

Fortification Rapid Assessment Tool (FRAT)

The FRAT survey was carried out to gather information about the availability and consumption of centrally processed foods in Malawi. Foods investigated included centrally processed wheat flour, maize flour, sugar, and cooking oil.

1 Demographics

The survey included adult men (20-55), women of reproductive age (15-49) and children 6-59 months of age. Responses were obtained from 173 men, 234 women, and 166 children. Respondents lived in households with an average of 5.0 members. The average age of male respondents was 33.2 years, of female respondents was 30.6 years, and of children was 32.6 months. The child respondent group was 51% male and 49% female; approximately the distribution expected from the random sampling of respondents.

2 Standard Consumption

For the purposes of the survey, respondents were asked to describe their food consumption either the prior day or on a typical day. Overall, 79% of men, 69% of women, and 72% of children reported their intake of food the prior day was typical. The remaining respondents reported unusual intake the prior day, but were asked to answer consumption questions as if food intake had been typical.

Although respondents were asked whether they had consumed each staple the prior day via a simple yes/no recall, based on experience in other FRAT surveys, this self-reporting was judged less accurate than an analysis of the ingredients in specific foods respondents reported consuming the prior day. As a result, the latter approach was used to determine the fraction of respondents consuming each staple (see table 1).

Table 1: Respondents Reporting Consumption Prior Day

Centrally Processed Food	Men n = 173	Women n = 234	Children Under Five n = 166
Cooking Oil	61%	53%	57%
Wheat Flour	33%	17%	26%
Sugar	55%	58%	61%
Maize Flour	7%	4%	7%
Complementary Food			4%

*National figures calculated from regional totals weighted to account for survey design.

The distribution of amount eaten among those who reported consumption was calculated for each group and each staple. Due to a limited number of responses

(n = 6), the results for complementary food are omitted. For the same reason, results for maize flour should be considered directional only (see table 2).

Table 2: Average and Distribution of Reported Consumption

Centrally Processed Food	Men				Women				Children Under Five			
	n	Amount (g)			n	Amount (g)			n	Amount (g)		
		Av g	5%	95%		Avg	5%	95%		Av g	5%	95%
Cooking Oil	103	11	2	37	125	23	5	49	102	7	1	19
Wheat Flour	51	69	12	142	38	147	25	294	50	47	10	99
Sugar	103	33	11	73	138	35	10	88	110	21	6	43
Maize Flour	17	164	46	409	13	442	111	383	20	131	43	307

*National figures calculated from regional totals weighted to account for survey design.
 **Figures in 5% and 95% columns are consumption percentiles: 5% and 95% of respondents, respectively, reported consuming up to that amount (g) of food.

In general, the neither the fraction of respondents consuming a given food during the prior week nor the average number of times a given food was consumed varied significantly across respondent groups. The exception is the large difference observed between men and women in terms of amount of cooking oil consumed (see table 3).

Table 3: Reported Frequency of Consumption Prior Week

Centrally Processed Food	Men n = 173		Women n = 234		Children Under Five n = 166	
	Consumed prior week	Avg days consumed	Consumed prior week	Avg days consumed	Consumed prior week	Avg days consumed
Cooking Oil	73%	3.5	51%	2.4	61%	2.6
Wheat Flour	49%	1.6	40%	1.2	55%	1.3
Sugar	76%	3.4	70%	3.5	75%	3.3
Maize Flour	9%	0.4	5%	0.3	9%	0.4

*National figures calculated from regional totals weighted to account for survey design.

Very few respondents reported consuming any of the staple foods solely during the rainy season. The fact that this behavior was reported most frequently for centrally processed maize flour may reflect that, during the rainy season, it serves as a substitute for locally processed maize for some segments of the population (see table 4).

Table 4: Reported Consumption Seasonality

Centrally Processed Food	Men n = 173	Women n = 234	Children Under Five n = 166
Cooking Oil			
All seasons	59%	41%	41%
Harvest seasons	22%	13%	26%
Rainy season only	1%	0%	0%
Other / No response	18%	46%	33%
Wheat Flour			
All seasons	39%	35%	33%
Harvest seasons	21%	14%	21%
Rainy season only	0%	1%	2%
Other / No response	40%	50%	44%
Sugar			
All seasons	53%	55%	49%
Harvest seasons	27%	22%	29%
Rainy season only	0%	2%	1%
Other / No response	20%	21%	21%
Maize Flour			
All seasons	4%	6%	6%
Harvest seasons	3%	5%	6%
Rainy season only	16%	9%	8%
Other / No response	77%	80%	80%
*National figures calculated from regional totals weighted to account for survey design.			

