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Nutrition-Sensitive Food Distribution Amidst Inflationary Shock

Evidence from a Randomized Intervention in Egypt

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ABSTRACT

We evaluate the impacts of a traditional food distribution and a nutrition-sensitive food distribution intervention in the context of a rapidly increasing inflationary pressure in Egypt. Besides evaluating the relative and absolute impacts of these interventions on household food and nutrition security, we also examine their impacts on households' preferences for in-kind versus cash transfers. We implement a clustered randomized control trial through which we randomly assigned communities into: (i) "nutrition-sensitive" food box, (ii) traditional "staple-heavy" food box, and (iii) control group. We find that the nutrition-sensitive food distribution cushioned falls in dietary quality and food security of targeted households relative to the control group while the impact of the traditional and staple-heavy food distribution appears to be negligible. The nutrition-sensitive food boxes increased beneficiary households' dietary diversity by about 9 percent while also increasing energy, protein, and iron intake by 12, 13, and 19 percent, respectively. We also find that experience with the food boxes increases households' preference for in-kind transfers, more so among households experiencing high inflation rates and among those households not covered by other food and cash transfer programs. Receiving food boxes increases preference for in-kind transfer by about 9-11 percentage points. Our findings have important implications for the debate on the efficacy of alternative interventions to support poor households as food prices rise and the relative efficacy of in-kind and cash-transfers. The lack of effectiveness of the staple-heavy food boxes suggests that the design and content of in-kind transfers are crucial when considering this policy option, including compared to cash.

Keywords: Nutrition-sensitive, in-kind transfers, food security, inflation.

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1. Introduction

The rise in global food prices in 2021-2023 triggered a major expansion of in-kind as well as cash-based social protection programs, and has brought additional urgency to understanding the effectiveness of in-kind transfers to support both household food security and nutritional needs. In response to the inflationary shock triggered by the Russian-Ukraine war, 178 countries announced or implemented 1,333 initiatives and responses between December 2022 and May 2023 (Gentilini *et al.*, 2023). In-kind transfers and food distribution programs remain important components of social safety nets in both high-and low-income countries, and in-kind transfers continue to reach more people than cash transfers (Gentilini *et al.*, 2023). In particular, during periods of high inflation, beneficiaries in inflationary environments strongly prefer the certainty of in-kind benefits (e.g., Hirvonen and Hoddinott, 2021; Berkouwer *et al.*, 2021). Yet, economists have generally been skeptical of in-kind transfers, partly due to high administrative costs, but also because of their distortionary impact on household consumption (Currie and Gahvari, 2008; Cunha, 2014; Hidrobo *et al.*, 2014; Gentilini, 2016; Aker, 2017; Alderman *et al.*, 2017; Hoddinott *et al.*, 2018; Schwab, 2020; Hirvonen and Hoddinott, 2021).

Distortionary impacts caused by in-kind transfers of calorie dense staple food items are major challenges in the 38% of low-and-middle-income countries such as Egypt which suffer from a double burden of malnutrition characterized by high rate of under-nutrition (stunting, micronutrient deficiencies) coinciding with high rates of over-nutrition (Popkin *et al.*, 2020). Indeed, previous studies suggests that diet choices in Egypt have already been distorted due to national subsidy programs for bread, rice, oil, and sugar (Ecker *et al.*, 2016). Egypt has an estimated childhood stunting rate of 22.3% (United Nations Children's Fund (UNICEF) *et al.*, 2021) and obesity rate of 29.5% in males and 49.5% in females (Aboulghate *et al.*, 2021). Iron-deficiency anemia is also a significant public health problem in Egypt, with a prevalence of 47.2% in mothers and 39.6% in preschool children (Tawfik *et al.*, 2015). The economics consequences of lowered productivity due to the double burden of nutrition are significant (e.g., Shekar and Popkin, 2020). In Egypt, the cost of burden of obesity has been estimated at 62 billion EGP annually and the present value total cost of anemia has been estimated to be 2.4% of GDP (Horton and Ross, 2003).

