



Revising the Food Basket & Minimum Expenditure Basket

Analysis to calculate a realistic cost of living for refugees in Turkey



In Partnership with
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BACKGROUND & INTRODUCTION

A Minimum Expenditure Basket (MEB) is defined as what a household requires in order to meet basic needs, on a regular or seasonal basis, and its average cost. This may be considered similar to a poverty line. As the World Bank Poverty Manual outlines, the starting point for establishing a poverty line is to value an explicit bundle of foods typically consumed by the poor at local prices and then add a specific allowance for non-food expenditures, consistent with the spending by the poor.¹ The following expenditure groups are generally considered within a MEB: food, rent, utilities (electricity, gas, water), non-food items (laundry detergent, dish soap, individual soap, sanitary napkins, disinfectant, shampoo and diapers), health, education, transportation and communication. These items may vary depending on the context.

As a starting point to calculate a MEB, WFP Turkey's (TRCO) VAM team constructed a list of needs for an average household. Please refer to Annex 1 for the full list of MEB contents and underlying assumptions. In order to calculate the cost of the MEB, WFP obtains prices for all MEB components using prices from the Turkish Statistical Institute (TurkStat). TurkStat provides regionally disaggregated Consumer Price Index (CPI)² data on a monthly basis. Thus, the availability of reliable, regional data allows for regular updates to the MEB. However, TurkStat data collection reflects the preferences of the average Turkish consumer; these tend to be higher quality brands and standards than those selected by refugees. This results in an unrealistically high refugee MEB. As the MEB is used to estimate the number of people who are poor, and is used to inform the cash transfer calculation of the Emergency Social Safety Net programme, these calculations have significant operational implications.

As expenditure data indicates that food is 30-40% of overall refugee household expenditure, an accurate food basket is an essential component of the MEB, which then serves as the basis for transfer value calculations.

WFP TRCO VAM has been using a regional referential food basket as the first step of construction of the MEB. This food basket was established to ensure country offices in the region provided consistent levels of food assistance (Table 1) However, it is important to note that this regional food basket was revised downward during a time of budget constraints. Due to this, the value of the food basket was lower than actual food expenditure of refugees.

This referential food basket has been used in many iterations of the MEB in Turkey. For example, the WFP VAM report Basic Needs Programming in Turkey, published in April 2016,³ and the Cash-Based Interventions Technical Working Group (CBI TWG) MEB, published in September 2016.⁴

Table 1: Regional Referential Food Basket

Commodity	Daily ration per person in gram	Daily kilocalorie*
Rice	150	540
Bulgur (wheat)	200	684
Pasta	50	186
Pulses	40	137
Sugar	30	116
Veg Oil	30	265
Salt	5	0
Poultry	30	65
Egg	20	29
Cheese	8	28
Cucumber	20	0
Total Kcal:		2050

*kcal figures from NutVal 4.0

This document serves to outline the methodology and results of revision to the food basket and MEB, in addition to the methods used to quantify the difference between TurkStat prices and refugee expenditure. WFP took these steps in an effort to make the refugee MEB in Turkey more accurate, and to better quantify unmet needs.

¹ <http://siteresources.worldbank.org/PGLP/Resources/PovertyManual.pdf>

² The Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. It is calculated by taking price changes for each item in the predetermined basket of goods and averaging them. Changes in the CPI are used to assess price changes associated with the cost of living; the CPI is one of the most frequently used statistics for identifying periods of inflation or deflation.

³ <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp284420.pdf>

⁴ <http://www.cashlearning.org/downloads/meb-for-syrians-living-in-turkey---final-report.pdf>

DATA SOURCES

In order to revise the MEB, the TRCO VAM staff used the following categories of information:

- Food consumption patterns
- Non-food needs: commodities and quantities
- Actual local food prices
- Target group expenditure patterns

Accordingly, WFP consulted the following five key data sources in the revision of the Minimum Expenditure Basket for refugees in Turkey:

1) Lebanon Itemised Receipts

In WFP's electronic voucher programme in Lebanon, retailers provide itemised receipts which detail the purchases made by beneficiary households. This data was used to correct the flawed assumptions in the regional referential food basket, and understand more realistic purchases of Syrian refugee households, thereby contributing to a more accurate food basket. Specifically, the WFP HQ VAM team cleaned and provided the itemised receipt data in March 2017 for households of six members, including only those who had spent at least 80% of their monthly entitlement. To define the baskets, colleagues in the Supply Chain Retail Unit categorised food products into sub-categories. At the time of analysis, the categorisation was not yet complete, so the analysis only considered those households where a minimum of 60% of items had been categorised. This data was verified using Turkey survey data to check consistency of food consumption habits of refugees in Lebanon and Turkey.

