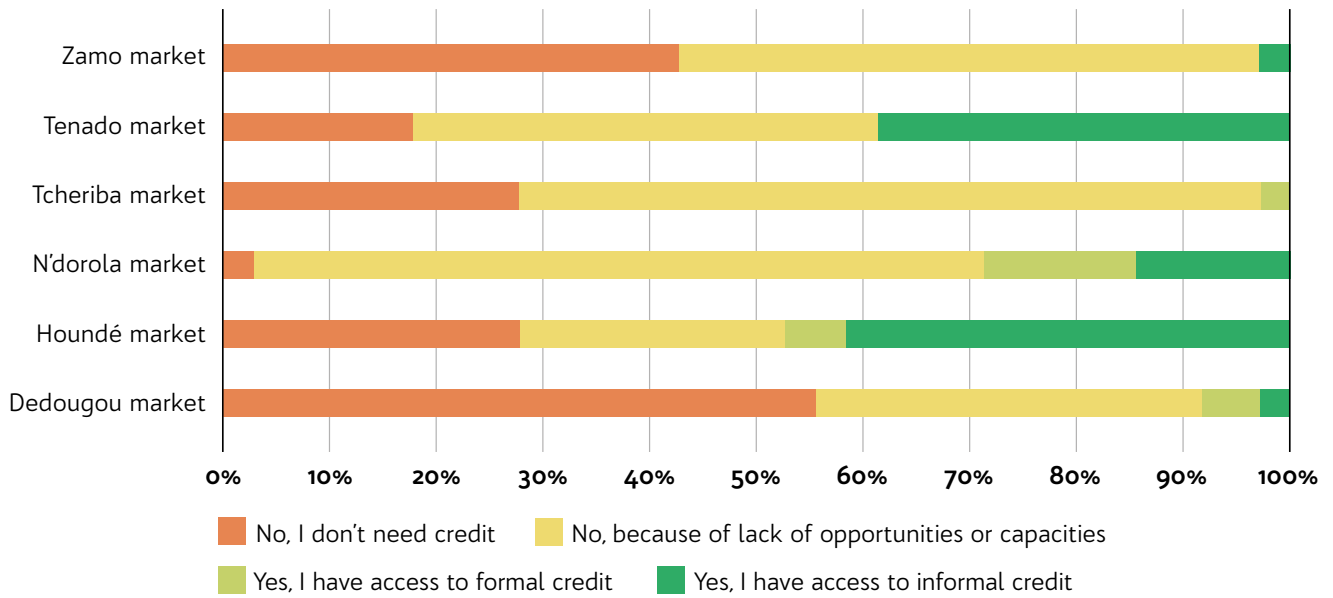
Source: Authors' own elaboration.

Figure 9. **Infrastructure availability, by type of infrastructure**
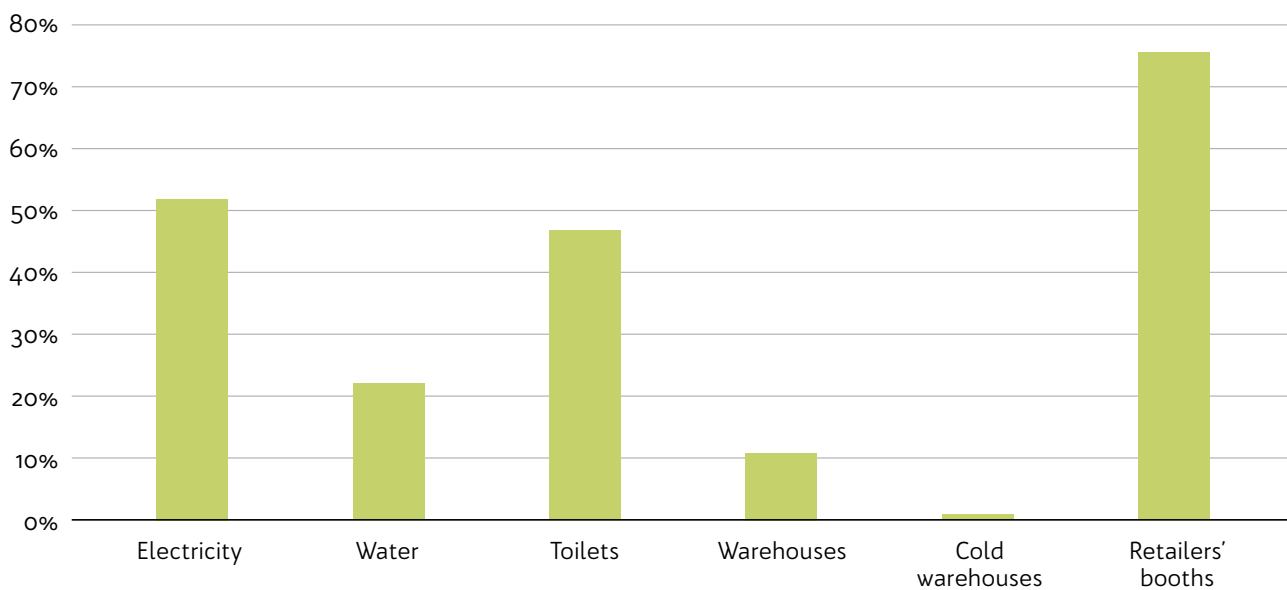
Source: Authors' own elaboration.