The degree to which in-kind transfers change household dietary quality depends on the transfer design and context. Evidence from Ecuador, Mexico and Yemen show that compared to equivalently valued cash, in-kind transfers or subsidies of staple foods result in less diverse diets (Hidrobo *et al.*, 2014; Cunha, 2014; Schwab, 2020) while voucher programs in Niger and Bangladesh showed increases in dietary diversity and linear growth for children (Hoddinott *et al.*, 2018; Hoddinott et al., 2020). However, evidence on optimal design of interventions to address food insecurity in the context of a double burden of malnutrition is lacking (Nunget et al., 2020). Most studies on the role of in-kind food transfers to mitigate the adverse impact of shocks come from evaluations of the Supplemental Nutrition Assistance Program (SNAP) in the United States (e.g., Swann, 2017; Schanzenbach, 2023; Restrepo, 2023). The lack of evidence on design impacts on nutrition outcomes is particularly urgent the case in the Middle East North Africa (MENA) region, where in-kind food distribution and subsidies are cornerstones of the social contract between states and societies (El-Haddad, 2020; Breisinger *et al*., 2023).

The increase in the use of in-kind benefits in inflationary contexts after the Russia-Ukraine war has also brought renewed attention to the longstanding debate on the choice between cash and in-kind transfers (e.g., Currie and Gahvari, 2008; Cunha, 2014; Hidrobo *et al.*, 2014; Gentilini, 2016; Aker, 2017; Alderman *et al.*, 2017; Hoddinott *et al.*, 2018; Schwab, 2020; Hirvonen and Hoddinott, 2021). Although several countries have introduced major public policy measures in response to the inflationary shock triggered by the Russian-Ukraine war, empirical evidence on their effectiveness has yet to come (Gentilini *et al*., 2023).

In this paper, we evaluate the absolute as well as relative impacts of direct distribution of a standard "staple-heavy" food basket and an updated "nutrition-sensitive" food basket on a range of outcomes, including household food and nutrition security, and preferences for cash versus in-kind transfers. The "nutrition sensitive" food box responds to the micronutrient deficiencies and lack of sufficient healthy diets in Egypt (e.g., Ecker *et al.*, 2016; MOHP, NNI, UNICEF, 2017) by including more diverse and nutrient dense food items designed to meet the individual micro and macro-nutrients including carbohydrates, fats, proteins, vitamins and minerals.

The context we implement these alternative food distribution interventions also allows us to specifically address the use of in-kind transfers in inflationary contexts to support food security. Since the outbreak of the Russia-Ukraine war, food inflation in Egypt tripled from about 20 percent in February 2022 to about 63 percent in February 2023 (CBE, 2023). Besides quantifying the

impact of these alternative variants of food distribution interventions on households' food and nutrition security, we also evaluate whether access to these food boxes and exposure to the inflationary shocks shape households' preferences for in-kind versus cash transfers.

We implement a clustered randomized control trial approach at the village level. We randomly assigned communities to: (i) "nutrition-sensitive" food box, (ii) "staple-heavy" food box, and (iii) control group. We evaluate impacts on dietary quality and dietary intake indicators as well as perceived food insecurity experience as measured by the Food Insecurity Experience Scale (FIES). We also evaluate the impact of joint exposure to the food baskets and inflationary shocks on households' preference for in-kind and cash transfers. We finally explore potential heterogeneous impacts across various types of households.

We find that the nutrition-sensitive food distribution cushions declines in dietary quality and food security observed in the control group in the inflationary context while the staple-heavy food box does not significantly protect ultra-poor households' food and nutrition security. The nutrition-sensitive food box increases household dietary diversity by about 9 percent, while also increasing energy, protein, and iron intake by 12, 13, and 19 percent, respectively. On the other hand, the staple-heavy food box does not significantly increase macro and micro-nutrient intake. We also find that experience with the food boxes increases households' preference for in-kind transfers, more so among households experiencing high inflation rates and among those households not covered by other food and cash transfer programs.

Our findings have important implications for the design of interventions to cushion inflationary pressure and protect household food security. Our study provides rigorous empirical evidence that a well-designed and nutrition-sensitive in-kind food transfer can effectively cushion the adverse of impact of inflationary shock on dietary quality and food security. The lack of effectiveness of the staple-heavy food boxes suggests that the design and content of in-kind transfers are crucial when considering this policy option. Finally, our findings show that access to nutrition-sensitive in-kind transfers can shape consumers' preferences for in-kind versus cash transfers. Indeed, the results show that the nutrition-sensitive food boxes are not only more effective in improving dietary quality, but they also increased households' preference for in-kind transfers over cash transfers. These additional insights on beneficiary preferences are important inputs for designing alternative modalities to deliver social protection programs, especially in times of economic crisis.