2) Comprehensive Vulnerability Monitoring Exercise

WFP TRCO VAM conducted a refugee household survey, the Comprehensive Vulnerability Monitoring Exercise (CVME), in May-September 2017. The CVME contains a detailed food expenditure module, including ten different food groups. Using this dataset, WFP TRCO VAM Team analysed food consumption data and monthly expenditure data. The food consumption data was used to understand actual consumption patterns of refugees in Turkey. Essentially, the CVME expenditure data allowed insight into which foods refugees spend money on, in comparison to the Lebanon receipt data. WFP only considered those households with an acceptable Food Consumption Score in the analysis of diets of refugees in Turkey.

The CVME expenditure data was also used to understand values of expenditure in local currency across food groups, and to calculate expenditure shares across different categories (for example, rent, food, utilities) – used in refining the revised MEB.

3) Pre-Assistance Baseline

WFP and the Turkish Red Crescent (TRC) conducted a large Pre-Assistance Baseline (PAB) survey for the ESSN programme in February-May 2017. The expenditure module of this dataset was used to compare and validate the line item shares within the MEB against actual expenditure shares.

4) Post-Distribution Monitoring

Following the PAB survey and subsequent distribution of assistance, WFP and TRC conducted a Post-Distribution Monitoring survey for the ESSN programme from August to October 2017. The expenditure module of this dataset was used to compare and validate the line item shares within the MEB against actual expenditure shares.

5) NutVal Database

The global NutVal database (version 4.1) was consulted to adjust the contents of the revised food basket, ensuring it provided sufficient kilocalories (2,100 per person), and protein/fat (10% and 17%, respectively, according to Sphere standards).

METHODOLOGY

The first step in the analysis was revision of the food basket. The revised food basket was then slotted into the existing MEB calculations. The MEB then had to be adjusted to ensure the proportions of different items reflected actual expenditure shares. A final step in the revisions is quantification of the difference between the TurkStat prices and the refugee prices, in an effort to scale down the MEB to a more realistic representation of refugee purchasing patterns. A summary of the analytical steps is presented below:

STEP 1: Revising the Food Basket:

- 1) Select all food items purchased by a minimum of 10% of Lebanon beneficiaries
- 2) Compare selected Lebanon items with refugees in Turkey food consumption (CVME FCS data); remove Lebanon items not frequently consumed in Turkey (fewer than 2 days per week).
- 3) Verify all commodities included in basket are reported as consumed (CVME FCS data) and included in consumption expenditure (CVME consumption expenditure module).
- 4) Insert revised food basket commodities into NutVal to ensure sufficient kilocalories and appropriate balance of macronutrients. Adjust quantities (grams per day) to meet nutritional requirements.

STEP 2: Revising the Minimum Expenditure Basket

- 1) Cost food basket using prices from TurkStat
- 2) Insert revised food basket value (in Turkish Lira) into existing Minimum Expenditure Basket calculations.⁵
- 3) Compare MEB figure with expenditure data (per capita for households size 6) from CVME, PAB and PDM datasets.
- 4) Compare expenditure shares with CVME, PAB and PDM.

STEP 3: Quantifying price differences: TurkStat versus refugee purchasing patterns

- 1) Select only “non-poor” six person households within the PAB dataset. Non-poor is operationally defined by outcome indicators – those who do not use negative livelihoods coping strategies, who have acceptable food consumption, and who have low reduced Coping Strategy Index (rCSI).
- 2) Compare PAB actual expenditure of “non-poor” households with TurkStat MEB prices in June, and check percentage difference.
- 3) Check same expenditure differences for all PAB households to understand if results are sensitive to specific decisions made in analysis.