Business environment indicator

Figure 10 shows the business environment indicator,[6] as calculated for each market.

All the markets that were mapped score quite low for this indicator. Dédougou market scores the highest (0.4), and therefore seems to offer the most favourable business environment, whereas Tenado market, which scores the lowest (0.1), seems to have the most disadvantaged business environment of the six markets. Not surprisingly, the markets that perform better in terms of business environment are those that are better equipped with infrastructure and facilities; they are also the markets where retailers reported the highest net take-home income.

Producer-consumer link

Key findings

This aspect of the market analysis sought to better understand the length of the supply chain, as well as the sourcing of products sold in the market (by differentiating between retailers who are also producers and retailers who are not).

With regard to product sourcing, Figure 11 shows, for each market: (1) the share of retailers who sell only food products they have produced; (2) the share of retailers who sell both food products they have produced and food products they have purchased; and (3) the share of retailers who sell only products they have purchased. As seen in the figure, the

Figure 10. Business environment indicator, by market
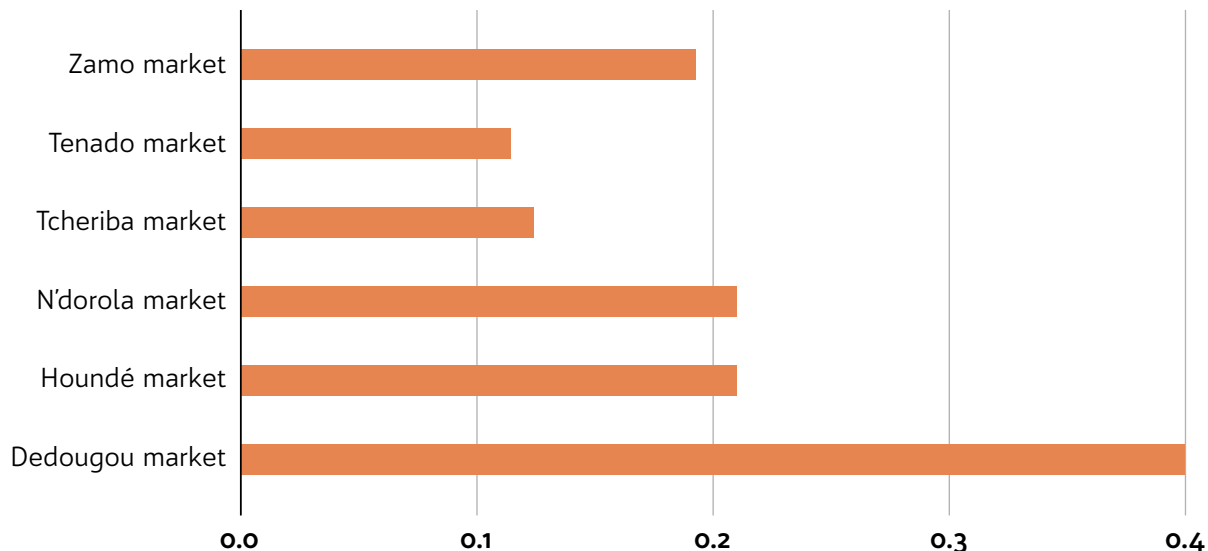
Source: Authors' own elaboration.

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[6] The business environment indicator takes into account existing infrastructure in the markets, along with retailer access to formal financial services. The indicator is expressed as a value between 0 and 1, where 0 indicates a business environment that is not favourable to food retailers, and 1 indicates an environment that is favourable to them.

results indicate some differences in the nature of the mapped markets: in some, there is a share of retailers who are also producers themselves (as in Zamo market and Tcheriba market), while in others, the vast majority of retailers sell products exclusively purchased from others.

Retailers who were not also producers were asked to indicate the source for the products they purchase. As illustrated in Figure 12, their responses show that Houndé market and Dédougou market have more retailers who buy products from traders, indicating that for these two markets, on average, there are more intermediaries operating from farm to fork than for the others.

Taken together, Figure 11 and Figure 12 suggest that Zamo market has more retailers selling their own products or buying products directly from farmers; it can therefore be assumed that this market has, on average, the shortest supply chain of the six markets: not only does it have the highest proportion of retailers who sell products they have produced (Figure 11), it also has the highest proportion of retailers who, in purchasing their products for sale, do so directly from farmers or producers rather than traders (Figure 12). This indicates that there are more products with short supply chains in this market than in the others.

