ESTIMATE OF THE IMPACT GENERATED BY THE PURCHASES OF LOCAL PRODUCTS

COUNTRY: TÜRKIYE

FINAL DRAFT REPORT

Santiago, February 12, 2025

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Within the framework of an agreement between ECLAC and the WFP, a method was developed during 2023 to estimate the economic impact of local institutional food purchases. This model defined a set of indicators that express the effects of local purchases. The WFP office in Türkiye expressed interest in joining this initiative and contracted Qualitas AC for this purpose. The work was developed between October 2024 and January 2025.

The objective of the study was to estimate the impact generated by the local food purchases and cash transfers that WFP has made in Türkiye over the last 10 years, seeking to answer the questions: : i) What has been the multiplier effect of WFP food purchases on national and local economies; ii) What has been the multiplier effect of WFP program transfers on local economies; iii) Which products generate more employment as a result of the economic stimulus; iv) How does WFP food purchases influence the income levels of farmers/vendors, as local food suppliers?

The sources of information for the analysis are the WFP databases, where all expenditures made by the institution on food purchases and direct monetary transfers are recorded. The additional information that feeds the calculation of the impact indicators is obtained through secondary sources (existing studies and statistics) and primary sources (online questionnaires to vendors, supplemented, when necessary, by interviews with qualified informants).

The main results of the analysis are:

- Local products represent a relatively low proportion of local purchases, 24% of the volume and 29% of the value. This shows that a very significant part of the local purchases made by the WFP in Türkiye comes from imported raw materials, which is an interesting opportunity to capture within the framework of the WFP's local procurement policy.
- The food industry plays an important role in the production of food purchased by the WFP, mainly the wheat flour industry, which is almost entirely sourced from imported wheat, and the vegetable oil industry, which is 66% sourced from imported sunflower seed.
- The high amount of imported raw materials can be explained by more convenient prices for the industry, and also, according to some informants, by restrictions in Turkish regulations.
- WFP Türkiye's demand for domestic agricultural products involves the production of 18,400 hectares of domestic sunflower (approximately 2% of the national crop), 5,600 hectares of chickpea (approximately 1.5% of the national crop) and 14,000 hectares of durum wheat for bulgur processing.
- In terms of employment, it is estimated that the average employment generated each year by local purchases is 1,198 equivalent jobs. To these should be added the 37 jobs per year generated by monetary transfers for their estimated expenditure on food.

1. BACKGROUND

1.1. THE WFP - ECLAC CONVENTION

Within the framework of an agreement between ECLAC and the WFP, a method was developed in 2023 to estimate the economic impact of local institutional purchases of food. This model defined a set of indicators that express the effects of local purchases in four dimensions:

- The gap -in value and volume- between local purchases and local products, local products being understood as those purchased in the beneficiary country and produced in that country.
- Coverage in terms of surface area and number of farmers involved in the processing of local products.
- The income and gross margin that the sale of local products generates for farmers.
- Employment generated by the production and transformation of local products.

Box 1
Local Purchase and Local Product

Local purchase*: products purchased by the WFP in the same beneficiary country. It is composed of locally produced food and food previously imported by other actors, either as processed products or as raw material that is processed in the same country.*

Local product*: product purchased locally by the WFP and which is also produced locally, i.e. in the same beneficiary country. It can be produced by small, medium or large national producers.*

Source: own elaboration

In addition, the method includes an estimate of the impact of the Monetary Transfers, limited to the "employment" dimension.

This method was developed and applied in two countries, Guatemala and Honduras, calculating the impact of local purchases made by WFP in both countries[1] . Together with the concrete impact results obtained, a calculation tool was built (dynamic spreadsheets with a user's manual) that allows replicating the exercise in other territories and food procurement programs.

1.2. THE WFP AGREEMENT - QUALITAS AGROCONSULTORES

The design and application of the method and the construction of the dynamic spreadsheet to estimate the impact was carried out by two of the partners of the consulting firm Qualitas AgroConsultores (Qualitas AC). The WFP, interested in replicating this exercise in other countries where it intervenes, signed a Long Term Agreement with Qualitas AgroConsultores on this matter.

[1] See Publication: M. Namdar and C. Saa. "Local food purchases as a potential development factor in Latin America and the Caribbean: estimation of the impact of local purchases of the World Food Program in Honduras and Guatemala," Project Documents (LC/TS.2023/203), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2024. Click here

WFP Türkiye expressed interest in joining this initiative, contracting Qualitas AC for this purpose. The work was carried out between October 2024 and January 2025. This report presents the method and results of the exercise applied to the situation in Türkiye.

2. EXERCISE OBJECTIVES

- **To estimate the impact generated by local food purchases and monetary transfers that WFP has made in Türkiye** in the last 10 years, considering the four dimensions analyzed in the methodology, these are: i) Gap -in value and volume- between local purchase and local products; ii) Coverage in area and number of farmers involved in the processing of local products; iii) Income and gross margin that the sale of local products generates for farmers; and iv) Employment generated by the production and transformation of products.

  This estimate allows us to answer the following questions, among others: i) What has been the multiplier effect of WFP food purchases on the national and local economies; ii) What has been the multiplier effect of WFP program transfers on local economies; iii) Which products generate more employment as a result of the economic stimulus; iv) How does WFP food purchases influence the income levels of farmers/vendors as local food suppliers; v) What is the impact of WFP food purchases on the income levels of farmers/vendors as local food suppliers?

3. METHOD

3.1. FOCUS AND SCOPE

The method that was applied to estimate the impact of WFP Local Food Purchases and Cash Transfers in Türkiye was the same as the one applied in Guatemala and Honduras, with some complements that are detailed in this section. It is a method that has the following attributes:

- It favors simplicity over precision, which facilitates its replicability over time and with limited resources, but delivers orders of magnitude in terms of results.
- It estimates the impact of each of the foods purchased, which allows for comparative analysis of the contribution of each of these to local development, and is therefore useful for defining purchasing strategies.
- It provides results that are easy to interpret, based on measurable, concrete and classic indicators of local development dynamics (employment, income, coverage in terms of number of producers and area involved). These results are a valuable input for dialogue with donors, since they make it possible to measure the indirect beneficiaries of WFP, namely farmers and other workers in the different links of the agrifood chains.

3.2. CALCULATION PRINCIPLES AND METHOD

3.2.1. FOOD PURCHASES

- Time horizon: in order to have a more trend-based vision, we worked on a time horizon of a decade (period 2014-2023), estimating the value of the impact indicators in: i) each of these years; ii) accumulated over the period; and iii) average of the years of the period.

- Product selection: considering the large portfolio of products purchased by WFP in the country (34 products), it was decided to focus the exercise on foods that have a greater specific weight in total purchases. The prioritization was carried out according to the following criteria: those foods that, in aggregate, account for 75% or more of the total value of food purchased by the WFP in the period 2014-2024 (September) were selected, discarding: i) basket or ration type foods; and ii) foods that have not been present in two or more years of the period analyzed (see procedure in Annex 1, section 1). As a result, five products were selected that represent 76.7% of WFP food purchases in Türkiye in the period 2014-2024 (September) and, at the request of the WFP, two additional foods were added that, although they have a discrete participation in the purchases made, are of interest to the institution: canned chicken and processed tomato (Table 1).

- Impact of local food purchases: estimated based on a set of 18 indicators that are calculated for each year and for each food, and for total purchases. The cumulative and average value of each indicator is also calculated for the period 2014-2023. A total value and a unit value are calculated for the established indicators, with the unit value being understood as the value per ton and per dollar of purchase (Table 2).

Table 1. Foods selected for impact estimation

Food	Participation in the amount of local purchases (2014-September 2024)
Vegetable oil	33.6%
Wheat flour	30.8%
Wheat bulgur	5.7%
Chickpea	4%
Dried peas	3%
Canned chicken (*)	0.9%
Tomato paste (*)	0.3%
Subtotal	**77.9%**
Others	22.1%
Total	**100%**

Source: own elaboration based on Data Food Procurement WFP, extract 2014 to 2024 (September).
(*) Food included at the request of the WFP Türkiye office.

Table 2. Indicators of the impact of local purchases

Dimensions	**Indicators** (name and unit)
Local Product	**Indicator 1.** Volume of Local Products purchased by WFP (tons):
	Indicator 2. Percentage of Local Product Purchasing Volume over Total Local Purchasing (%)
	Indicator 3. Value of Local Products purchased by WFP (USD)
	Indicator 4. Percentage of the Value of Local Product Purchases over the Total Value of Local Purchases (%)
Coverage	**Indicator 5**: Area of Local Products purchased by WFP (hectares)
	Indicator 6. Area of Local Products Purchased by WFP per 1,000 tons of Local Products Purchased (hectares)
	Indicator 7. Area of Local Products purchased by WFP per 1 million USD of Local Products Purchased (hectares)
	Indicator 8. Number of Local Farmers supplying WFP
	Indicator 9. Number of Local Farmers supplying WFP per 1,000 tons of Local Produce Purchase
	Indicator 10. Number of Local Farmers supplying WFP per 1 million USD of Local Produce Purchased.
Revenues	**Indicator 11.** Total Gross Revenue from Sales to WFP (USD)
	Indicator 12. Total Gross Revenue from Sales to WFP per 1,000 tons of Local Product Purchase (USD)
	Indicator 13. Total Gross Revenue from Sales to WFP per 1 million USD of Purchase of Local Product (USD)
	Indicator 14. Average Income per Producer per Sale to WFP (USD)
	Indicator 15. Average Gross Margin per Producer per Sale to WFP (USD)
Employment	**Indicator 16.** Number of Jobs Generated by the Agricultural and Agro-industrial Sector (full-time equivalent worker)
	Indicator 17: Unit Employment per Volume of Local Output (number of full-time equivalent workers per 1,000 tons of local output)
	Indicator 18: Unit Employment per Local Product Value (number of full-time equivalent workers per 1 million USD of local product purchase)

Source: own elaboration.

- **Input variables and sources of information:** the impact indicators were calculated on the basis of input variables associated with trade (proportion of imports, prices, etc.) and production (production and industrial yields, labor requirements, farm size, etc.) in the different links of the food value chains. The sources of information were: i) statistics and studies; ii) online questionnaire to 38 WFP vendors. Annex 2 lists the input variables used, with their value and sources of information; Annex 3 contains the list of vendors contacted to answer the questionnaire; Annex 4 contains the questionnaires applied and Annex 5 contains the database with the responses received (Excel file attached).

3.2.2. MONETARY TRANSFERS

Time horizon: in the specific case of Monetary Transfers and at the request of the WFP Türkiye Country Office, the period of analysis was shorter, only 5 years (2020-2024).
Monetary Transfers considered: only those Monetary Transfers whose destination -total or partial- were food purchases were considered. Therefore, monetary transfers destined to the development of producers were excluded. Likewise, resources from the Emergency Social Safety Net (ESSN)[2] were not considered, because it would distort the results due to the exceptionally large volume in a short period.

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- **Impact of monetary transfers**: for the sake of simplification, the analysis was limited to a single dimension, that of employment generation. The impact is estimated on the basis of the two indicators shown in Table 3 and calculated according to the following rationale:

    i) The amount of monetary transfers spent on food purchases is estimated (Annex 1, section 2)

    ii) To the value obtained in i), the proportion of the value of local products in local purchases is applied (indicator 4).

    iii) The value obtained in ii) is multiplied by the value of Unit Employment per Value of Local Product (indicator 18).

[2] Financial assistance program for the most vulnerable refugees in the country. Launched in 2016, this program is implemented in partnership with the Turkish Government and the Turkish Red Crescent, and is mainly funded through the European Union. Since its inception, ESSN has benefited more than 1.7 million refugees, making it the largest EU-funded humanitarian program to date, with a budget exceeding €1.3 billion.

Table 3. Indicators of the impact of cash transfers

Employment	Indicator 19. Total Number of Jobs Generated by Purchase of Local Product with resources from Monetary Transfers (number of full time equivalent workers)
	Indicator 20. Unit Employment Generated by Monetary Transfers (number of full-time equivalent workers per 1 million USD of local product purchases)

Source: own elaboration.

3.3. CALCULATION TOOL

It consists of two spreadsheets - one for the Impact of Local Purchases (ICL) and the other for the Impact of Monetary Transfers (ITM) - which are composed of the following spreadsheets:

- Data_Input (1): present in both spreadsheets, this is a sheet on which the user must enter the information required for the spreadsheet to make the calculations. In the ICL Spreadsheet, the annual data on volumes and amounts purchased by product are recorded, as well as the commercial and production variables that allow the calculation of the indicators (see Annex 2). In the ITM Spreadsheet, the annual amounts of transfers and the employment generation impact variables are recorded.
- Output_Indicators (2): present only in the ICL spreadsheet, it is a sheet that, once the information is entered, automatically delivers the results of the impact indicators broken down by product. This sheet cannot be manipulated by the user and, therefore, all its cells are locked.
- Consolidated_Results / Output_Results (3): present in both spreadsheets, this sheet provides the results of the calculated indicators, but consolidated by country, i.e., with all the products included in the calculation. In the case of the ITM spreadsheet, it provides the global results. It is interpreted as the total impact of the program in the country for the different indicators. Like the Output_Indicators sheet, all its cells are locked since it is not a user-manipulable sheet.