⁵ The detailed information on the construction of the Minimum Expenditure Basket is available in Q1 2017 ESSN Market Bulletin. The MEB assumptions can be found in annex 1.

RESULTS

STEP 1: Revising the Food Basket

The analysis of the Lebanon itemised receipts and comparison with the Turkey CVME food consumption data revealed significant overlap between the food consumption patterns of the refugee populations in the two countries. Some commodities were purchased more frequently in Lebanon (such as chickpeas and poultry) but not frequently consumed in Turkey; these were excluded from the food basket. Refer to Annex 2 for the details of the comparison. The frequency of food consumed by households, grouped by Food Consumption Groups, can also be found in Annex 3.

These results and comparisons resulted in revisions to the food basket (refer to Table 2). Key differences include the addition of bread as a major source of calories, and a reduction in rice and bulgur. The edits have resulted in a diversified food basket which reflects the actual preferences and expenditure patterns of refugees in Turkey.

Table 2: Regional Referential Food Basket and Revised Turkey Food Basket

Commodity	Old Referential Food Basket		Revised Turkey Food Basket	
	Daily ration per person in gram	Daily kilocalorie*	Daily ration per person in gram	Daily kilocalorie*
Rice, White, Medium Grain	150	540	100	360
Bulgur Wheat	200	684	50	171
Pasta	50	186	0	0
Egg, Whole, Chicken, Fresh	20	29	70	100
Poultry	30	65	0	0
Beans, Dried	40	137	50	170
Cucumber	20	0	30	0
Cheese, Canned	8	28	50	178
Sugar	30	116	50	194
Oil, Sunflower, Unfortified	30	265	25	221
Salt, Iodised	5	0	5	0
Bread Made From Wheat	0	0	250	675
Yoghurt, Whole Milk (Leban)	0	0	50	31
Tomatoes, Red, Ripe	0	0	30	5
Tea, Black, Nutrients Per 100 ML of Brewed Tea	0	0	5	0
Total Kcal:		2,050	Total Kcal:	2,104

*kcal figures from NutVal 4.0

STEP 2: Revising the Minimum Expenditure Basket

Using TurkStat September 2017 prices, the updated food basket costs 139 TL per person per month. This is in comparison to the previous basket which is 91 TL per month, also using the September 2017 prices. In order to verify this amount, food expenditure data for only non-poor households with six members was extracted for both the PAB and CVME surveys.

The results, displayed in Table 3, are affected by the design of the expenditure modules and inflation. The PAB asks only 'food expenditure' as one category, while the CVME asks for expenditure on 10 different food items. As a result, the CVME average expenditure is higher. In addition, food inflation was particularly high in Turkey in 2017 (close to 14% annual inflation); the PAB data was collected from February-May, the CVME was collected May-August, the PDM collected July-September, and the MEB uses September figures. These timing differences likely have some implication on the results, given the inflation rates.

Table 3: Per capita food expenditure by survey

Data Source	Food expenditure (TL) per capita, 6 pp HH
TurkStat	139
PAB	102
CVME	157
PDM	131

However, the MEB figure sits squarely in between these three expenditure values, which helps to validate the 139 TL. In comparison, the previous referential food basket figure of 91 TL was far below even the PAB expenditure data.

Table 4: Expenditure Shares by Survey

Expenditure Shares				
Commodity/Service	PAB	CVME	PDM	MEB
Food	39%	47%	37%	38%
Rent	25%	22%	25%	32%
Utilities	8%	7%	7%	7%
Health	3%	2%	3%	3%
Hygiene	5%	3%	5%	9%
Education	2%	1%	2%	2%
Water	3%	3%	4%	4%
Debt	2%	2%	3%	
Communication	2%	2%	2%	2%
Transport	4%	4%	4%	3%
Social	0%	0%	1%	
Other	5%	6%	6%	

Once validated, the revised food basket cost of 139 TL was inserted into the MEB. To ensure the MEB reflects actual expenditure patterns, the shares of different line items were then compared to the expenditure shares from the same surveys as mentioned. As noted above, the expenditure shares are affected by the design of the module, which is a reason that the CVME food share is higher than other surveys. While the rent and hygiene shares are slightly higher in the MEB, in general the comparison shows that the MEB with the revised food basket is overall aligned with the expenditure shares, helping to validate the model.