Figure 11. Product sourcing, by market

Legend:
- Exclusively my production
- Partly my production, partly purchased from other producers/traders
- Exclusively purchased from other producers/traders
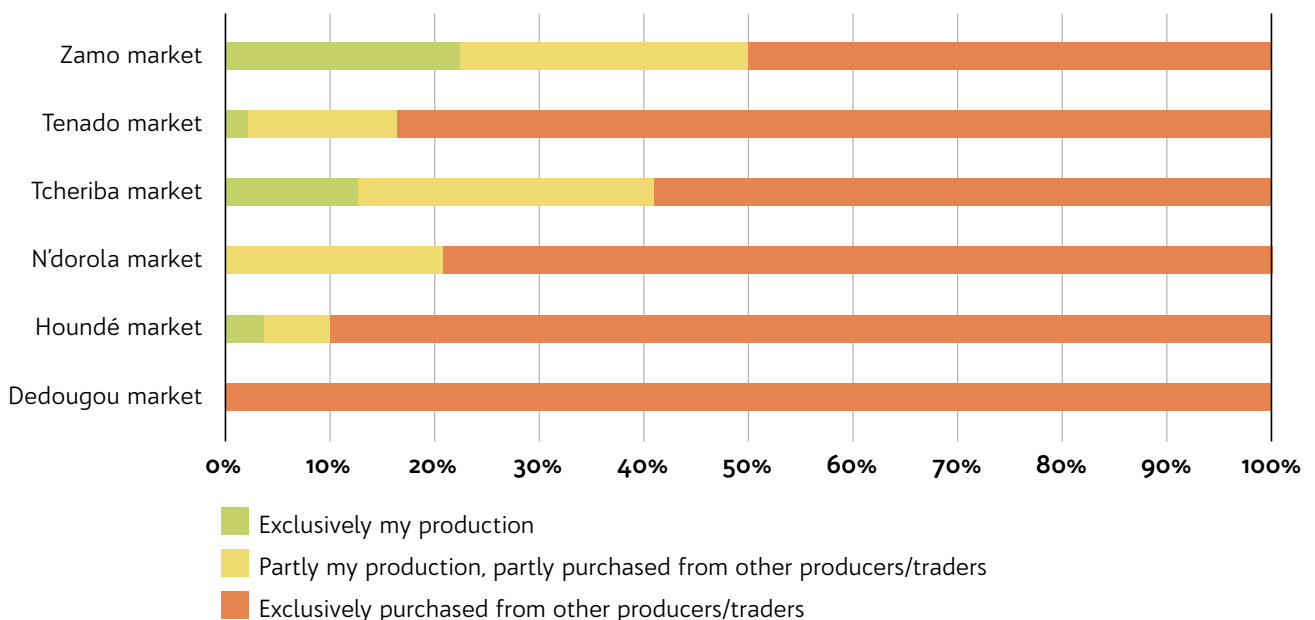
Source: Authors' own elaboration.

Figure 12. **Product sourcing for retailers who sell products they have purchased, by market**
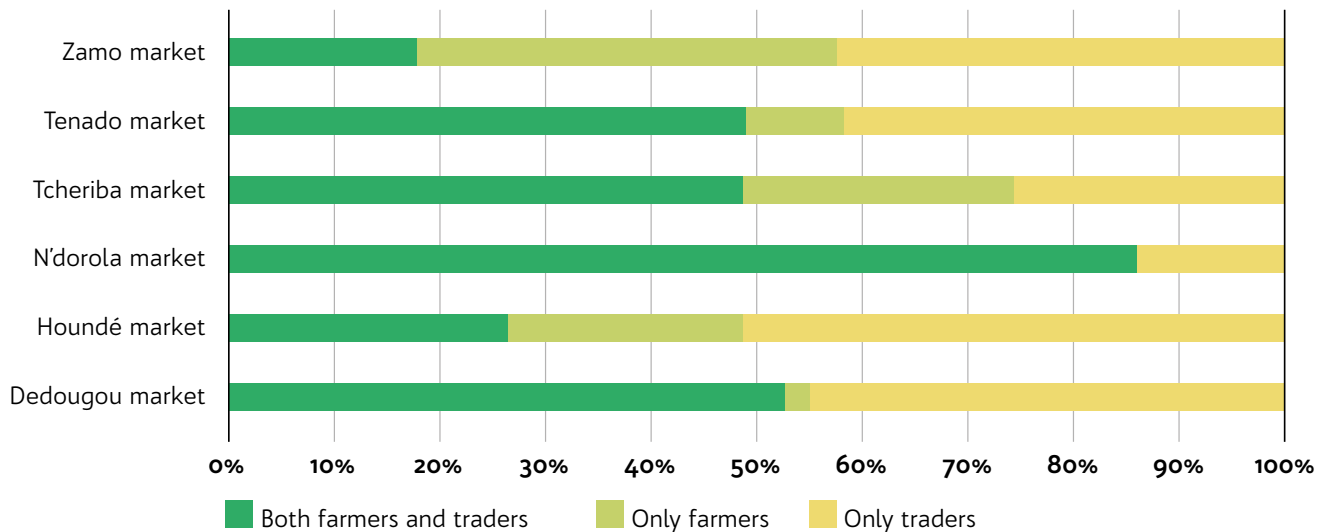
Source: Authors' own elaboration.

Producer-consumer link indicator

Figure 13 shows the producer–consumer link indicator,[7] as calculated for each market.

Not surprisingly, Zamo market scores the highest for this indicator (although at less than 0.5, the score is not very high in itself), suggesting it has more products with short supply chains than the other markets, all of which have lower scores. Dédougou market, in confirming the findings discussed previously, scores very close to 0, indicating a very large number of intermediaries in the supply chain of the products offered there.

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[7] The producer–consumer link indicator takes into account the share of retailers who are also producers themselves, and the share of retailers who, for products they do not produce, purchase directly from farmers. The indicator is expressed as a value between 0 and 1, where 1 indicates a short supply chain, in which farmers are directly linked to markets without intermediaries.