3.4. SOURCES AND METHOD OF DATA COLLECTION

- The first source of information is the WFP databases for this period, where all expenditures made by the institution on food purchases and direct monetary transfers are recorded. In the database of food purchases, the product, value, volume, seller (identified with a code), type of seller, date of the transaction are indicated.
- The additional information that feeds the calculation of the impact indicators is obtained, as mentioned above, through secondary sources (existing studies and statistics) and primary sources (online questionnaires to vendors, supplemented, when necessary, by interviews with qualified informants).

3.5. STAGES OF THE EXERCISE

The exercise was developed in the following 7 stages:

- Stage 1: selection of the products to be incorporated in the exercise
- Stage 2: information collection
- Stage 3: information processing
- Step 4: validation and analysis of local procurement impact results
- Stage 5: analysis and definition of criteria for calculating the impact of cash transfers.
- Stage 6: calculation and analysis of the results of the impact of cash transfers.
- Stage 7: presentation of results

3.6. Limitations in the application of the method for the case of Türkiye

Once the analysis was carried out, limitations were observed in the application of the method that could be improved in future analyzes by WFP Türkiye.

Methodologically, the impacts of local purchases could be estimated more precisely if the volumes and proportions of local product purchased or processed by each of the industries/traders were available. For the present exercise, the proportion of local product purchased by each of the actors was available, however, the weight of each of these industries in the market is unknown, so we worked with a simple average, which presents many inaccuracies. Also, if it were possible to obtain from the buyers the price actually paid by the industry and traders to the farmers, the economic result on agriculture of local purchases would be more accurate. In future updating exercises to be carried out directly by the WFP Türkiye office, it is recommended that these important data be obtained to improve the estimates made in this study.

4. RESULTS: ESTIMATED IMPACT

4.1. CONTEXT

4.1.1. TURKISH AGRICULTURE

Located at the geostrategic intersection of Europe, Asia, and the Middle East, Türkiye is an upper-middle-income country, ranked 45th out of 193 countries and territories in the 2023/2024 Human Development Index. With a GDP of USD 1.024 trillion in 2023, it is the 17th largest economy globally. Continuous economic growth and investments in infrastructure, education, and social assistance have advanced progress towards the Sustainable Development Goals. Türkiye's well-developed infrastructure, vibrant private sector, and proximity to conflict-affected areas in the region, facilitate efficient humanitarian response and logistics, including long established north-west Syria corridor operations and food corridors from the Black Sea. Moreover, the high volumes of food currently purchased from Türkiye underline its competitiveness, with WFP spending over USD 500 million in the past two years on food and logistics services from Türkiye.

Türkiye is an important agricultural country, and grows and consumes a variety of crops and fruits and vegetables domestically. The total value of agricultural production, measured in constant 2014–2016 USD, increased from USD 59.8 billion in 2010 to USD 79.2 billion in 2020. (FAO, 2021). Turkish food systems are becoming more connected and influenced by globalization. Based on available data, the total value of agricultural exports increased from USD 10.4 billion in 2009 to USD 18.8 billion in 2019 (FAO, 2022), while the total value of agricultural imports increased from USD 7.9 billion to USD 16.1 billion over the same period (FAO, 2022). Accordingly, as of 2019, Türkiye is a net exporter of agricultural products. In the same year, the top agricultural imports in terms of monetary value were wheat, cotton lint, soybeans and corn. The top agricultural exports were hazelnuts, wheat flour, nuts, pastry, chicken meat and macaroni. The cereal import dependency ratio, which is a three-year average of the cereal imports minus exports as a percentage of total domestic supply, increased from -4.5 percent in 2016 to 1 percent in 2016. Hence, as of 2016, Turkish cereal imports exceeded exports. Trade as a percentage of GDP increased from 46 percent in 2009 to 63 percent in 2019, indicating that the value of trade is increasing as Türkiye becomes more connected with the global economy.

In 2022, Türkiye's agricultural GDP reached 5.8% of the national GDP value, a share that has been declining since 2013, when it accounted for 7.3% (Statista, 2023). Türkiye has an agricultural area of 39 million hectares. Of this area, 18.8 million hectares were cultivated in 2022.

Table 4. Main crops in area, in Türkiye 2022.

Cultivation	Surface area (ha)	Production (tons)
Wheat	6,601,805	19,750,000
Barley	3,188,524	8,500,000
Sunflower seed	979,691	2,550,000
Corn	911,499	8,500,000
Olives	901,126	2,976,000
Hazelnuts in Shell	744,047	765,000
Cotton (raw)	573,223	2,750,000
Dried chickpeas	456,480	580,000
Pistachios in Shell	408,709	239,289
Grapes	384,537	4,165,000
Dried lentils	342,577	445,000
Sugar, beet	274,524	19,000,000
Rest	3,097,270	---
Total	**18,864,012**	**---**

Source: own elaboration with data from FAOSTAT https://www.fao.org/faostat/es/#data/QCL

As shown in Table 4, cereals are the main crops in terms of surface area, mainly wheat and barley. The area cultivated with sunflower is also very important, as well as some fruit species such as olives, hazelnuts, pistachios and grapes. Dried leguminous plants, such as chickpeas and lentils, also occupy an important area.

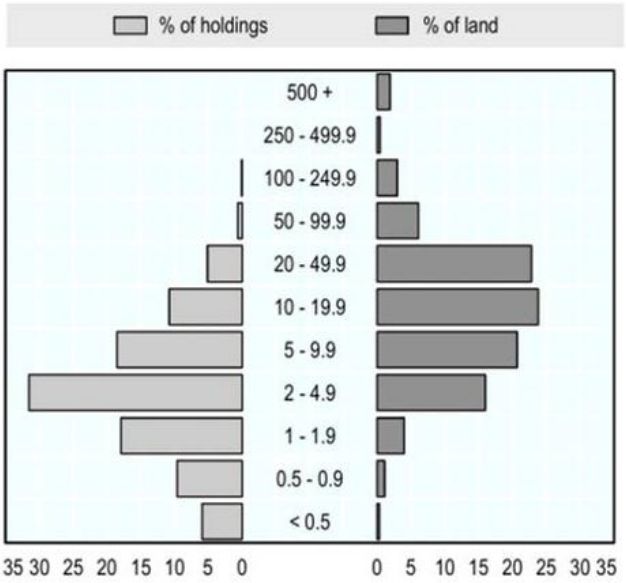
Türkiye's agri-food exports are highly concentrated in fruits and vegetables: in fresh and processed form they constitute 49% of total exports in 2023. Processed cereals and milling products are the second largest and rapidly growing group (8.5% of total agri-food exports) ITC, Trade Map, 2023). Türkiye's sectoral imports include cereals and oilseeds, as the country is highly competitive in the processing of edible oils and processed cereals (Ministry of Agriculture and Forestry, 2023).

Regarding the structure of agricultural land tenure, the largest area is concentrated in the strata between 2 and 50 hectares in size, with the largest number of farms between 0.5 and 10 hectares in size.(OECD, 2016).

Over 80 percent of total land fell into the 0–10 ha group, as more than 80 percent of farms in Türkiye are micro and small-scale in size – a consequence of highly fragmented lands. This is significant as smaller agricultural holdings equate to smaller incomes for farmers. Small-scale farms and fragmented lands also result in the departure of family farming from supply chains, sustainability problems, low agricultural production, idle arable lands, price increases, and issues related to social, cultural and economic integration as well as environmental problems. Such farmers also encounter difficulty in accessing finance and technology. Looking ahead, increasing productivity, diversifying agricultural crops, improving the level of nutrition in food, enhancing production techniques and

increasing women's role in production are among the main priorities of agricultural policies. (FAO, 2024)

Figure 1. Distribution of farms by area in Türkiye.



Source: OECD, 2016

In recent years, the drive for innovation in agriculture has been important in Türkiye. According to TURKSTAT data (2020), the ratio of gross domestic R&D expenditures in GDP was 1.06 percent in 2019, rising to 1.09 percent in 2020. The Eleventh Development Plan (2019–2023) of Republic of Türkiye promotes the use of technology in agriculture, noting that "Innovative and environment-friendly production techniques, especially smart agricultural technologies, will be developed and supported". (FAO, 2024:329).

Among the country elements affecting Türkiye's agriculture identified by OECD (2016), and considered important to take into account for this report, are mentioned:

- Due to its external dependence on agricultural inputs, the sector is exposed to cost risks derived from fluctuations in exchange rates and prices of intermediate products in international markets.
- Pressures on domestic costs also come from the development of industrial, infrastructure and energy sectors that compete with agriculture for land and skilled labor.
- Türkiye has a great advantage in horticultural and fresh fruit production.
- In general, Turkish wholesale markets do not play an important role in the development of quality standards and transparency in price formation (Berkum van, 2005).
- In the grain market, intermediaries play an important role in the sale to the industry, unlike in the vegetable and fruit markets where there is a more direct relationship between the industry and the farmer.
- The key challenge for agricultural growth in Türkiye is to enable labor resources to be reallocated to more efficient uses within and outside this sector. According to OECD, productivity in primary production needs to be improved. However, later reports (FAO, 2024)

mention that In terms of labour productivity, “value added per worker, which is measured by 2010 USD constant prices, in the agriculture, forestry and fishing sectors increased from USD 13 320 in 2009 to USD 16 902 in 2019 (FSD, 2020), an increase of 27 percent. Conversely, the share of employment in agriculture decreased from 23 percent in 2009 to 18 percent in 2018 (FSD, 2024).”

- There is considerable scope for improving the efficiency of input use (fertilizers and pesticides) and irrigation water use, as well as for combating soil erosion.

Additionally, in the aforementioned FAO report (2024) it is recommended that "the Government should take urgent measures to increase soil fertility and water use efficiency, and prioritize climate-smart agricultural practices in agricultural support programs."

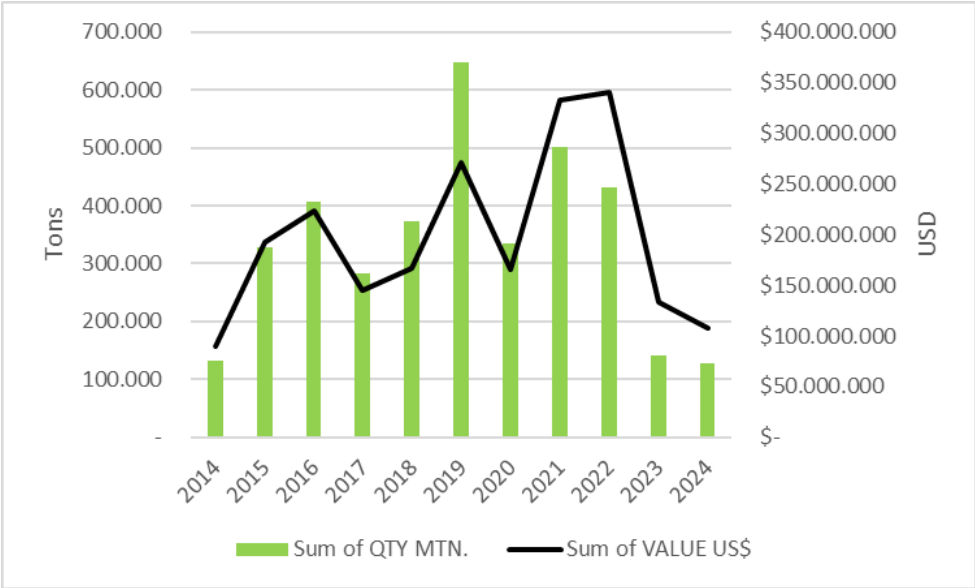
In summary, Turkish agriculture is important in the production and export of fruits and vegetables, as well as cereals and legumes. It is an important producer and exporter of wheat flour and edible oil, although part of the raw material is often convenient to import due to lower prices. Its geographical location allows it to supply agricultural products to Europe, the Middle East and North Africa.