2. Context

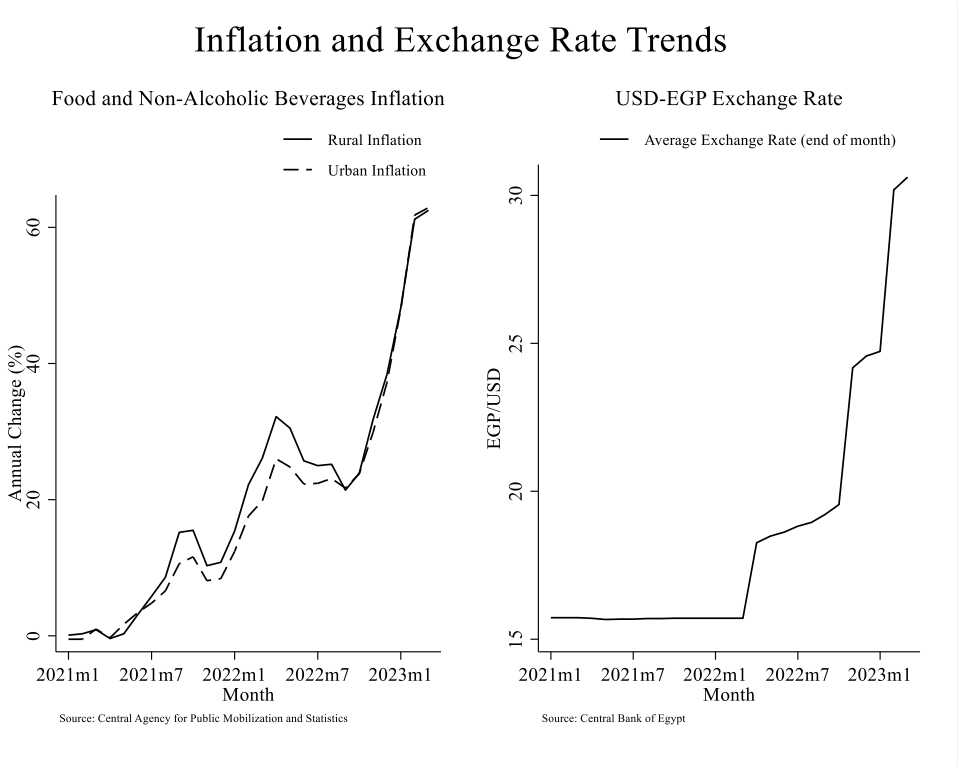
2.1 Food price inflation in Egypt

The Middle East and North Africa (MENA) region is particularly vulnerable to shocks to world food prices because of its heavy dependence on food imports (Abay *et al*., 2023; Arndt *et al*., 2023). Egypt is the largest wheat importer in the world, of which about 85 percent come from Russia and Ukraine (UN Comtrade, 2022). The Russian-Ukraine war triggered significant inflationary pressure on the Egyptian economy. Immediately after Russia invaded Ukraine, Egypt's domestic inflation started accelerating sharply, and deterioration in terms of trade forced the government to introduce sequential devaluation measures, resulting in weakening of the local currency by more than 100 percent since the outbreak of the Russian-Ukraine war (see Figure 1). These shocks have pushed Egypt to be among the top ten countries with the highest food price inflation worldwide (World Bank Group, 2023). Food inflation started with about 20 percent immediately before the war (February 2022), but it tripled to about 63 percent in February 2023. Similarly, overall national inflation started with six percent in January 2022 and soared to 34 percent in March 2023 (CBE, 2023).[1] This is the highest inflation rate in several decades, food inflation being the major driver (CAPMAS, 2023). Although the rural and urban inflation rates are comparable, food and annual inflation rates vary across food groups and governorates.

In response to the unfolding inflationary pressure, the government of Egypt committed to maintaining the price of subsidized staple food items- particularly bread- unchanged, with the government bearing the additional costs. The government also increased transfer values and expanded registration for the existing cash transfer program *Takaful and Karama.* The Egyptian Food Bank (EFB), one of the largest philanthropic organizations in Egypt, also reacted to the inflation by scaling up their food distribution programs to support ultra-poor households. The next section describes the EFB's General Feeding Program (GFP).