Figure 13. Producer-consumer link indicator, by market
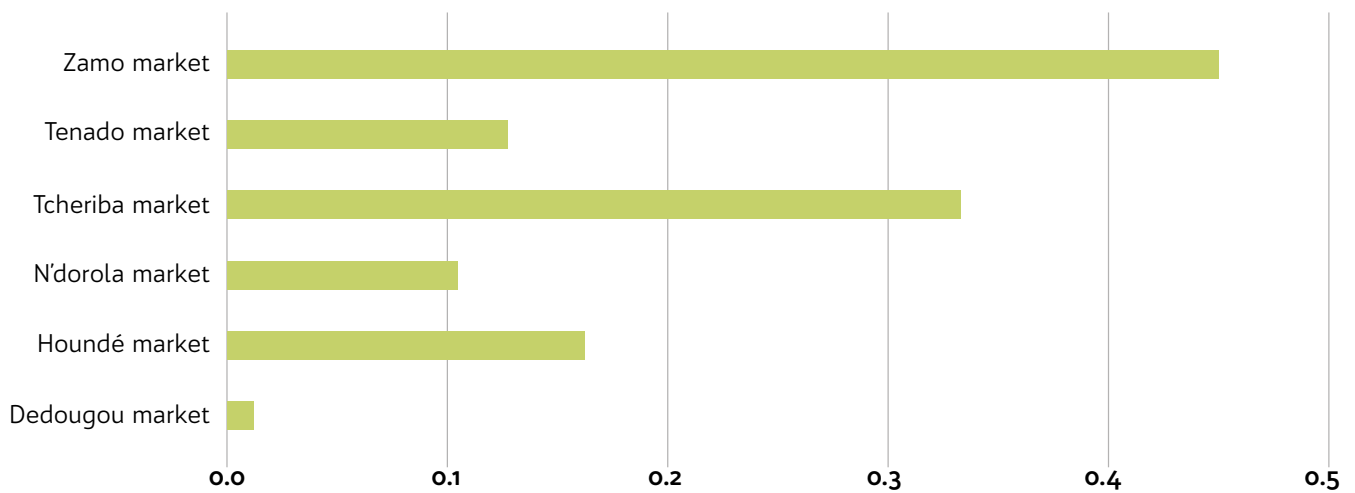
Source: Authors' own elaboration.

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

Key findings

Territorial markets are essential outlets for the territories in which they are embedded, and play a significant role in influencing diet-related health and nutrition among local consumers by ensuring exposure, availability and accessibility for a wide variety of products.

In order to fully understand the contribution of territorial markets to consumer diets, shoppers in each market were interviewed regarding the food groups they had consumed from in the preceding 24 hours, and their responses were analysed. Figure 14 provides an overview of the results, and of the quality of the diet of interviewed consumers. As seen in the figure, the majority of consumers reported having eaten staple foods, "Vitamin A-rich fruits and vegetables", "Other vegetables" and "Fish and seafood" in the preceding 24 hours, whereas only a minority reported having eaten "Poultry", "Other fruits" and "Eggs".

Figure 15 reflects the distribution of consumers by the number of food groups consumed, and indicates that the majority consumed foods from at least five different groups in the 24 hours preceding the survey.

Figure 14. Food groups consumed in the preceding 24 hours
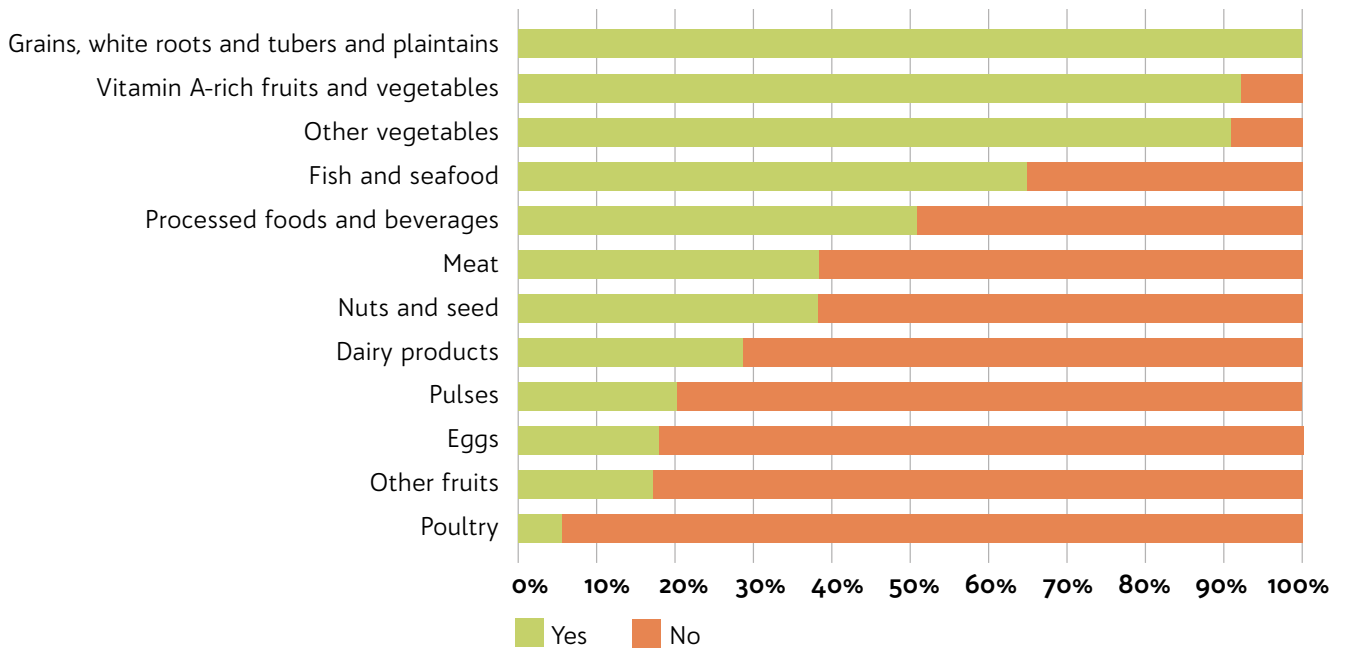
Source: Authors' own elaboration.