4.1.2. WFP Local Purchases

Globally, Türkiye is a major supplier of foodstuffs to WFP, both in volume and value, often ranking number 1 in the country rankings. In total, it sells more than 30 different foods, the main ones being dried pulses, wheat flour and vegetable oil (https://executiveboard.wfp.org/es)

According to information provided by WFP, between 2014 and 2024 (as of September), the organization purchased a total volume of 3.7 million tons of food in Türkiye, for a total value of USD 2.17 billion. During this period, the annual average in value and volume of food purchased was 197 million USD and 337 thousand tons, respectively. As shown in Figure 2, in 2019 there was a 74% increase in the volume of food purchased from Türkiye by WFP, compared to 2018, associated with the increase in the purchase of wheat flour (140%, approximately) in response to the level 3 emergency experienced in Yemen. For their part, the increases in food purchases observed in the years 2021 and 2022, were associated with higher purchases of wheat flour (increase of up to 71%), vegetable oil (increase of 66%) and peeled peas (increase of up to 125%), in relation to the year 2020, this in response to food purchases made by the agency for local administrations, and purchases for the emergency intervention in Afghanistan. Also noteworthy is the total value of food in 2021, 2022, 2023 and 2024, which is much higher than in the previous years of the series and is due to the global increase in food prices (https://executiveboard.wfp.org/es).

Figure 2. WFP local food purchases in Türkiye, by volume and value. Period 2014 to 2024 (September).



Source: own elaboration based on Data Food Procurement WFP, extract 2014 to 2024 (September).

In terms of value, the main food products purchased by WFP in Türkiye during the period under review were vegetable oil, wheat flour, food rations and bulgur wheat; these four products accounted for 78% of the total value purchased during the period and 82% of the volume. Other relevant products were chickpeas (4% of the total value and 3% of the total volume), split peas (3% of the total value and 4% of the total volume) and pasta (3% of the total value and 2% of the total volume) (Table 5).

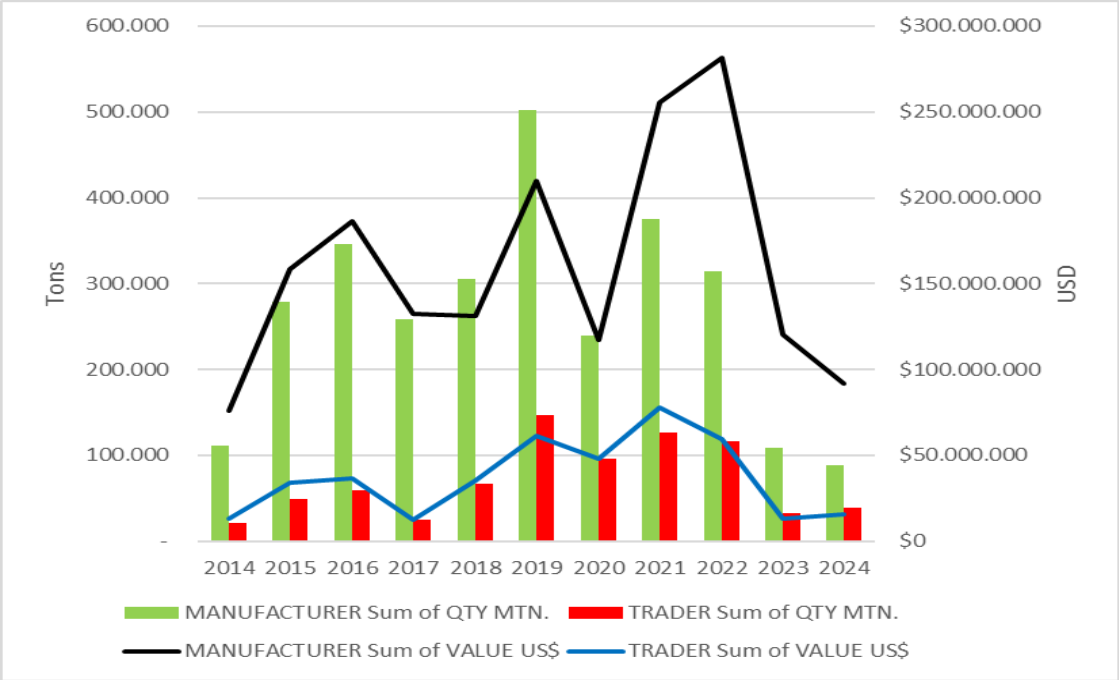
Table 5. Main food products purchased by the WFP in Türkiye, by volume and value. Period 2014 to 2024 (as of September).

COMM. DESCRIPTION	Sum of VALUE US$	Share (%)	Sum of QTY MTN.	Share (%)
VEGETABLE OIL	$728,313,406	34%	584,846	16%
WHEAT FLOUR	$667,303,383	31%	1,928,028	52%
RATIONS	$148,035,001	7%	212,133	6%
BULGUR WHEAT	$124,436,526	6%	308,789	8%
CHICKPEAS	$77,445,744	4%	93,244	3%
SPLIT PEAS	$66,447,482	3%	143,329	4%
PASTA	$56,887,691	3%	80,561	2%
REST	$300,644,563	14%	358,315	10%
TOTAL	**$2,169,513,796**	**100%**	**3.709.245**	**100%**

Source: own elaboration based on Data Food Procurement WFP, extract 2014 to 2024 (September).

There are a total of 66 sellers to the organization, mainly manufacturers (52 in total) and, to a lesser extent, intermediaries (15 in total); there is one seller who sells both as a manufacturer and as an intermediary (Figure 3).

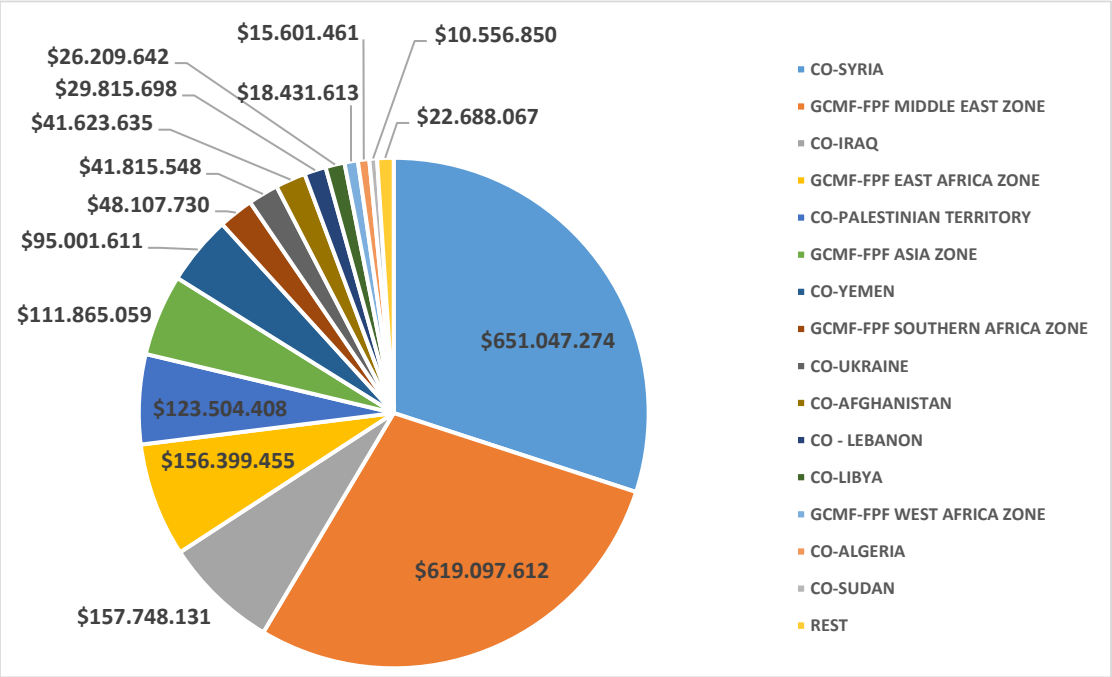
Figure 3. WFP local food purchases in Türkiye by volume and value, by type of supplier. Period 2014 to 2024 (as of September).



Source: own elaboration based on Data Food Procurement WFP, extract 2014 to 2024 (September).

It should be noted that the food purchased by WFP in Türkiye is mainly destined for Syria, Middle East Asian countries, Iraq, East Africa, among others (Figure 4). The humanitarian programs implemented by the organization in Türkiye are mainly based on cash transfers and vouchers for the purchase of basic goods, benefiting mostly Syrian refugees (https://www.wfp.org/publications/annual-country-reports-turkiye).

Figure 4. Recipient countries of WFP local food purchases in Türkiye, by value. Period 2014 to 2024 (as of September).



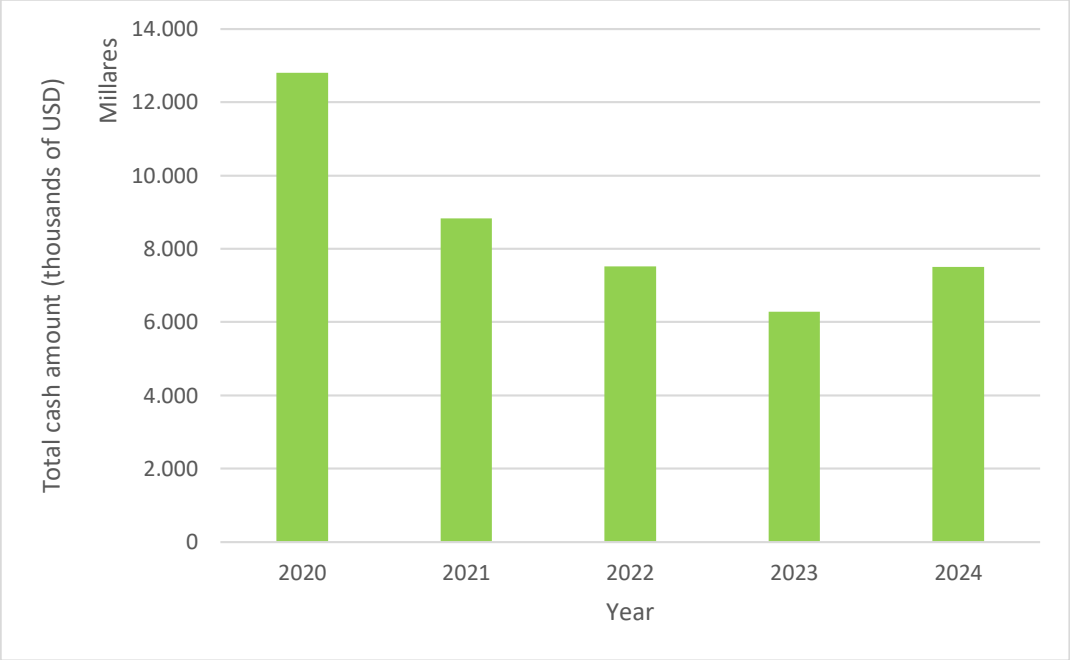
Source: own elaboration based on Data Food Procurement WFP, extract 2014 to 2024 (September).

4.1.3. THE WFP'S CASH TRANSFERS

Cash transfers are a form of humanitarian assistance that allows people affected by crises to choose how to meet their basic needs. This approach is based on the idea that not all people require the same thing at the same time, and by providing money instead of specific food, people are given the flexibility to decide what to buy according to their circumstances (https://es.wfp.org/transferencias-de-base-monetaria).

In the period from 2020 to 2024, the monetary transfers made by the WFP in Türkiye, through the Camp Programme and the Livelihood Programme, amounted to a total amount of USD 43 million (figures do not include the Emergency Social Safety Net - ESSN Program, nor Earthquake Emergency Response). As shown in Figure 5, the year 2020, coinciding with the Covid 19 pandemic, was the year with the highest amount transferred, reaching about USD 12.5 million; the rest of the years of analysis, transfers remained around USD 8 million.

Figure 5. Monetary transfers made by the WFP in Türkiye. Period 2020 to 2024.



Source: Prepared by the authors based on information provided by WFP Türkiye.

Although these transferred amounts are of free use by the beneficiaries, according to the information provided by WFP, about 75% of the monetary transfers made by the Organization in Türkiye are destined to the purchase of food, therefore, they also have an impact on local food production; this will be analyzed in detail in chapter 4.2. below.

Table 6. Amounts of Monetary Transfers, by type of program.

Year	Camp Programme Amount USD	Food Value - Camp Programme USD	Liveihood Program Amount USD	Food Value - Livehood Programme USD	TOTAL FOOD VALUE	%
2020	12,414,495	**9,931,596**	383,953	**134,384**	**10,065,980**	79%
2021	8,120,905	**6,496,724**	706,166	**247,158**	**6,743,882**	76%
2022	5,859,699	**4,687,759**	1,652,736	**677,622**	**5,365,381**	71%
2023	4,272,847	**3,418,278**	2,010,752	**985,268**	**4,403,546**	70%
2024	3,197,467	**2,557,974**	2,131,645	**1,087,139**	**3,645,113**	68%
Total	**33,865,414**	**27,092,331**	**6,885,251**	**3,131,571**	**30,223,901**	**73%**

Source: Prepared by the authors based on information provided by WFP Türkiye.