[1] Overall national inflation reached 34 percent in March 2023 while food inflation peaked at 62 percent in March 2023.

Figure 1: Trends in Food Inflation and Exchange Rate



2.2 The Egyptian Food Bank's General Feeding Program

The Egyptian Food Bank (EFB) is one of the largest nonprofit and nongovernmental organizations in Egypt, which specializes on addressing food insecurity. While it receives some in-kind donations and government support, EFB primarily operates based on cash donations from individual donors. These funds are used by the EFB to buy food supplies that are then packaged in its own facilities and delivered to households through a vast network of community-based organizations (CBOs). On average, EFB distributes about 130 thousand food boxes to eligible households in all Egypt's governorates every month.[2][3]

The General Feeding Program (GFP) is EFB's flagship and oldest program. It aims to protect the most vulnerable households from hunger and food insecurity by providing access to nutritious foods that meet their dietary needs and preferences. The program targets ultra-poor

[2] The EFB also provides 40 thousand students in public schools and 3 thousand children in nurseries with daily hot meals. Furthermore, it supports more than 2 thousand smallholder farmers through contract farming projects to improve their market access and increase their incomes.

[3] While this scale is a small fraction of Egypt's vast population of almost 106 million people (CAPMAS, 2023), it considerably covers a nonnegligible share of the ultra-poor population in Egypt, which makes up 4.5 percent of the Egyptian population (CAPMAS, 2020).

households that have fallen into extreme poverty and are unable to sustainably afford food with the required calories and dietary nutrients. According to the Central Agency for Public Mobilization and Statistics (CAPMAS) 2020 census, this category makes up 4.5 percent of the Egyptian population. Eligible households include female headed households with no stable income, households whose breadwinner is an elderly person with no social security (pension) payments, and households whose breadwinner suffers from a chronic illness or incapacitating disability. Beneficiaries are selected using a community-based targeting, in which partner local Community-Based Organizations (CBOs) nominate deserving households who in turn are further screened by EFB's case workers. To be eligible for the program, the primary beneficiary must be either divorced, separated, widowed, abandoned, wife of a prisoner (who is serving a long sentence), and is under the age of 60. Additionally, the beneficiary must either be (i) a caregiver to children under the age of 21 and/or a person with disability regardless of his/her age; or (ii) a caregiver to an unmarried daughter above the age of 21 and other children under the age of 21; or (iii) a caregiver to children under the age of 21, has one or more child older than the age of 21, and is married and resided outside the household. A secondary preference is given to unmarried, divorced and/or widowed women (under the age of 60) who have no children, live on their own, and are unable to earn an income.

Beneficiary households receive a monthly food box containing non-perishable culturally relevant food items such as rice, pasta, cooking oil, flour, lentils, tomato pasta, salt, white cheese, and fava beans. The original food box mimics the national food subsidy program in Egypt, *Tamween*, and hence includes energy-dense staples and can be called "staple-heavy" box (see Figure A1). With the objective of updating the design of this staple-heavy food box, the EFB is piloting a new food package designed to meet the individual micro and macro-nutrients including carbohydrates, fats, proteins, vitamins and minerals. As shown in Table A1 and compared to the staple-heavy food box, the new "nutrition-sensitive" food box almost triples the monthly protein and quadruples the iron content per family unit.

3. Experimental Design and Data

3.1 Experimental Design

In close coordination with EFB, the research team designed a Cluster Randomized Control Trial (CRCT) at the CBO level to measure the absolute and relative impacts of the newly designed "nutrition-sensitive" box. Starting from the universe of all villages or urban census units in Egypt stratified by governorate and urban/ rural status, we randomly selected 250 villages (or urban census units[4]) using sampling proportional to strata size. Since EFB uses Community-Based Organizations (CBOs) as recruiting partners, villages or census units with no partner organizations, or with very potential beneficiaries, were dropped and replaced. Within each strata, the resulting list of potential CBOs were randomly assigned to one of five (treatment) arms: (i) Nutrition-sensitive box; (ii) Nutrition-sensitive box and nutrition messaging; (iii) Staple-heavy box; (iv) Nutrition-messaging only; while the last and fifth arm serves as control (see Figure 2). The items in each box and their corresponding nutrition components are given in Figure A1 and Table A5 in the Appendix. These treatment assignments lasted from the baseline survey until the midline survey, after which the control group communities and were included in the food distribution program. In each CBO, 16 households were randomly selected from the households identified as eligible to benefit from expansion of the General Feeding Program during a screening conducted simultaneously with the baseline survey, resulting in a study sample of 3,952 households.