Figure 15. Distribution of consumers by number of food groups consumed

No. of consumed food groups
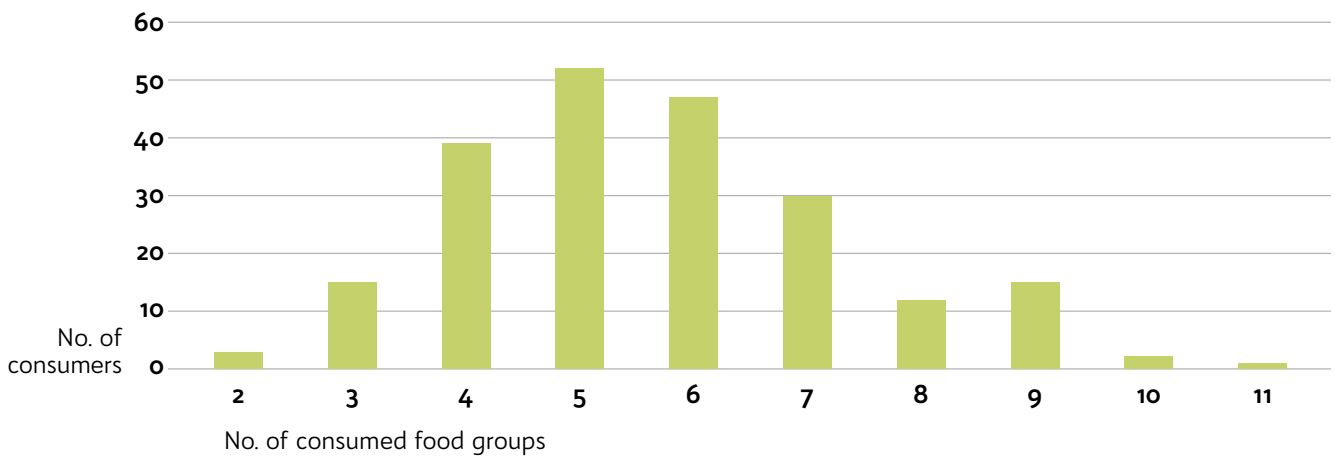
Source: Authors' own elaboration.

The frequency with which consumers shop at territorial markets is central to their importance in ensuring people's access to food. As seen in Figure 16, which illustrates the breakdown of differing frequencies for each market, with the exception of Zamo and Tcheriba markets (where the share of consumers who shop daily or more than once a week is, respectively, 9 and 17 percent), the share of consumers who shop at their given market several days a week is higher than 30 percent for all the markets. Indeed, for both Tenado market and Dédougou market, this combined share comes to more than 60 percent.

Figure 17 reflects the purchasing frequency for each food group. As seen in the figure, "Other vegetables" and "Fish and seafood" rank as the most frequently purchased food groups, while all the other groups are purchased only occasionally by the majority of consumers who shop at these markets (with "Poultry", "Meat" and "Nuts and seeds" being the groups least frequently purchased). Moreover, for all the food groups (including "Other vegetables" and "Fish and seafood"), a significant percentage of consumers reported never buying them at the market.