3 Household Consumption Patterns

In addition to questions about consumption, women (typically the primary cooks) were asked a series of additional questions about their households' use of the target staple foods.

Of the women queried, 75% reported usual use of cooking oil, while 22% cited lack of money as the main reason preventing usual use. Oil from a container (Oyeza) and Kazinga were the two most-cited types in use (see table 5).

Table 5: Reported Cooking Oil Usage by Brand

Brand of Centrally Processed Cooking Oil	Fraction Usually Using Oil n = 185
From container (Oyeza)	44%
Kazinga (fortified)	43%
Repackaged/No brand name/Sausage	4%
Kukoma	3%
All others	6%
*National figures calculated from regional totals weighted to account for survey design.	

In addition to the brand of cooking oil purchased, women were asked about how the oil was stored in the home. 27% reported leaving the oil in the container in which it was purchased; only 2% reported using a covered tin, which would protect against sunlight and air (see table 6).

Table 6: Reported Oil Storage Method

Type of Storage Employed	Fraction of Respondents n = 234
Same bottle in which purchased	27%
Same sachet in which purchased	16%
Improvised bottle	24%
Tin with lid	2%
Other	8%
No response	23%
*National figures calculated from regional totals weighted to account for survey design.	

Women were also asked about the presence of centrally processed wheat flour in the home; only 5% reported having wheat flour on hand at the time of the survey. Relative brand popularity was not calculated for wheat flour due to the limited number of responses recorded (n = 15).

For sugar, 78% of women reported usual use while 5% cited lack of money as the main impediment to usual use. When asked about the presence of sugar in the home, 56% reported it was usually in the house the entire year while 20% reported it was usually present only during harvest seasons. The most frequently reported types were Illovo, and loose from a sack (Oyeza; see table 7).

Table 7: Reported Sugar Usage by Brand

Brand of Centrally Processed Sugar	Fraction Usually Using Sugar n = 189
Illovo	73%
Loose from open sack (Oyeza)	24%
Repackaged/No brand name	2%
All others	1%
*National figures calculated from regional totals weighted to account for survey design.	

In addition to the brand of sugar purchased, women were asked about how the sugar was stored in the home. The most common response was that the sugar was stored in the plastic bags in which it was purchased, however 20% report using a covered tin, which would protect against sunlight and air (see table 8).

Table 8: Reported Sugar Storage Method

Type of Storage Employed	Fraction of Respondents n = 234
Factory plastic bag	49%
Container with lid	20%
Container without lid	3%
Other	7%
No response	21%
*National figures calculated from regional totals weighted to account for survey design.	

Only 4 women (~1%) reported purchasing pre-processed maize flour, while 95% reported processing maize in local hammer mills. Due to the limited number (n = 4) of women reporting purchase of maize flour relative brand preference was not calculated.

Women were also asked about the frequency of purchase of the different staple foods, with the exception of wheat flour. Purchase frequency was not calculated for maize flour due to the limited number (n = 4) of women reporting purchase. Responses for cooking oil and sugar show that most households purchase these products weekly if not more often (see table 9).

Table 9: Reported Purchase Frequency

Purchase Frequency	Cooking Oil n = 234	Sugar n = 234
Everyday	15%	18%
Every other day	20%	17%
Once a week	14%	20%
Every two weeks	7%	6%
Once a month	13%	12%
Other / No response	31%	27%
*National figures calculated from regional totals weighted to account for survey design.		

The type of pot used for food preparation was also ascertained as part of the survey. Aluminum was by far the most common type reported (69%), while only 11% reported use of iron pots, which could potentially increase iron intake (see table 10).

Table 10: Reported Cooking Pot Usage by Type

Type of Cooking Pot Used	Fraction of Respondents n = 234
Aluminum	69%
Iron	11%
Stainless Steel	11%
Clay	1%
Other / Don't know	1%
No Response	7%
*National figures calculated from regional totals weighted to account for survey design.	