The revised MEB figure for September 2017, including the updated food basket, is therefore 2,187 TL for a household size 6, or 364 TL per capita. The following step allows us to scale down the TurkStat figure to be more aligned with refugee actual expenditure decisions.

STEP 3: Quantifying the Difference

As noted above, TurkStat collects prices of commodities and services which reflect the preferences and purchasing patterns of average Turkish households. As refugee budgets are more constrained than the average Turkish household, they often purchase lower quality brands and cheaper items. This methodological difference means that the TurkStat MEB is higher than a true refugee MEB would be. The expenditure data was again used to quantify the difference.

As explained above, expenditure of “non-poor” households was used as a proxy for an MEB in reality. The assumption is that if these households all have positive outcomes, their expenditure is likely sufficient to meet their basic needs. As noted above, these results are also cross-checked with the expenditure of all households within the dataset to verify if the results are sensitive to decisions made in the analysis. The TurkStat MEB from June 2017 was used, as this is the time period closest to the end of the PAB data collection (which is slightly lower than the September 2017 figure of 364 TL noted above).

Table 5: TurkStat prices vs. Pre-Assistance Baseline expenditure by category

Category	TurkStat prices: June 2017	PAB “non-poor” household expenditure	Difference	PAB all household expenditure	Difference
Rent	680.9	432.8	57%	427.3	59%
Per capita food	136.3	113.9	20%	107.7	27%
Total household expenditure / MEB	2135.6	1752.8	22%	1716.6	24%
Per capita expenditure	355.9	292.0	22%	286.2	24%

The results demonstrate that there is a 22% difference between the baseline ‘non-poor’ per capita expenditure, and the comparable MEB figure. When comparing to all households (to check the significance of the analytical decisions), the results show a 24% difference – this is positive, as less sensitivity to these analytical decisions/assumptions is better. Therefore, the figure of 22% is used to scale down the MEB.

Therefore, through the revisions to the food basket, the September MEB cost 2,187 TL for a household size 6, or 364 TL per capita. However, following the expenditure analysis to ensure the MEB reflects actual expenditure decisions, the final deflated MEB figure for September 2017 is therefore 1,706TL for a household size 6, or 284TL per capita.

CONCLUSION & IMPLICATIONS

This analysis was prepared to correct two fundamental problems with the MEB in Turkey; (1) the food basket value was too low and did not reflect actual refugee purchasing decisions; and (2) the TurkStat values used to regularly update the MEB are too high, as they reflect the preferences of average Turkish consumers.

The revised MEB allows for more accurate understanding of needs of refugees within the Turkish context. The MEB is designed for a technical purpose – to allow for understanding of needs of the refugees and calculate a transfer value; i.e. the gap between refugees' income and their needs.

Therefore, the assumptions which feed into the design of the MEB should be set from a technical perspective; analysts must strive to minimise the political or financial influences on the contents of the MEB. Of course, this is often difficult in practice, as different actors have incentives to include various goods and services. Or, as in this case, funding constraints may influence decisions at higher levels. WFP in Turkey was fortunate to have access to various refugee datasets, including data from Lebanon, which provided the evidence required to correct the existing problems. Wherever possible, evidence from multiple datasets should be utilised to justify assumptions and analytical decisions which have implications for the MEB.

This is not simply an analytical exercise; these decisions can have important programmatic implications. For example, consider the application of the two September figures noted above: 364 TL per capita and the 284 TL per capita, deflated to reflect actual expenditure decisions. In both the PDM and the CVME dataset, 66% of respondents spend less than the 364 TL per person per month, and therefore would be classified as poor. However, in both datasets, this figure drops to 43% when we use the 284 TL figure. In September 2017, there were 2.98 million registered Syrian refugees in Turkey. 63% is equal to 1.88 million, whereas 43% is equal to 1.28 million – a difference of 600,000 people. As VAM results are often used directly to design and adjust programmes, this example highlights the programmatic and financial importance of these analytical decisions.