Figure 16. **Shopping frequency, by market**
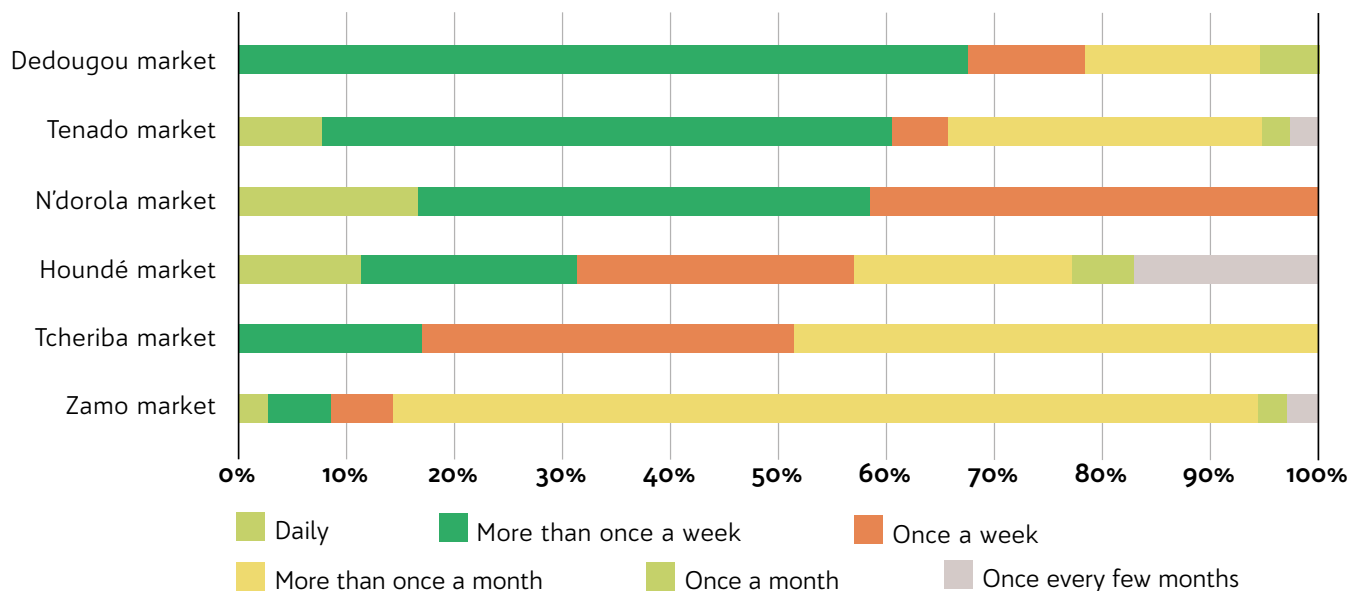
Source: Authors' own elaboration.

Figure 17. Consumer purchasing frequency, by food group

Source: Authors' own elaboration.

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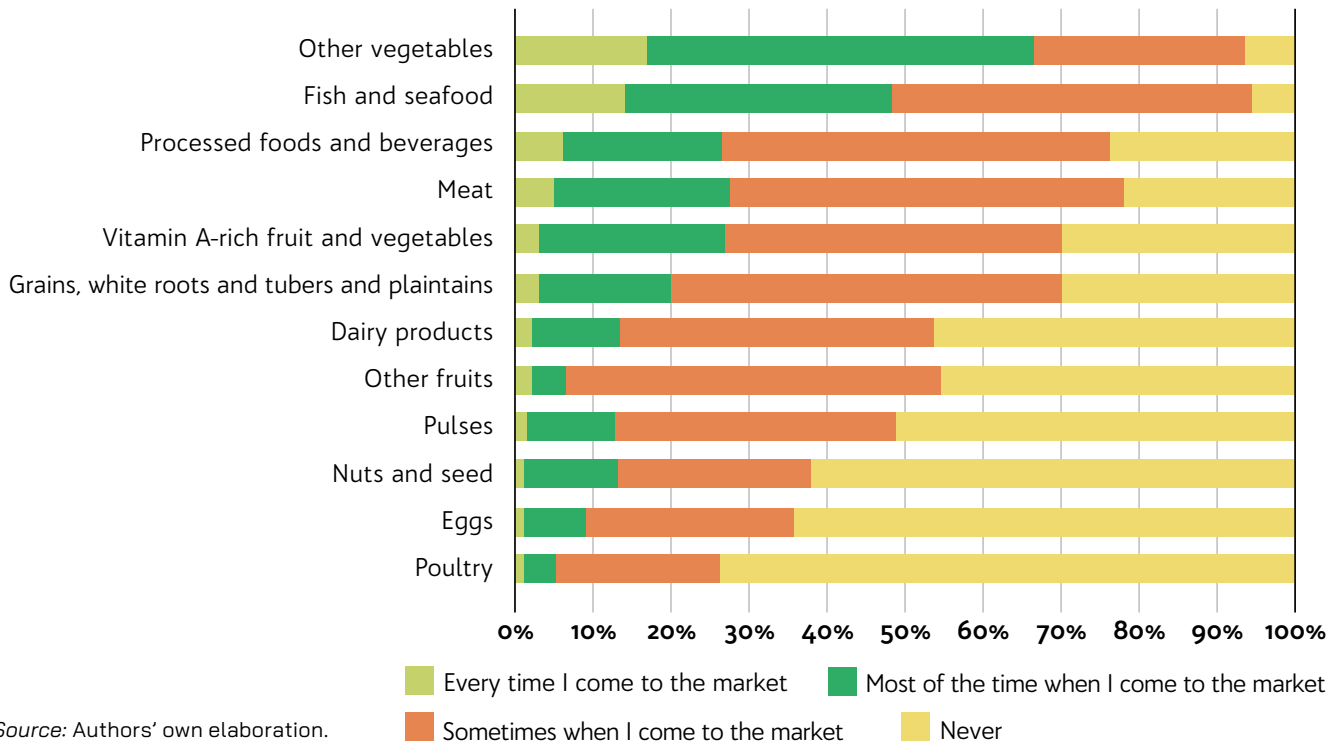
Figure 18 shows the minimum contribution of all six territorial markets to the day-to-day food consumption for each food group.[8]

As shown in the figure, the contributions for all food groups far exceed 15 percent, with the exception of "Grains, white roots and tubers, and plantains". This

may indicate that consumers source these staple foods in other ways; for example through their own production.