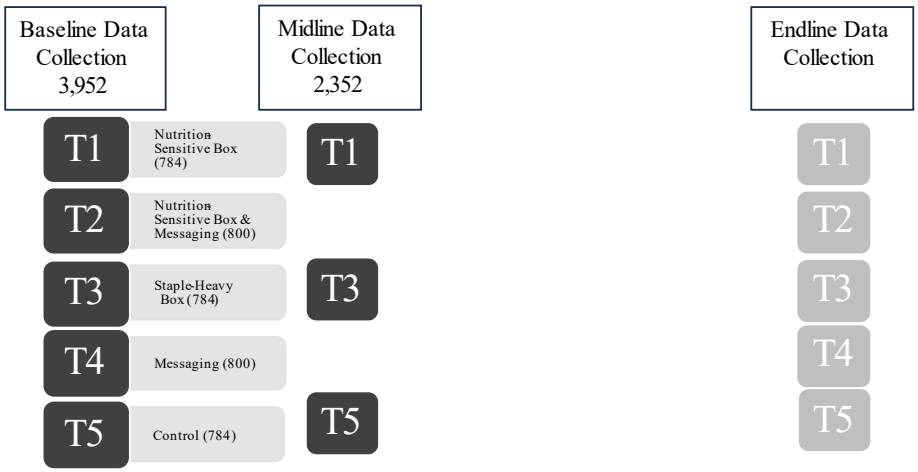
We collected baseline data in August-October 2022 immediately before the launch of the program and midline data was collected three months afterwards in March 2023. Food distribution was launched immediately after the baseline. As shown in Figure 2, in between the baseline and midline surveys, the Egyptian economy experienced major inflationary shock and successive devaluations of the Egyptian currency. This offers a unique setting to evaluate the potential of food distribution programs to cushion the adverse impacts of inflationary shocks.

Here, we focus on evaluating the absolute and relative short-term impacts of the nutrition-sensitive and staple-heavy food boxes, using the baseline and midline data coming from the three treatment arms: T1 (Nutrition-sensitive box), T3 (Staple-heavy box), and T5 (Control). This constitutes a planned sample of 2,352 households across 149 villages. Attrition rate is low and

[4] For simplicity, we refer both as villages throughout the paper.

unsystematic, coming at a mere 3 percent in the midline, leading to an actual sample of 2,277 households.

Figure 2: Study Design



Source: Authors

3.2 Data and descriptive statistics

Our main outcome variables are: (1) Household Dietary Diversity Score (HDDS); (2) household-level Food Insecurity Experience Scale (FIES); (3) household intake of nutrient-dense foods; (4) macro and micro-nutrient intake for the primary female beneficiary; (5) preferences for cash versus in-kind transfers. In this paper, we focus on measuring the short-term absolute and relative impact of the nutrition-sensitive and staple-heavy boxes on diets and preferences for transfer modality amidst inflationary pressures.

The HDDS is an indicator of economic ability of the household to access a variety of foods validated as a proxy indicator for household energy availability (e.g., Ruel, 2003; FAO, 2013; Leroy *et al.*, 2015). Several studies have shown that an increase in dietary diversity is strongly associated with household food security (e.g., Hoddinott and Yohannes, 2002; Hatloy et al., 2000). We employ an adjusted version of the HHDS developed by the Food and Agriculture Organization (FAO); with a recall period of one week. We first ask respondents about the food items consumed by all household members over the preceding week, categorized in 19 food groups.[5] Then, we re-