4.2. IMPACT OF LOCAL PROCUREMENT

Based on WFP's local food purchases in Türkiye, mentioned in chapter 4.1.2, and using the method developed in chapter 3 of this report, the volume and value of local products included in these purchases and the economic impact on the primary and agro-industrial link in the country were estimated. The analysis was conducted for the period 2014 - 2023 and provides aggregate and average results for the period.

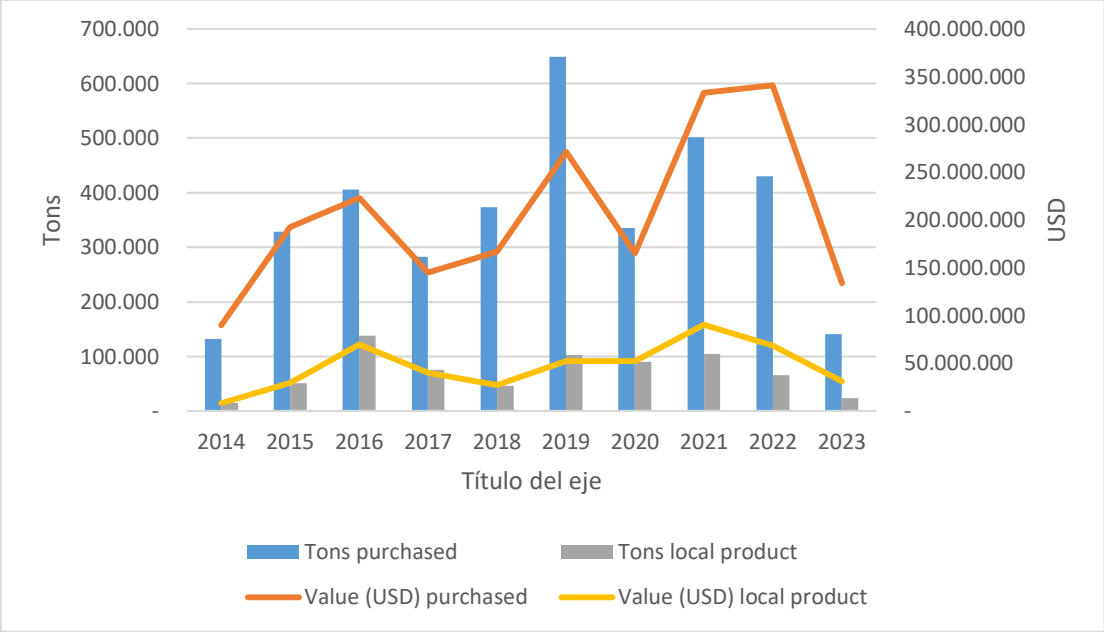
The results are then presented in terms of gaps between local purchase and local product purchase, estimated impacts on employment, on Türkiye's agriculture and its farmers, and finally the differences in effect according to the different products selected.

4.2.1. THE GAPS BETWEEN LOCAL PURCHASES AND LOCAL PRODUCTS

The annual proportion of local food products sold by suppliers (agribusiness and intermediaries) to LDC Türkiye was estimated on the basis of the information provided by the actors who responded to the questionnaire mentioned in Chapter 3.

Figure 6 shows a comparison between total local purchases in recent years, and local products purchased by WFP of the selected products. There is a logical correlation between the lines and bars of local purchases with those corresponding to local products, although slightly less volatile in the case of local products. This would be due to the fact that local products correspond to the basket of the seven selected products while total local purchases include other products that have had greater variation in their purchase. For example, in 2019, purchases of beans -which is not part of the seven selected products- were executed in a significant volume and value, which turned out to be much lower in 2018 and 2020.

Figure 6. Local purchases and local products in WFP Turkiye.



Source: own elaboration

Considering only the basket of products selected for this comparison and analysis (and all the following in this report), the annual volumes and values of local products average a total of 71,373 tons and USD 47,048,704 for the 10 years considered, representing 24% and 29% of local purchases of those products, respectively.

Table 7. Estimated volume and value of local products in local purchase of selected products. Period 2014 - 2023

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Average period
Local Purchase Volume (A)(*)	40,162	169,034	328,764	240,300	302,567	619,054	318,960	493,572	366,593	101,886	298,089
Volume Local Product (B)(ton)	15,092	50,965	138,213	75,690	46,552	102,607	90,242	104,722	65,609	24,037	71,373
% B/A	38%	30%	42%	31%	15%	17%	28%	21%	18%	24%	24%
Local Purchase Value (C)(*)	21,536,634	88,392,603	165,089,078	116,181,492	133,062,635	249,129,508	155,227,467	328,891,815	278,243,630	80,347,426	161,610,229
Local Product Value (D)(USD)	8,562,059	29,281,402	69,591,130	40,307,726	27,358,531	52,593,095	52,322,959	90,369,015	68,782,690	31,318,436	47,048,704
% D/C	40%	33%	42%	35%	21%	21%	34%	27%	25%	39%	29%

Source: own elaboration

(*) Considers only the 7 selected products.

In terms of volume, the proportion of local products in relation to local purchases varies between 15% and 42% with an annual average of 24%, while in value the range would be between 21% and 42%, with an annual average of 29%. The low percentage of local product means that a significant proportion of the products purchased by WFP in Türkiye correspond to products imported by other agents, mainly as raw materials and, to a lesser extent, as processed products. This would reflect, on the one hand, Türkiye's importance as a commodity processor, in the face of reduced competitiveness in primary production. At the same time, the price expected by domestic farmers is higher than that received by agricultural raw material producers in other countries in the Middle East and Central Asia, which would encourage manufacturers selling to WFP to prefer cheaper raw material from those countries. This is not true for all products, but it is true for the most important ones such as wheat flour; indeed, in the questionnaire sent to agro-industries and wheat flour traders, informants mentioned the lower price as a reason for importing the vast majority of the raw material, as well as regulatory reasons. On the other hand, in industrial tomatoes, the entire supply of raw material is of national origin, although this product does not have a large weight in the basket of the seven selected.

The significant gap identified between local purchase and local product is also an opportunity for WFP to continue to refine and strengthen its local purchasing policy, applying solutions adapted to the circumstances of each country.

4.2.2. EMPLOYMENT IMPACT

According to the method applied, it is estimated that WFP's local purchases would translate into the creation of an annual average of 1,198 equivalent jobs for 1,198 workers[3] . In the last 10 years, the WFP program would have generated approximately 11,984 total jobs, considering both work in primary agricultural production and work in value addition in agro-industries (Table 8).

[3] The term "Full-Time Equivalent Worker" (FTE) is used to compare and standardize the working hours of employees who work part-time in relation to those who work full-time. The specific definition of a "full-time equivalent worker" may vary depending on the labor laws and practices of each country or company, but is generally calculated using a formula that takes into account the number of hours worked part-time compared to the standard working hours of a full-time employee in the same position or category.

Table 8. Indicators of employment generated by the purchase of local products by the WFP in Türkiye.

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	Average period
Indicator 16. Number of Jobs Generated by the Agricultural and Agro-industrial Sector (full-time equivalent worker)	160	974	2,139	1,181	867	1,560	1,457	1,710	1,371	565	**11,984**	**1,198**
Indicator 17: Unit Employment per Volume of Local Output (number of full-time equivalent workers per 1,000 tons of local output)	10.57	19.12	15.48	15.60	18.63	15.20	16.15	16.33	20.89	23.49		**17**
Indicator 18: Unit Employment per Local Product Value (number of full-time equivalent workers per USD 1 million of local product purchase)	19	33	31	29	32	30	28	19	20	18		**26**

Source: own elaboration

Indicators 17 and 18 are unit indicators that allow us to estimate how much more employment is generated with growth in the volume or value of the purchase of local products. The 10-year average for indicators 17 and 18 are 17 and 26 equivalent jobs, respectively; this means that an increase in the purchase of local products of 1,000 tons would generate 17 additional equivalent jobs, and at the same time an increase in the purchase of local products of one million dollars would add 26 equivalent jobs.

Of these equivalent jobs generated, 58% correspond to jobs in primary agricultural production, and the remaining 42% to jobs in the food processing industry. This difference can be explained by the high use of imported raw materials and therefore does not create national employment at the primary production level.

4.2.3. THE IMPACT ON AGRICULTURE AND FARMERS

The indicators that account for the impact of local product purchases on agriculture are 11, and refer to crop area to supply the purchases, number of farmers that would cultivate that area, and economic results (income and gross margin).

Table 9. Indicators of impact on agriculture of local WFP purchases in Türkiye.

	Cumulative total 10 years	Average period
Indicator 5: Area of Local Products purchased by WFP (hectares):	450,790	45,079
Indicator 6. Area of Local Products Purchased by WFP per 1,000 tons of Local Products Purchased (hectares):		630
Indicator 7. Area of Local Products purchased by WFP per 1 million USD of Local Product Purchases (hectares):		979
Indicator 8. Number of local farmers supplying the WFP:	58,794	5,879
Indicator 9. Number of Local Farmers supplying WFP per 1,000 tons of Local Product Purchased.		78
Indicator 10. Number of Local Farmer suppliers to WFP per 1 million USD of Local Produce Purchases.		127
Indicator 11. Total Gross Revenue from Sales to WFP (USD):	414,098,903	41,409,890
Indicator 12. Total Gross Revenue from Sales to WFP per 1,000 tons of Local Product Purchase (USD):		636,599
Indicator 13. Total Gross Revenue from Sales to WFP for every 1 million USD of Purchase of Local Product (USD):		918,955
Indicator 14. Average Income per Producer per Sale to WFP (USD):	72,795	7,280
Indicator 15. Average Gross Margin per Producer per WFP Sale (USD):		2,647

Source: own elaboration

It is estimated that an average of 45,079 hectares would have been cultivated annually to supply local products. This estimate refers to the production of agricultural raw material supplied from production in Türkiye, but does not include the production of feed for the chicken farms that supply the industry, which could eventually also use imported feed. This estimate is based on national average production yields, using values for the year 2022, since no statistical information was obtained for the year 2023.[4] In any case, production yields do not usually vary substantially from year to year in the absence of relevant events such as severe droughts.

Indicator 8, which refers to the number of farmers involved in the production of local products, is estimated from information provided by agribusinesses about the average size of farmers supplying raw material. However, this question was not answered in any survey, probably because raw material supply is mainly obtained from intermediaries (OECD, 2016). To estimate the average size of farmers, the stratification of census data was then considered, as a general framework, and an average area was applied according to specific studies per item, which include samples of tens or hundreds of farmers, but in general not taken in a nationally representative way. The result obtained is an annual

[4] The census data obtained from official statistics for the year 2023 refer to production, but no data on cultivated area was obtained.

average of 5,879 farmers who would supply the local raw material for WFP's local purchases in Türkiye.

Indicator 11 refers to the economic income from local purchases that would reach farmers. Its value is USD 41 million on average per year, which corresponds to 88% of the value of local products. This high value can have several explanations. The first explanation, of a methodological nature, is related to the producer prices applied in the exercise. In fact, the source is from scattered publications, since only one of the questionnaires sent to the actors included this data (it was applied for chickpeas). This asymmetry in the quality of the information - since the value of the products purchased by WFP Türkiye is reliable - is a possible methodological cause of the bias; the second methodological explanation refers to the fact that the value of WFP Türkiye purchases has year-to-year data, while the price paid to farmers was estimated for the year 2023, and was projected backwards in a constant manner (although in its dollar value). There are also explanations more associated with reality, which refer to the fact that agricultural products in Türkiye are generally higher priced than those coming from other countries in Central Asia and the Middle East, and WFP suppliers give high priority to the price variable in order to be more competitive in tenders. At the same time, the prices of products paid to farmers are highly volatile between and within seasons. These results - which appear to be positive for Turkish farmers as they would capture a high value of what WFP pays for local produce purchases - should be interpreted with caution, considering the biases indicated.

4.2.4. COMPARATIVE ANALYSIS OF IMPACTS BY PRODUCT[5]

It is important for public policies to articulate the agricultural sector with public and institutional purchases, to have a look at how relevant is the distributor effect of food purchases in the agricultural sector according to the different products.

Figure 7 shows, as an initial reference, the average annual volume and value of local purchases of the products selected for the analysis. Ordered by purchase value from highest to lowest, the main product is vegetable oil, followed by wheat flour; the rest of the products are well behind, with bulgur being the first in the group, which closes with processed tomato.