Figure 19 shows the minimum contribution of each market to the day-to-day purchase of healthy food baskets among their respective consumers.[9]

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[8]   The minimum contribution of markets to day-to-day food consumption estimates how much of the food consumed in a given day (by food group) comes from the mapped markets. For each food group, it is calculated as the share (%) of consumers who consumed products from the food group in the preceding 24 hours, who purchase products from the food group every time or most of the times they visit the mapped markets, and who visit the markets every day or more than once a week, over the total number of consumers who consume from the food group. The obtained value expresses the minimum contribution of the mapped markets to the day-to-day food consumption of the given food group.

[9]   The minimum contribution of a market to the day-to-day purchase of healthy food baskets by its consumers estimates the number of consumers who purchase the entirety of their healthy food basket in a specific territorial market. It is calculated as the share (%) of consumers who consumed from at least five different food groups (at least three of which must include: a source of carbohydrates, a source of protein and a source of vitamins and fibre), and purchased all products from these food groups at the given territorial market, over the total number of consumers. The obtained value expresses the minimum contribution of the market to the purchase of healthy food baskets.contribution of the market to the purchase of healthy food baskets.
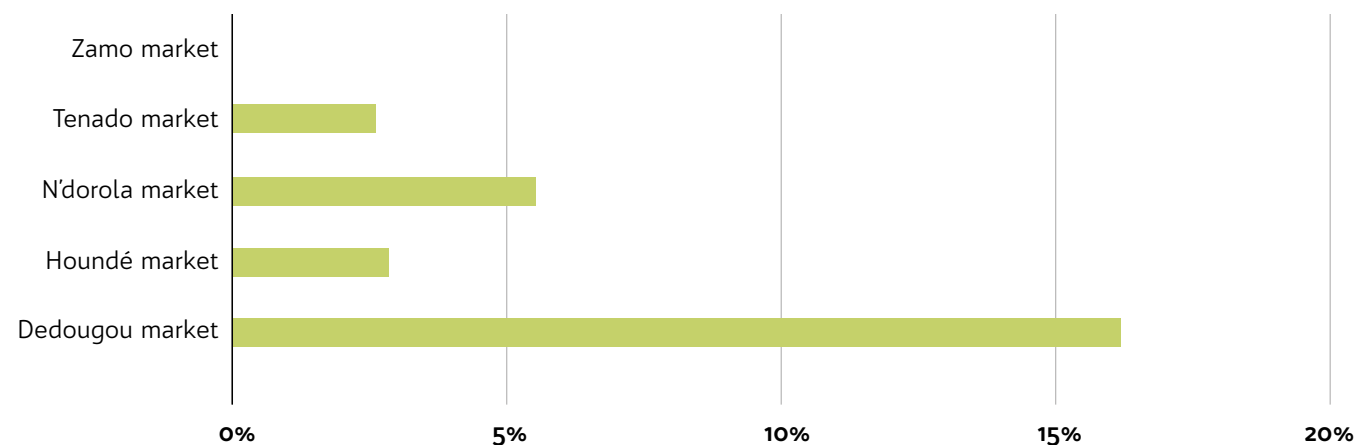
Figure 18. Minimum contribution of markets to day-to-day food consumption, by food group
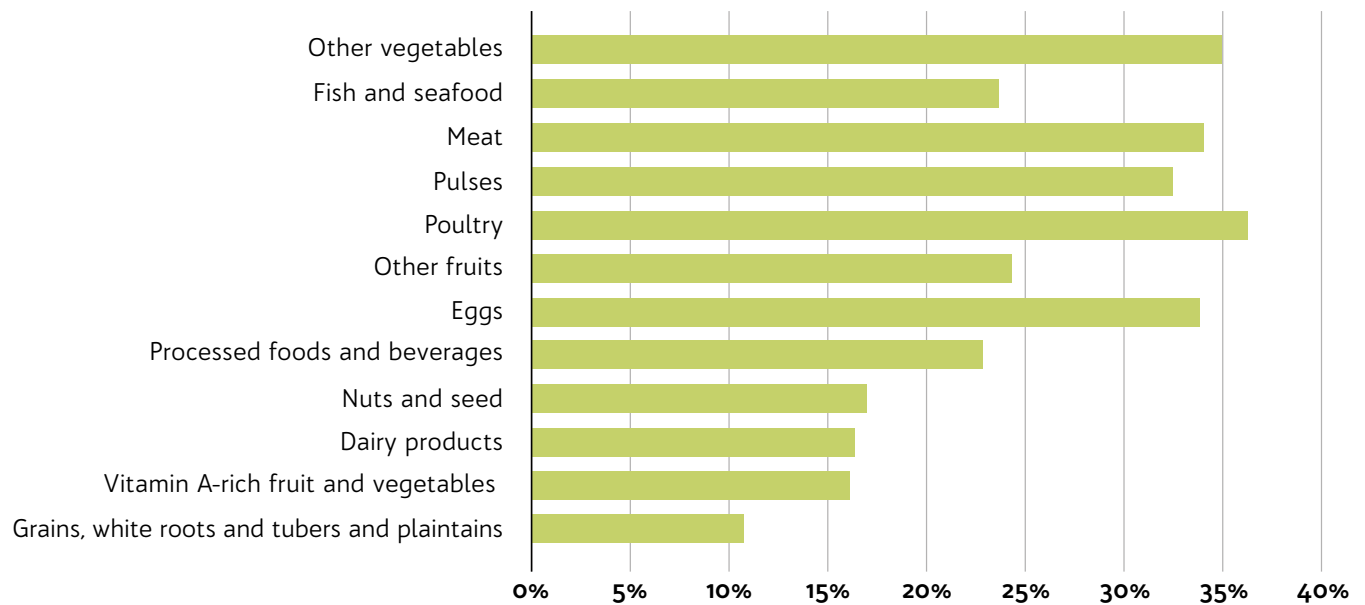
Source: Authors' own elaboration.