ANNEXES

Annex 1: MEB Detailed Assumptions aligned with TurkStat data categories

MEB: Household Size 6			
Sector	Assumptions	Items	Quantity
Education	2 school aged kids per household	Notebook	2
		Pencil	2
		Other stationery	2
Food	Average family size is 6 and quantity is daily in grams.	Rice	100 gr
		Bulgur	50 gr
		Bread	250 gr
		Yoghurt	50 gr
		White cheese	50 gr
		Eggs	70 gr
		Sun-flower oil	25 gr
		Tomato	30 gr
		Cucumber	30 gr
		Beans	50 gr
		Sugar	50 gr
		Salt	5 gr
		Tea	5 gr
Health	3x visits per month and buy medicine during each visit	Visits and medicine	3
Shelter / BN	2+1; 3+1 apartments with natural gas or woodstove	Rent	1
	1 per household – 12L	Tube Gas	1
	2500 kWh per year	Electricity	2500/12 kWh
WASH	3600 L (per capita); 21600 L (6 people household)	Water Supply	120-150 L per day
	1 roll per person per week – Half price (cheaper brands)	Toilet Paper	24 Rolls
	2 kids with no teeth, 2 kids with teeth and 2 adults - Half price (cheaper brands)	Dental Hygiene Articles	1 Toothpaste + 4 Toothbrush
		Laundry detergent	1.5 kg
		Liquid Dishes detergent	0.75 L
		Hygiene Pad for Women	3 packets of 10 pads per packet
		Individual soap (bath soap)	12 pieces of 125g
		Disinfectant /Cleaning fluid	0.5 L
		Hair Care Products/Shampoo	0.65 L
	1 baby + 1 toddler (6 changes per day for the baby and 4 changes per day for the toddler => 300 changes per month) - Half price (cheaper brands)	Diapers	300
	2 men	Shaving Articles	2
Transport & Communication	32 bus rides = 3 round trips *2 for man + 1 round trip*2 for woman	Transport	32
	1 mobile phone per household	Communication	Monthly Package

Annex 2: Lebanon Itemised Receipts & Turkey CVME Data Comparison

Results: Lebanon Itemised Receipts & Turkey CVME Data		
Food Item	% HHs purchasing (Lebanon, itemised receipts)	Average Days Consumed (Turkey, CVME)
Bread Made From Wheat	35%	6.9
Rice, White, Medium Grain	21%	6.9
Bulgur Wheat	68%	6.9
Egg, Whole, Chicken, Fresh	37%	4.8
Beans, Dried	58%	1.9
Cheese, Canned	86%	5.4
Yoghurt, Whole Milk (Leban)	86%	5.4
Tomatoes, Red, Ripe	80%	5.3
Cucumber	80%	5.3
Oil, Sunflower,	86%	6.7
Salt,	35%	6.9
Tea, Black,	87%	6.9
Canned Vegetables	18%	5.3
Chickpeas	47%	1.9
Lentils	32%	1.9
Canned Meat	37%	0.9
Poultry	47%	0.9
Milk Powder	44%	5.4
Canned Fish	43%	0.1

Annex 3: Frequency of Food Groups Consumed by Food Consumption Groups

Food Consumption Days per week (CVME data)

Food Groups		Poor	Borderline	Acceptable
Cereals & Tubers		6.1	6.8	6.9
	<i>Cereals, grains</i>	6.1	6.4	6.0
	<i>Tubers</i>	0.0	1.6	3.0
Pulses, nuts		1.1	1.2	1.9
Milk & dairy products		0.1	1.2	5.4
Meat, fish, eggs		0.0	1.3	4.9
	<i>Flesh meat</i>	0.0	0.1	0.9
	<i>Liver, organ meat</i>	0.0	0.0	0.3
	<i>Eggs</i>	0.0	1.2	4.8
	<i>Fish</i>	0.0	0.0	0.1
Vegetables		0.4	3.1	5.3
	<i>Green leafy vegetables</i>	0.4	1.9	2.6
	<i>Vit A rich vegetables</i>	0.0	0.6	1.8
Fruits		0.0	0.5	2.2
	<i>Vit A rich fruits</i>	0.0	0.4	1.4
Sugar		5.0	5.2	6.6
Fat/oil		5.0	6.8	6.7
Condiments		5.0	6.7	6.9

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