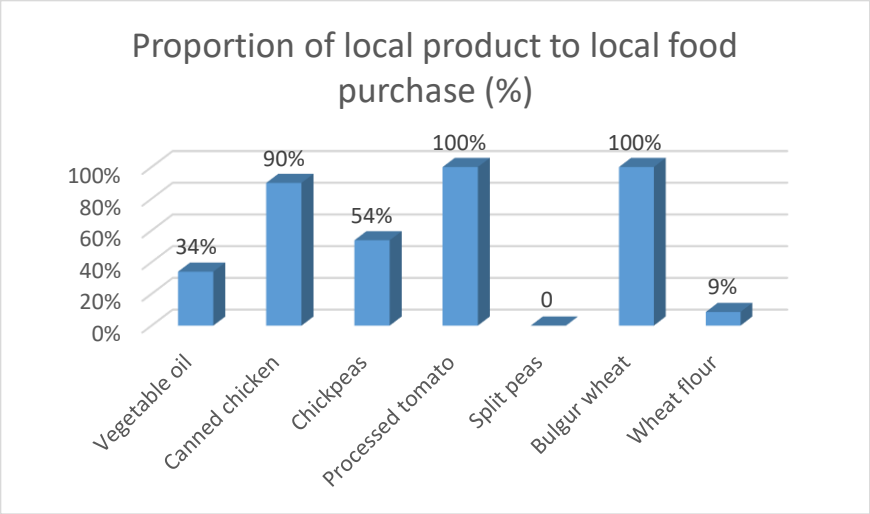
[5] Methodologically, it is necessary to clarify that for the product-by-product analysis, the average of production and purchases was considered considering only the years in which there were local purchases of those products, unlike the aggregate indicators that considered the average of the 10 years for all purchases. This results in small differences between the sum of the individual products and the overall indicators.

Figure 7. Average annual WFP local purchases in Türkiye of the products studied (period 2014-2023).

Source: own elaboration

According to the information gathered, there are products from local purchases that are entirely obtained from raw materials produced in Türkiye, such as processed tomatoes and bulgur; and at the other extreme, products whose raw materials are 100% from imported agricultural products, as in the case of dried peas (Figure 8). The aggregate result of these proportions corresponds to 24% of the volume of local products, as indicated in Chapter 4.2.1.

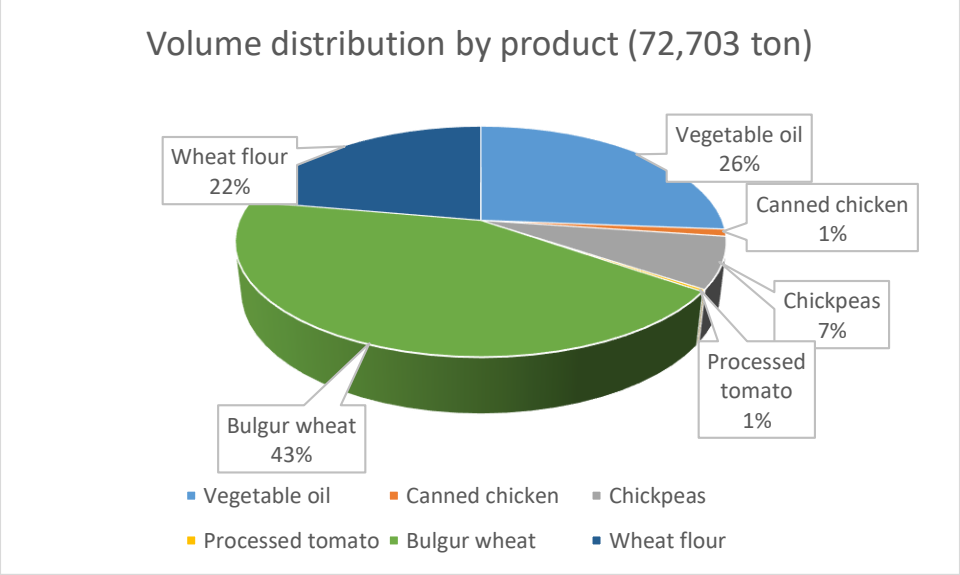
Figure 8. Proportion of local product in food purchases by WFP Türkiye for each product (% of volume).



Source: own elaboration

After applying the method to estimate the purchase of local products, the distribution effect of each product on national agriculture can be observed. Figure 9 shows the volume distribution of the average local product purchased. The most important is bulgur, with 43% of the tons of local product purchased, which is explained by the fact that all of the raw material (*Triticum durum*) is purchased in the country, unlike wheat for flour (*Triticum aestivum*), which is almost entirely imported. The second most important product in terms of volume is vegetable oil, a product in which part of the raw material is sunflower harvested in Türkiye and which represents large volumes purchased by the WFP, and in third place is wheat flour. Dried peas are imported in their entirety,[6] due to the low production in Türkiye, where their cultivation in the country does not reach one thousand hectares of sowing.

Figure 9. Volume distribution of local products purchased by WFP in Türkiye in the last 10 years.

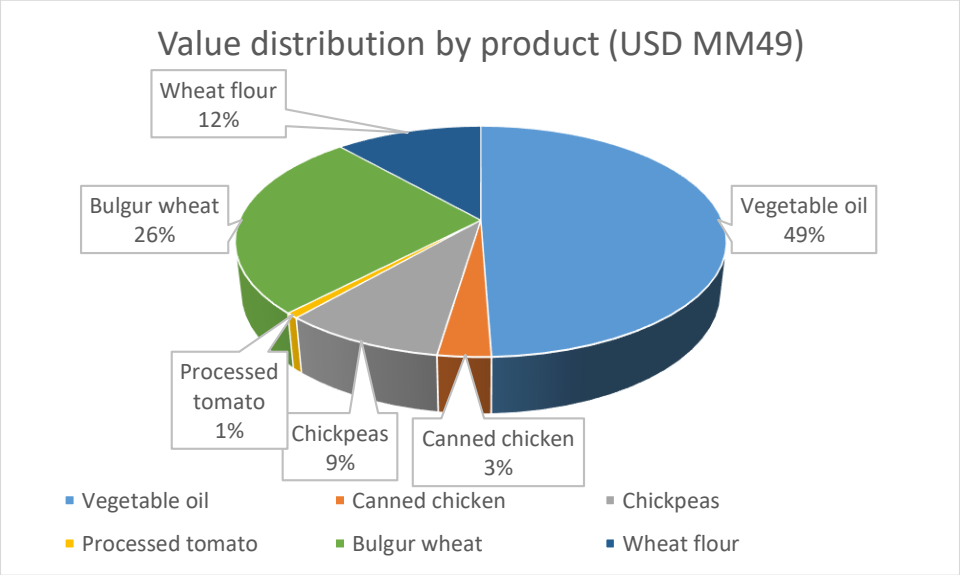


Source: own elaboration

As for the value of local products purchased by the WFP in Türkiye, the one that represents the highest value at the national level is vegetable oil, a product that is partly made from sunflower harvested in Türkiye, with purchases of this oilseed in other markets, and also imports of palm oil. In terms of purchase value, it is followed by bulgur, and also closes, with a value close to zero, the purchase of dried peas in the country.

[6] A questionnaire was received stating local purchase of dry peas, however, the numbers presented were not consistent with the crop statistics, so it was decided not to consider it in the analysis.

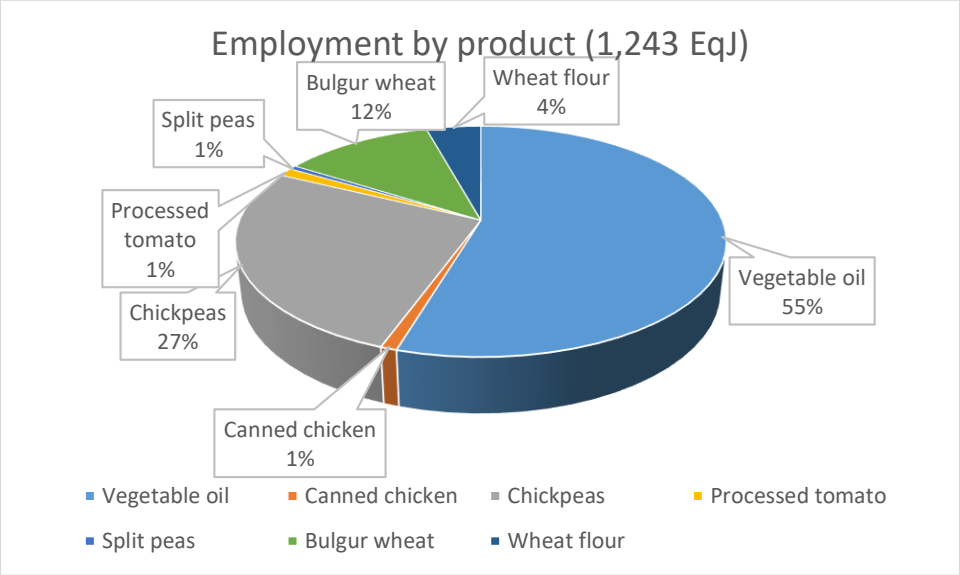
Figure 10. Distribution in value of local products purchased by WFP in Türkiye in the last 10 years.



Source: own elaboration

The employment demanded for local production is composed of agricultural work on the one hand (58%), and work in processing raw materials (42%), produced domestically or imported. In terms of distribution by product purchased locally, the main product generating employment is vegetable oil, with 55% of the total employment generated. Of this demand, 66% is generated in the industrial link of the production chain. In second place is peeled chickpeas, with 27% of employment generation, and in this case 99% corresponds to work in agricultural production. It is worth mentioning that processed tomatoes are the largest employer in primary production. However, the low volume of purchases of the product by WFP Türkiye means that only 1% of employment has been generated by this product in the last 10 years.

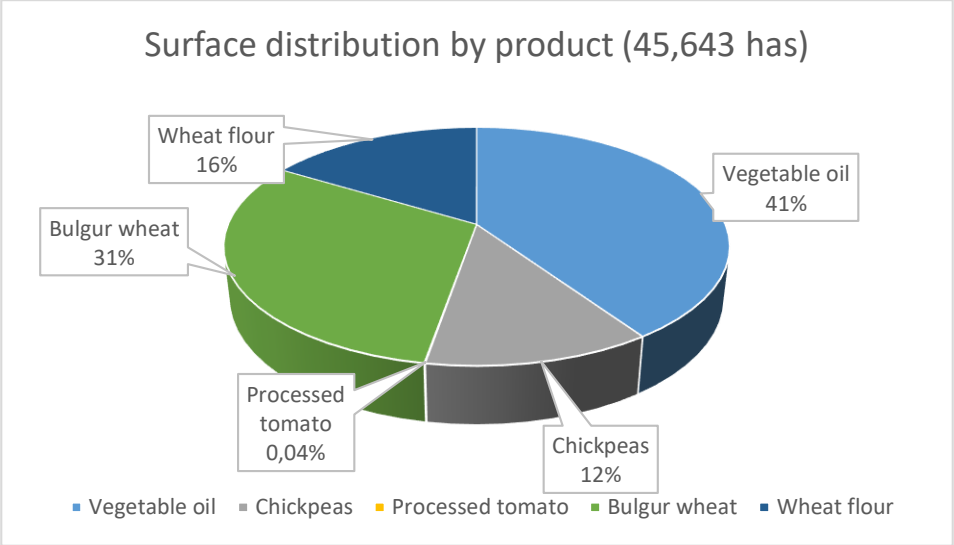
Figure 11. Distribution of employment generated by each local product



Source: own elaboration

An analysis of the area associated with each local product shows that dry peas, whose raw material is 100% imported, disappears from the analysis, and wheat flour, which imports 90% of its raw material, tends to lose importance. It is observed that vegetable oil, i.e. sunflower sowing, has the highest coverage, followed by the area of durum wheat sown for bulgur production. In third place, with 16% of the area is national flour wheat, which supplies 10% of the raw material for flour, and then, chickpeas with 12% of the area, which supplies 60% of the raw material for peeled chickpeas. Processed tomatoes, although 100% supplied with raw material grown in Türkiye, hardly appear in the analysis due to the low volume of purchase of the product by WFP in Türkiye. Canned chicken is not considered in the area analysis because it is an "off-floor" production (Figure 12).

Figure 12. Distribution of the area cultivated to supply Türkiye's local WFP purchases during the last 10 years.