Figure 19. Minimum contribution to the day-to-day purchase of healthy food baskets, by market

Source: Authors' own elaboration.

Note: This indicator was calculated only for markets taking place at least twice a week.

As the figure illustrates, Dédougou market provides the most significant contribution (at 16 percent) to the purchase of healthy food baskets, and therefore to the healthy diets of its consumers. The score for Zamo market on the other hand, is equal to zero, indicating that this market is not so relevant for the consumers who were interviewed in terms of day-to-day access to a healthy diet.

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

Figure 20 shows the minimum day-to-day contribution to healthy and diversified diets indicator,[10] as calculated for each market.

All but one of the markets that were mapped score between 0.1 and 0.2, indicating that these market have some relevance in ensuring access to healthy and diversified diets to their consumers. The one exception is Zamo market, whose lower score suggests it plays a less significant role.

Figure 20. Minimum contribution to healthy and diversified diets, by market
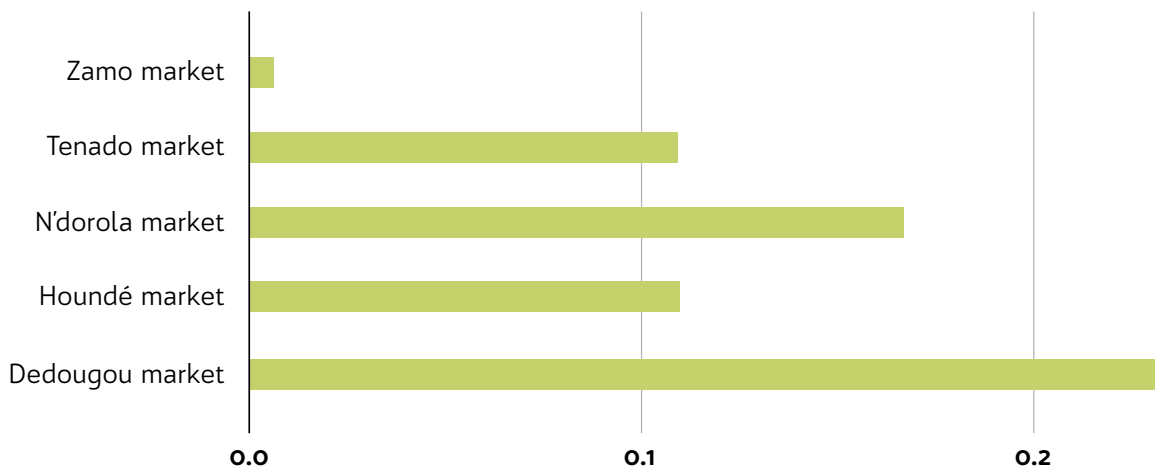
Source: Authors' own elaboration.

Note: This indicator was calculated only for markets taking place at least twice a week.

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[10] The minimum day-to-day contribution to healthy and diversified diets indicator takes into account the share of consumers relying on a given territorial market for their day-to-day consumption of specific food groups, along with the share of consumers relying on the market to purchase a healthy food basket. The indicator is expressed as a value between 0 and 1, where 1 indicates that the market contributes to ensuring access to healthy and diversified diets for all its consumers.

CONCLUSIONS

Based on the findings discussed in this report, the following conclusions may be noted:

◗ Across all six markets, "Grains, white roots and tubers, and plantains" is the food group with the highest volumes of sales, while foods rich in animal protein such as "Dairy products," "Poultry" and "Eggs" have the lowest volumes.

◗ As illustrated by the economic gender gap indicator, although there is a gender gap, it is not extremely large. Nevertheless, opportunities for improvement still exist in some of the selected markets.

◗ Access to credit for both men and women is an issue that should be addressed, in order to improve the business environment in which retailers operate and ensure opportunities for scaling up. Likewise, market infrastructure should also be improved to ensure a more conducive business environment: markets that are better equipped with infrastructure and facilities result in retailers with higher net take-home incomes.

◗ The findings related to the producer–consumer link indicator suggest there are too many intermediaries along the supply chains, especially for Dédougou market, N'dorola market and Tenado market.

◗ The findings related to the minimum contribution of the markets to healthy and diversified diets suggest that only a small share of consumers rely entirely on these markets for their access to healthy food baskets and for their daily consumption of food products. On the other hand, considering the contribution of the markets to the daily consumption of specific food groups, they do ensure the daily consumption of vegetables, animal-source protein (i.e. meat, poultry and eggs) and pulses for at least 35 percent of consumers having consumed these products in the preceding 24 hours.

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