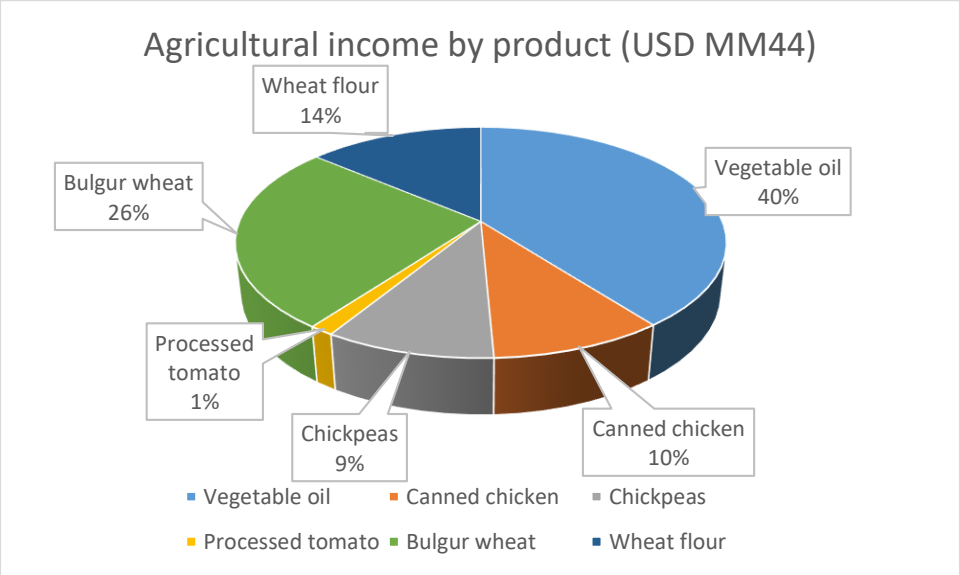
Source: own elaboration

The number of farmers supplying this raw material for local purchases is estimated based on responses to questionnaires sent to traders and agribusinesses, however, no data was obtained. Due to this gap, an estimated average crop size per farmer was obtained based on case studies conducted in different regions for each product in Türkiye, and is therefore of little statistical value. With that consideration, it was preliminarily estimated that 6,067 farmers would be responsible for supplying this raw material,[7] Of these, 2,568 farmers would grow durum wheat, 1,865 would grow chickpea, 1,381 would grow flour wheat, 268 would grow sunflower and only 6 farmers would supply tomato to the industry that sells to WFP.

As for the distribution of the money from local purchases that reaches agricultural producers, of the USD 44 million that reached agriculture on average per year, 40% would have reached sunflower producers, who supply the oil industry that supplies WFP Türkiye. This is followed by wheat produced for bulgur, and white wheat to supply part of the demand for wheat flour.

[7] Corresponds to the average number of producers considering only the years in which the WFP purchased each of the products. When the calculation is made considering the 10 years of the period, regardless of whether or not there were purchases, this number decreases slightly to 5,978 farmers.

Figure 13. Distribution of farm income derived from local purchases of WFP Türkiye during the last 10 years.



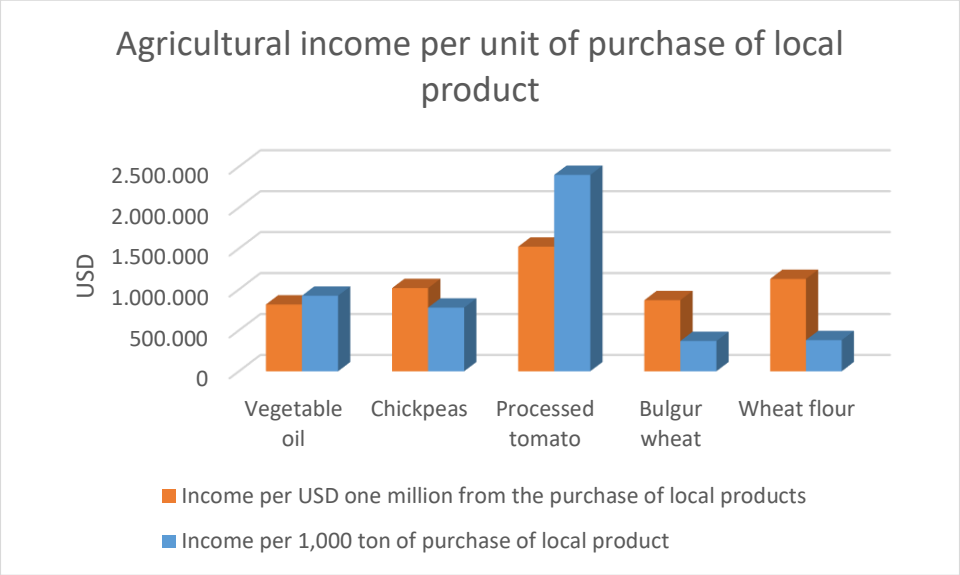
Source: own elaboration

Assuming that the robustness of the information must be improved,[8] it is interesting to analyze which products would be those that, in terms of unit demand, distribute the most money to the agricultural link in the production chain. Figure 14 shows the value of indicators 12 and 13 associated with the items analyzed, which refer to the economic income to agriculture generated by a given volume (1,000 tons) and a given value (USD 1 million). Beyond the numbers on the axis of the graph, which are biased by the aforementioned price volatility and inaccuracy of price data to the farmer, it is observed that, per ton purchased, a higher income reaches farmers producing industrial tomatoes, followed by sunflower and chickpea producers. As for the indicator that estimates the income per dollar of purchase, the primary production that receives more money would be the industrial tomato production, followed by flour wheat production and chickpea production. However, considering that the tomato situation is distorted,[9] it is more reasonable to conclude that, in a medium-term view, the products that per purchased ton leave a higher income to the primary links would be sunflower and chickpeas, while per dollar of purchase would be wheat for flour and chickpeas.

8 For the use of prices paid to producers, it is important to remember that these data are less reliable, as explained in point 4.2.3, because they were not obtained from the questionnaires, but from different price sources; and that a constant price paid to producers is considered.

9 It is important to note that the price of tomatoes to producers in 2023 was abnormally high (TRY12.49/kg, versus TRY2.03/kg in 2021), which distorts the analysis.

Figure 14. Agricultural income per unit of purchase of local products by WFP Türkiye.



Source: own elaboration

Finally, as a way of finalizing the exercise, the gross income that each farmer would receive for growing the raw material from local purchases was estimated, a result shown in Table 10.[10]

Table 10. Gross income obtained per farmer per year for the production of raw material for local purchases of WFP Türkiye (USD).

Cultivation	Income per producer
Sunflower	64,584
Chickpea	2,371
Tomato for industry (*)	103,320
Flour wheat	4,432
Durum wheat	4,432
Average	7,280

Source: own elaboration

(*) As mentioned, the price considered for tomatoes is that of the year 2023, which was atypically higher than in previous years, which would show a particular case for this item.

[10] These results should be taken with caution and should be refined, given that they come from two data of low reliability: producer price and farm size.

4.3. IMPACT OF CASH TRANSFERS[11]

The generation of employment associated with monetary transfers, as shown in indicator 19 of Table 11, would be 37 equivalent jobs per year, which is much less than the 1,198 equivalent jobs estimated for the local purchase of food by WFP. This difference is explained by the small amount of monetary transfers for the purchase of local products. In fact, this amount is estimated at USD 1.4 million on average per year, which contrasts with the estimated USD 47 million in average local purchases.

Table 11. Estimated employment generated by food purchases with WFP Türkiye cash transfer resources.

	2020	2021	2022	2023	2024	Average
Money Transfers made by the WFP (USD)	12,798,449	8,827,071	7,512,434	6,283,599	5,329,112	8,150,133
Estimated Proportion of Monetary Transfers Destined for Food Purchases (%)	79%	76%	71%	70%	68%	73%
Total Value of the Monetary Transfer for Food Purchase (USD)	10,065,980	6,743,882	5,365,381	4,403,546	3,645,113	6,044,780
Indicator 2 (LCI). Percentage of Local Product Purchasing Volume over Total Local Purchasing (%)	28%	21%	18%	24%	24%	23%
Total Value of Monetary Transfers Destined for the Purchase of Locally Produced Food (USD)	2,847,923	1,430,864	960,248	1,038,890	874,827	1,430,550
Indicator 17 (LCI). Unit Employment per Local Product Value (number of full-time equivalent workers per 1 million USD of local product purchase):	26	26	26	26	26	26
Indicator 19. Total number of jobs generated by the purchase of local products with resources from monetary transfers (full-time equivalent worker).	74	37	25	27	23	37
Indicator 20. Unit Employment Generated by Monetary Transfers (full-time equivalent worker per US$1 million of monetary transfers)	5.8	4.2	3.3	4.3	4.3	4.4

Source: own elaboration

[11] It is estimated that the assumptions to consider projecting the demand for food products would be inadequate for the case of Türkiye, since the basket of products demanded by the WFP refers to external markets, while the food expenditure derived from the transfers refers to a basket of the country's domestic market. This is not so in the cases of Honduras and Guatemala, where the basket of products purchased by WFP is demanded by the inhabitants of the same country.

4.4. CONSOLIDATED RESULTS

The consolidated result of the indicators, including employment generation from monetary transfers, is shown in Table 12. The only indicator to which monetary transfers would contribute is the employment indicator. By adding indicators 16 and 19, the total number of jobs generated amounts to 1,235 equivalent jobs per year on average.

It is important to remember that the analysis did not include important monetary transfers, such as those for the year 2023 to deal with the earthquake tragedy, which, of course, if considered, would increase the impact on employment in agrifood chains.

Table 12. Consolidated indicators of the impact of local purchases and monetary transfers .

Indicator	Average period
Indicator 1. Volume of Local Products purchased by WFP (tons):	71,373
Indicator 2. Percentage of Local Product Purchasing Volume over Total Local Purchasing (%):	24%
Indicator 3. Value of Local Products purchased by WFP (USD):	47,048,704
Indicator 4. Percentage of the Value of Local Product Purchases over the Total Value of Local Purchases (%):	29%
Indicator 5: Area of Local Products purchased by WFP (hectares):	45,079
Indicator 6. Area of Local Products Purchased by WFP per 1,000 tons of Local Products Purchased (hectares):	630
Indicator 7. Area of Local Products purchased by WFP per 1 million USD of Local Product Purchases (hectares):	979
Indicator 8. Number of local farmers supplying the WFP:	5,879
Indicator 9. Number of Local Farmers supplying the WFP per 1,000 tons of Local Product Purchased.	78
Indicator 10. Number of Local Farmer suppliers to the WFP per 1 million USD of Local Product Purchases.	127
Indicator 11. Total Gross Revenue from Sales to the WFP (USD):	41,409,890
Indicator 12. Total Gross Revenue from Sales to the WFP per 1,000 tons of Local Product Purchase (USD):	636,599
Indicator 13. Total Gross Revenue from Sales to the WFP per 1 million USD of Local Product Purchases (USD):	918,955
Indicator 14. Average Income per Producer per Sale to the WFP (USD):	7,280
Indicator 15. Average Gross Margin per Producer per WFP Sale (USD):	2,647
Indicator 16. Number of Jobs Generated by the Agricultural and Agro-industrial Sector (full-time equivalent worker):	1,198
Indicator 17: Unit Employment per Volume of Local Product (number of full-time equivalent workers per 1,000 tons of local product):	17

Indicator	Average period
Indicator 18: Unit Employment per Local Product Value (number of full-time equivalent workers per 1 million USD of local product purchase):	26
Indicator 19: Total Number of Jobs Generated by purchase of Local Product with resources from Monetary Transfers (full-time equivalent worker):	37
Indicator 20: Unit Employment Generated by Cash Transfers (full-time equivalent worker per US$1 million of cash transfers):	4.4

Source: own elaboration

5. CONCLUSIONS AND FINAL THOUGHTS

The first element to note is the relatively low proportion of local products in local purchases. Indeed, on average over the period 2014-2023, only 24% of the volume and 29% of the value of local purchases correspond to local products. This shows that a very significant part of the local purchases made by the WFP in Türkiye comes from imported raw materials, which is an interesting opportunity to capture in the framework of the WFP's local procurement policy.

Despite this, the contribution to the demand for domestic agricultural products is significant; in fact, the WFP Türkiye purchases the production of 18,400 hectares of domestic sunflower (approximately 2% of the national crop), 5,600 hectares of chickpeas (approximately 1.5% of the national crop) and 14,000 hectares of durum wheat for bulgur production.

It is also estimated that the average employment generated each year by local purchases is 1,198 equivalent jobs. To these should be added the 37 jobs per year generated by monetary transfers for their estimated expenditure on food.

Beyond the methodological problems associated with its estimation, it is estimated that the local products purchased by the WFP involve around 6,000 farmers per year and the income that would reach primary production each year was estimated at USD 39 million (without considering the production of chickens). This implies that the gross income that each national producer has received per year for its sale to the WFP is of the order of USD 7,000.

The food industry plays an important role in the production of food purchased by the WFP, mainly the wheat flour industry, which is almost entirely sourced from imported wheat, and the vegetable oil industry, which is 66% sourced from imported sunflower seed. The high amount of imported raw material is explained by more convenient prices for the industry, and also, according to some informants, by restrictions in Turkish regulations. According to documents reviewed, the efficiency of the industry is indeed very competitive at international level, unlike primary production, where, according to OECD, it would be a priority to improve labor productivity.

The most widely distributed food, in terms of employment and income for farmers, would be sunflower oil, which, although only 34% of its supply would come from local sunflower, generates good income for farmers, and work mainly in the industrial link.

Processed tomato and canned chicken are products that distribute income to farmers and employment at the local level in important proportions, however, the purchase of these products by the WFP is currently very low compared to wheat flour and vegetable oil, which is why their impacts are discrete.

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ANNEX 1. METHODOLOGICAL PROCEDURES

1. PROCEDURE FOR FOOD PRIORITIZATION

The selection of foods that were included in the impact estimation exercise was carried out according to the following prioritization procedure:

- (1) Ranking of food procured by WFP Türkiye, according to cumulative value (in USD) for the period analyzed (2014 - 2023), for each of them; this ranking will be from highest to lowest value.
- (2)Ranking of food procured by LDC Türkiye, according to total volume (in tons) for the period analyzed (2014 - 2023), for each of them; this ranking will be from highest to lowest volume.
- (3) Food baskets or rations (which include various products of different nature) will be excluded from the ranking.
- (4) From the ranking obtained, those foods that have not been present in 2 or more years of the period analyzed (2014 - 2023) will be discarded.
- (5) If there is no coincidence between the two rankings generated, the ranking according to the total value (1) will be followed.
- (6) Those foods that, in aggregate, account for 75% or more of the total value of food procured by the WFP will be selected.

2. PROCEDURE AND RESULT OF ESTIMATION OF THE AMOUNT OF MONETARY TRANSFERS FOR FOOD PURCHASES

- Data were collected on the amounts and proportion of the two transfer programs that consider the purchase of food (Table A1.1).
- Based on the above, the amounts allocated to the purchase of food were calculated (Table A1.2.).

Weight of Cash Transfers and Livelihood programs and proportion of food purchases.

Period	Total Cash Amount (USD)	Camp Programme Cash Transfers within Overall Cash Transfers	Camp Programme Food Share	Livelihood Programme Cash Transfers within Overall Cash Transfers	Livelihood Programme Food Share
2020	12,798,449	97%	80%	3%	35%
2021	8,827,071	92%	80%	8%	35%
2022	7,512,434	78%	80%	22%	41%
2023	6,283,599	68%	80%	32%	49%
2024	5,329,112	60%	80%	40%	51%

Source: WFP Türkiye data.

Table A1.2. Monetary transfers for food purchases

	Camp Programme Amount USD	Food Value - Camp Programme USD	Liveihood Program Amount USD	Food Value - Livehood Programme USD	TOTAL FOOD VALUE USD
2020	12,414,495	**9,931,596**	383,953	**134,384**	**10,065,980**
2021	8,120,905	**6,496,724**	706,166	**247,158**	**6,743,882**
2022	5,859,699	**4,687,759**	1,652,736	**677,622**	**5,365,381**
2023	4,272,847	**3,418,278**	2,010,752	**985,268**	**4,403,546**
2024	3,197,467	**2,557,974**	2,131,645	**1,087,139**	**3,645,113**

Source: Own elaboration based on WFP Türkiye data.

ANNEX 2. INPUT VARIABLES

Table A2.1. General data Input variables, values and sources

VARIABLES	FINAL VALUE TO BE APPLIED	Source
GENERAL		
Exchange rate	0.029 USD = TRY 1	https://wise.com/es/currency-converter/try-to-usd-rate
LABOR DATA		
Number of working days Equivalent employment	1 Equivalent Job = 229 working days (20 vacation days)	
Minimum wage (2024)	USD 580/month	https://www.atlashxm.com/resources/Türkiye-new-minimum-wage
Cost per day (2024)	USD 19.	https://www.atlashxm.com/resources/Türkiye-new-minimum-wage

Table A2.2. Canned chicken. Input variables, value and sources

Canned chicken	VALUE	Source
% canned chicken imported by marketer	50% imported	Questionnaires
% poultry raw material imported	0%	Questionnaires
Industrial performance	0.65ton/1ton Considering Slaughterhouse: 61.5% of total industrial throughput	Source: http://www.latranqueraweb.com.ar/web/archivos/menu/POLLOS.pdf
No. Days primary production, slaughterhouse and canning plant	Primary: 0.67 JH/ton live weight Slaughterhouse: 0.24 JH/Ton alive Plant: 0.5 JH/ Ton canned	Tandogan, M; Cicek, H (2016) *Technical performance and cost analysis of broiler production in Türkiye*. Jan - Mar 2016 / v.18 / n.1 / 169-174. Arellano, G (2014) Production costs in broiler farms. Avinews Magazine November 2014. https://avinews.com/costes-de-produccion-en-granjas-de-broilers/
Producer price	USD2.07 per live kilo	estimated based on import and export prices of live broilers 2024
Cost of primary production (%)	54% (USD 1.11 / kg)	Same source

Table A2.3. Chickpea Input Variables, Value and Sources

Chickpea	VALUE	Source
% import per trader (peeled chickpea)	100% imported	Questionnaires
% unprocessed chickpea imports (industry)	40%	Questionnaires
Performance	1.27 MT/ha	National statistics
Variable production costs	USD 1.07/kg; USD 1,358/ha	Mevlut, G; Muammer, B; Bektas, K; Bekir Sitki, S (2022) *Cost and profitability of chickpea production in Usak province, Türkiye*. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development Vol. 22, Issue 1, 2022 Aybike, E; Mevlut, G (2018) Input usage and problems in chickpea production in Kutahya province, Türkiye. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development Vol. 18, Issue 2, 2018.
N° Days/ha	13.42 days/ha	Same source
Average area/producer	3.0	Estimate based on the sources mentioned above
Producer price	USD 1.1 /kg	Estimated based on: https://www.selinawamucii.com/insights/prices/Türkiye/chickpeas
Industrial performance	1.25 ton per peeled ton 80%	Questionnaires
Labor per ton of process (JH/ton)	0.1 JH/ton	Questionnaires

Table A2.4. Vegetable oil. Input variables, value and sources

VEGETABLE OIL	VALUE	Source
% imported oil (per trader)	0%	Questionnaires
% raw material imported (by agribusiness) Sunflower	66%	Questionnaires
Productive performance	2.6 MT/ha	National statistics

VEGETABLE OIL	VALUE	Source
Variable production cost	USD 487/ha 50,6%	Semerci, A; Durmus, E (2021) *Analysis of oily sunflower production in Türkiye*. Turkish Journal of Agriculture - Food Science and Technology, 9(1): 56-62, . Semerci, A; Yurt, I (2023) *Cost and gross profit analysis in oily Sunflower (Helianthus Annuus, L.) Production: the case of Canakkale province, Türkiye*. Custos e @gronegócio *on line* - v. 19, n. 3, Jul/Set - 2023.
N° Days/ha	2.85 days/ha	Same sources
Average area/producer	69 has	Same sources
Producer price	USD 0.37/kg	Same source (2)
Industrial performance	39%	Between 29-49% https://www.cookingoilmillmachinery.com/FAQ/how_much_oil_can_be_extracted_from_sunflower_seeds_364.html
N° Days / Ton oil	1.87JH/ton	Same source

TableA A2.5. Split peas. Input variables, value and sources

Split peas	VALUE	Source
% imported peas (per trader)	No traders	Questionnaires
% raw material imported (by agroindustry) Pea	100%	Questionnaires
Productive performance	Not applicable	
N° Days/ha	Not applicable	
Average area/producer	Not applicable	
Producer price	USD 304/MT	Questionnaires
Industrial performance	1.25ton/ton	Questionnaires
N° Days / Ton peas	0.075 JH/ton	Questionnaires

Table A2.6. Wheat flour. Input variables, value and sources

Wheat flour	VALUE	Source
% imported flour (per trader)	65%	Questionnaires
% raw material imported (by agribusiness) wheat	90%	Questionnaires

Wheat flour	VALUE	Source
Productive performance	2.99 ton/ha	National statistics
Variable costs	USD 591/ha 73%	Keskin, G (2023) *Production costs and land appraisal: a case study of Polath, Türkiye*. Ciência Rural, Santa Maria, v.53:1, e20210609, 2023.
N° Days/ha	1.5 JH/ha	Same source
Average area/producer	5.49 ha	Kan, M; Kucukcongar, M; Mourgounov, A; Keser, M; Ozdemir, F; Muminjanov, H; Qualset, C (2016) *Wheat landraces production on farm level in Türkiye: who is growing in where?* Pakistan Journal of Agricultural Research - April 2016
Producer price	USD 0.27/kg	Same source (1)
Industrial performance	1.4 ton/ton	Questionnaires
N° Days / Ton flour	0.00625 JH/ton	Questionnaires

Table A2.7. Bulgur. Input variables, value and sources

Bulgur	VALUE	Source
% imported bulgur (per trader)	There is no	Questionnaires
% raw material imported (by agribusiness) wheat	0%	Questionnaires
Productive performance	2.99 ton/ha	National statistics
Variable costs	USD 591/ha	Keskin, G (2023) *Production costs and land appraisal: a case study of Polath, Türkiye*. Ciência Rural, Santa Maria, v.53:1, e20210609, 2023.
N° Days/ha	1.5 JH/ha	Same source
Average area/producer	5.49 ha	Kan, M; Kucukcongar, M; Mourgounov, A; Keser, M; Ozdemir, F; Muminjanov, H; Qualset, C (2016) *Wheat landraces production on farm level in Türkiye: who is growing in where?* Pakistan Journal of Agricultural Research - April 2016
Producer price	USD 0.27/ka	First source mentioned
Industrial performance	1.37ton/ton	Questionnaires
No. Days / Ton bulgur	0.4 JH/ton	Questionnaires

Table A2.8. Processed tomato. Input variables, value and sources

Processed tomato	VALUE	Source
% imported processed (per trader)	0%	Questionnaires
% raw material imported (by agroindustry) tomato	No response yet. I would use 0%.	Questionnaires
Productive performance	82 ton/ha	National statistics
Variable costs	USD 7,859/ha 27%	Durmos, E; Semerci, A (2023) Input usage and cost analysis in table tomato production: Canakkale Province Türkiye example. Custos e @gronegócio *on line* - v. 19, n. 2, Apr/Jun - 2023. Keskin, G; Tatlidil, F; DEllal, I (2016) *An analysis on tomato production cost and labor forcé productivity on Türkiye*. Bulgarian Journal of Agricultural Science, 16 (No 6) 2010, 692-699.
N° Days/ha	112.3 JH/ha	Same sources
Average area/producer	3.5 ha	Estimated based on: https://www.tomatonews.com/en/a-partial-overview-of-the-turkish-industry_2_513.html#:~:text=Volumes%20of%20tomatoes%20processed%20by,produces%20approximately%20600%20000%20tonnes.
Producer price	USD 0.36/kg	https://www.statista.com/statistics/1422954/Türkiye-average-price-of-tomatoes/
Industrial performance	15%	Tapia, B (2013) The tomato paste industry. Oficina de Estudios y Políticas Agrarias. https://www.odepa.gob.cl/wp-content/uploads/2013/06/11024_ArtPastaTomate062013.pdf
N° Days / Ton processed	4.35 JH/Ton processed	Mateus, J (2003) Feasibility study for the production and commercialization of bulk tomato paste for industrial use. Thesis Universidad de los Andes, Colombia. https://repositorio.uniandes.edu.co/server/api/core/bitstreams/e7452989-3a16-41df-9ed2-19970f3bed00/content

ANNEX 3. LIST OF VENDORS CONTACTED

Table A3.1. List of vendors contacted according to type and number of surveys received.

Food	Nature vendor	Unique code vendor	Total surveys sent	Total surveys received
SPLIT PEAS	Manufacturer	50000655 50000659 No Code	3	3
	Trader	50000946 (and manufacturer)	1	1
BULGUR WHEAT	Manufacturer	50000655 (and trader) 50000659 (and trader)	2	2
	Trader	50001304	1	0
VEGETABLE OIL	Manufacturer	50000516 50055726 50062519 50071761 50074802	5	3
	Trader	50067242 50037930 50053246	3	3
CHICKPEAS	Manufacturer	50000655 (and trader) 50001830 (and trader) No Code	3	2
	Trader	50057504 50001304	2	1
WHEAT FLOUR	Manufacturer	50049105 50071389 50078504 50001071 50050502 50062482 50066251 50079361 50081989	9	5
	Trader	50067242 50001316	2	2
CANNED CHICKEN	Manufacturer	50000655 (and trader) 50000659 (and trader) 50001830 (and trader)	3	2
	Trader	50057504	1	1
PROCESSED TOMATO	Manufacturer	50000659 (and trader) 50001830 (and trader) 50078850	3	1
	Trader		0	0
		TOTAL	**38**	**26**

ANNEX 4. QUESTIONNAIRES

4.1. Wheat flour manufacturers questionnaire

1. Survey respondent name;
2. Please indicate in which link of the wheat flour production chain your company is located;
3. Of the wheat you purchased to produce the flour you last sold to WFP, what percentage of the volume came from imported wheat? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of wheat to produce the flour sold to the WFP comes from imports? (unit in percent);
5. Of the domestic purchase of wheat flour sell to WFP Do you purchase the wheat mainly from?;
5.1. What is the approximate size of the individual production of this wheat? (unit in area per farmer or in volume of production per farmer);
5.2. What approximate price was paid to farmers for their wheat (unit in TRY per tonne approx.);
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the wheat to produce this flour for the WFP?;
7. In your industrial process, what volume of wheat is required to produce one ton of flour (unit in ton)?
8. In your industrial process, to produce one ton of flour, How much hired labor is required? (unit in hours and/or in TRY per ton).

4.2. Wheat flour traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the wheat flour production chain your company is located
3. Of the wheat flour you last sold to WFP, what percentage of the volume was imported (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP was imported? (unit in percent);
5. Of the domestic purchase of wheat flour sell to WFP Do you primarily purchase the wheat flour you sell to the WFP from?
6. For what reason do you import part (or all) of the wheat flour?

4.3. Vegetable oil manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the vegetable oil production chain your company is located
3. What is the main raw material used to manufacture the oil
4. What is the proportion of sunflower used to make the oil? (unit in percent);

SECTION 1:

5. Of the sunflower you purchased to make the oil you last sold to WFP, How much volume came from imports? (unit in percentage of purchases);
6. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of sunflower to process to sold to the WFP came from imports? (unit in percent);
7. Of the domestic purchase of sunflower you sell to WFP Do you purchase the sunflower mainly from

7.1. What is the approximate size of the individual production of sunflower? (unit in area per farmer or in volume of production per farmer);
What approximate price was paid to farmers for sunflower (unit in TRY per tonne approx.); 7.3. What year was the payment made (indicate the year);
8. For what reason do you import part (or all) of the sunflower to produce this vegetable oil for the WFP?
9. In your industrial process, what volume sunflower is required to produce one ton of vegetable oil? (unit in ton);
10. In your industrial process, to produce one ton of vegetable oil, how much hired labor is required? (unit in hours and/or in TRY per ton);
SECTION 2
4. What is the proportion of soybean used to make the oil? (unit in percent);
5. Of the soybean you purchased to make the oil you last sold to WFP, How much volume came from imports? (unit in percentage of purchases);
6. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of soybean to process to sold to the WFP came from imports? (unit in percent);
7. Of the domestic purchase of soybean you sell to WFP Do you purchase the sunflower mainly from
7.1. What is the approximate size of the individual production of soybean? (unit in area per farmer or in volume of production per farmer);
7.2. What approximate price was paid to farmers for soybean (unit in TRY per tonne approx.);
7.3. What year was the payment made? (indicate the year);
8. For what reason do you import part (or all) of the soybean to produce this vegetable oil for the WFP?
9. In your industrial process, what volume soybean is required to produce one ton of vegetable oil? (unit in ton);
10. In your industrial process, to produce one ton of vegetable oil, how much hired labor is required? (unit in hours and/or in TRY per ton);
SECTION 3:
4. What is the proportion of palm oil used to make the oil (unit in percent);
5. Of the palm oil you purchased to make the oil you last sold to WFP, How much volume came from imports? (unit in percentage of purchases);
6. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of palm oil to process to sold to the WFP came from imports? (unit in percent);
7. Of the domestic purchase of palm oil you sell to WFP Do you purchase the sunflower mainly from
7.1. What is the approximate size of the individual production of palm oil (unit in area per farmer or in volume of production per farmer)?
7.2. What approximate price was paid to farmers for palm oil (unit in TRY per tonne approx.);
7.3. What year was the payment made? (indicate the year);
8. For what reason do you import part (or all) of the palm oil to produce this vegetable oil for the WFP?
9. In your industrial process, What volume palm oil is required to produce one ton of vegetable oil? (unit in ton);
10. In your industrial process, to produce one ton of vegetable oil, How much hired labor is required? (unit in hours and/or in TRY per ton);
SECTION 4:
4. What is the proportion of other raw material used to make the oil (%)?
5. Of the other raw material you purchased to make the oil you last sold to WFP, How much volume came from imports? (unit in percentage of purchases);

6. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of other raw material to process to sold to the WFP came from imports? (unit in percent);
7. Of the domestic purchase of other raw material you sell to WFP Do you purchase the sunflower mainly from
7.1. What is the approximate size of the individual production of other raw material (unit in area per farmer or in volume of production per farmer)?
7.2. What approximate price was paid to farmers for other raw material (unit in TRY per tonne approx.);
7.3. What year was the payment made? (indicate the year);
8. For what reason do you import part (or all) of the other raw material to produce this vegetable oil for the WFP?
9. In your industrial process, what volume other raw material is required to produce one ton of vegetable oil (unit in ton)?
10. In your industrial process, to produce one ton of vegetable oil, How much hired labor is required (unit in hours and/or in TRY per ton)?

4.4. Vegetable oil traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the vegetable oil production chain your company is located
3. What is the main ingredient of the vegetable oil you sell to WFP?
4. What is the proportion of the main ingredient of the vegetable oil you sell to WFP? (%)?;
5. Of the vegetable oil you last sold to WFP, what percentage of the volume was imported? (unit in percentage of purchases);
6. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP comes from imported product? (unit in percent);
7. Of the domestic purchase of vegetable oil you sell to WFP Do you purchase the vegetable oil mainly from
8. For what reason do you import part (or all) of the vegetable oil?

4.5. Chickpea manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the chickpea production chain your company is located
3. Of the product you purchased to produce chickpeas you last sold to WFP, How much volume came from imported chickpea? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of volume of the chickpea to produce the final product to the WFP comes from imports? (unit in percent);
5. Of the domestic purchase of chickpeas you sell to WFP, who are your main suppliers?
5.1. What is the approximate size of the individual production of this chickpea? (unit in area per farmer or in volume of production per farmer);
5.2. What approximate price was paid to farmers for their chickpea? (unit in TRY per tonne approx.);
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the agricultural raw material to produce this chickpea for the WFP?
7. In your industrial process, what volume of chickpea is required to produce one ton of processed chickpea (peeled chickpea)? (unit in ton);

8. In your industrial process, to produce one ton of peeled chickpea, how much hired labor is required (unit in hours and/or in TRY per ton)?

4.6. Chickpea traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the chickpea production chain your company is located
3. Of the chickpea you last sold to WFP, what percentage of the volume was imported (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP was imported? (unit in percent);
5. Of the domestic purchase of chickpeas you sell to WFP, who are your main suppliers?
5.1. What is the approximate size of the individual production of chickpea? (unit in area per farmer or in volume of production per farmer);
5.2. What approximate price was paid to farmers for their chickpeas? (unit in TRY per tonne approx.);
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the chickpea?

4.7. Canned chicken manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the canned chicken production chain your company is located
3. Of the chicken you purchased to produce the canned chicken you last sold to WFP, How much volume came from imported chicken? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of volume of the chicken to produce the canned chicken sold to the WFP comes from imports? (unit in percent);
5. Of the domestic purchase of canned chicken that you sell to WFP, who are your main suppliers?; 5.1. What is the approximate size of the individual production capacity of those farms?
5.2. What approximate price was paid to farmers for their birds? (TRY per tonne approx.)
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the chicken meet to produce canned chicken for the WFP?
7. In your industrial process, what volume of chicken is required to produce one ton of canned chicken (unit in ton)?
8. In your industrial process, to produce one ton of canned chicken, How much hired labor is required? (unit in hours and/or in TRY per ton)

4.8. Canned chicken traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the canned chicken production chain your company is located
3. Of the canned chicken you last sold to WFP, How much volume was imported? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP was imported? (unit in percent);

5. Of the domestic purchase of canned chicken that you sell to WFP, who are your main suppliers?;
6. For what reason do you import part (or all) of the canned chicken?

4.9. Bulgur wheat manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the bulgur wheat production chain your company is located
3. Of the wheat you purchased to produce the bulgur you last sold to WFP, How much volume came from imported wheat? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of wheat to produce bulgur sold to WFP comes from imports? (unit in percent);
5. From domestic wheat's purchase Do you purchase the wheat mainly from?
5.1. What is the approximate size of the individual production of this wheat? (unit in area per farmer or in volume of production per farmer);
5.2. What approximate price was paid to farmers for their wheat? (unit in TRY per tonne approx.);
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the wheat to produce this bulgur for the WFP?
7. In your industrial process, what volume of wheat is required to produce one ton of bulgur (unit in ton)?
8. In your industrial process, to produce one ton of bulgur, How much hired labor is required (unit in hours and/or in TRY per ton)?

4.10. Bulgur wheat traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the bulgur wheat production chain your company is located
3. Of the bulgur wheat you last sold to WFP, how much volume was imported (unit in percentage of purchases)?
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume of bulgur wheat sold annually to the WFP was imported? (unit in percent)
5. From domestic wheat' purchaise Do the bulgur wheat you sell to the WFP primarily purchase from?
5.1. What is the approximate size of the individual production of the bulgur wheat (unit in area per farmer or in volume of production per farmer)?
5.2. What approximate price was paid to farmers for their bulgur wheat (unit in TRY per tonne approx.)?
5.3. What year was the payment made (indicate the year)?
6. For what reason do you import part (or all) of the bulgur wheat?

4.11. Split pea manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the split pea production chain your company is located
3. Of the product you purchased to produce split peas you last sold to WFP, How much volume came from imported peas? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of peas to produce the final product to the WFP was imported? (unit in percent);
5. Of the domestic purchase of split pea you sell to WFP, Who are your main suppliers
5.1. What is the approximate size of the individual production of this pea? (unit in area per farmer or in volume of production per farmer);

5.2. What approximate price was paid to farmers for their peas? (unit in TRY per tonne approx.); 5.3;
6. For what reason do you import part (or all) of the agricultural raw material to produce this split pea for the WFP?
7. In your industrial process, what volume of peas is required to produce one ton of split pea (peeled and split pea)? (unit in ton);
8. In your industrial process, to produce one ton of split pea, How much hired labor is required (unit in hours and/or in TRY per ton)?

4.12. Split pea traders questionnaire

1. Survey respondent name
2. Please indicate in which link of the split pea production chain your company is located
3. Of the split pea you last sold to WFP, what percentage of the volume was imported? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP was imported? (unit in percent);
5. Of the domestic purchase of split pea you sell to WFP, Who are your main suppliers
5.1. What is the approximate size of the individual production of peas? (unit in area per farmer or in volume of production per farmer);
5.2. What approximate price was paid to farmers for their peas? (unit in TRY per tonne approx.); 5.3;
6. For what reason do you import part (or all) of the split pea?

4.13. Processed tomato manufacturers questionnaire

1. Survey respondent name
2. Please indicate in which link of the processed tomato production chain your company is located; 3. Of the tomato you purchased to make processed tomato you last sold to WFP, How much volume came from imported tomato? (unit in percentage of purchases);
4. Trying to estimate the last 10 years (since 2014) What average percentage of the volume of tomato to process to sold to the WFP came from imports? (unit in percent);
5. Of the domestic purchase of tomato you sell to WFP, who are your main suppliers?
5.1. In case you checked (a) and/or (b) in the previous question, what is the approximate size of the individual production of this tomato? (unit in area per farmer or in volume of production per farmer);
5.2. In case you checked (a) and/or (b) in the previous question What approximate price was paid to farmers for their tomato? (unit in TRY per tonne approx.);
5.3. What year was the payment made? (indicate the year);
6. For what reason do you import part (or all) of the tomato to produce this processed tomato for the WFP?
7. In your industrial process, what volume of tomato is required to produce one ton of processed tomato (unit in ton)?
8. In your industrial process, to produce one ton of processed tomato, How much hired labor is required? (unit in hours and/or in TRY per ton);
9. In your relationship with the farmers ¿Who supply you with tomatoes, do you develop technical programs, for example about smart agriculture?

4.14. Processed tomato traders questionnaire

1. Survey respondent name;
2. Please indicate in which link of the processed tomato production chain your company is located;
3. Of the processed tomato you last sold to WFP, what percentage of the volume was imported?
4. Trying to estimate the last 10 years (since 2014) What percentage of the volume sold annually to the WFP comes from imported product?
5. Of the domestic purchase of tomato you sell to WFP, who are your main suppliers?
6. For what reason do you import part (or all) of the processed tomato?

ANNEX 5. DATA BASE WITH THE ANSWERS OF THE SURVEYS APPLIED. EXCEL SPREADSHEET ATTACHED