[5] These groups are: (1) Foods made from grains; (2) White roots and tubbers; (3) Pulses (beans, peas and lentils); (4) Nuts and seeds; (5) Milk and milk products; (6) Meat and poultry; (7) Organ meat; (8) Fish and seafood; (9) Eggs; (10) Dark green leafy; (11) vegetables; (12) Vitamin A-rich vegetables, roots and tubers; (13) Vitamin A-rich fruits; (14) Other vegetables; (15) Other fruits; (16) Oils and fats; (17) Savory and fried snacks
Sweets; (18) Sugar-sweetened beverages; and (19) Condiments and seasonings.

categorize the items into 12 groups to arrive at a score which consists of a simple count of food groups consumed, ranging from 0 (no consumption of any group) to 12 (consumption of all groups). [6] We further use data obtained on specific groups (namely: nuts and seeds, milk, milk products, meat and poultry, and other Fruits) to calculate the household's intake of any nutrient-dense foods as a binary variable.

We also use household-level Food Insecurity Experience Scale (FIES), a self-reported metric which captures households' difficulties in accessing adequate food due to financial or other resource constraints. The FIES is an experience-based food insecurity metric developed by the FAO, which is widely applied to measure prevalence of food insecurity (FAO, 2014; FAO, 2020). The FIES builds on an eight-question module related to respondents' experiences of difficulties to access sufficient and nutritious food in the last 30 days.[7] Using the responses to these eight questions, we generate aggregate FIES by summing the responses to the eight questions. Hence, by this definition, FIES ranges from zero to eight, zero standing for those households reporting no experience of food insecurity across all eight dimensions of food insecurity.

To compute the macro and micro-nutrient intake for the female household head, we collect detailed data on all foods and beverages consumed by the respondent in the previous 24-hours along with all ingredients and their respective quantities. Reported quantities are converted to standardized weights using specific conversion factors (Table A4) which are then decomposed into nutrient components using the Food Composition Table (FCT) by researchers from Egypt's National Research Center (NRC) (Table A4). In this paper, we focus on energy (kcal), protein (gm), and iron (mg) intake.

Respondents' preferences for cash versus in-kind transfers is captured using direct questions in the baseline and midline surveys.

As shown in Table 1, the three arms (T1, T3, and T5) are largely balanced at baseline. The p-values of the pairwise t-test indicate no statistically significant difference in our key outcome

[6] These groups are: (1) Foods made from grains; (2) White roots and tubbers; (3) Legumes nuts and seeds; (4) Milk and milk products; (5) Meat and organ meat; (6) Fish and seafood; (7) Eggs; (8) Vegetables; (9) Fruits; (10) Oils and fats; (11) Spices condiments and beverages; (12) Sweets and sweetened beverages.

[7] The FIES elicits responses based on whether a household member (1) was *worried* about having enough food to eat, (2) ate only a *few kinds* of foods, (3) unable to eat *healthy and nutritious* foods, (4) *ate less* than should have eaten, (5) had *skipped* a meal, (6) *ran out* of food, (7) was *hungry* but did not eat, and (8) went without eating for a *whole day*.

variables or the observable household characteristics.[8] In terms of outcome variables, respondents consumed on average 9.7 food groups while the average FIES score came at 5.1-5.3, signalling respondents' perceived food insecurity despite a relatively diverse diet. This could be attributed to the anxiety usually experienced in inflationary environments, with many constantly fearing hunger regardless of their actual intake. Many barely consume adequate levels of nutritious food. On average, respondents get only 78-83% of the Recommended Daily Allowance (RDA) of calories, and as low as 52-57% of iron, indicating severe iron-deficiency within our sample at baseline.

Table 1. Balance Tests

	Nutrition-sensitive Box (T1)	Staple-heavy Box (T3)	Control (T5)	T1 and T3	T1 and T5	T3 and T5
	Mean			Pairwise t-test (p-value)		
Main outcome variables						
HDDS (0-12)	9.74	9.73	9.71	0.99	0.89	0.89
FIES (reported, 0-8)	5.12	5.11	5.32	0.95	0.30	0.28
Intake of nutrient-dense foods	0.92	0.94	0.94	0.47	0.64	0.81
Preference for in-kind	0.55	0.63	0.62	0.09*	0.11	0.86
Food energy intake (kcal)	1594.6	1634.7	1680.4	0.57	0.25	0.54
Food energy intake (kcal % RDA)	78.32	80.29	82.54	0.57	0.25	0.54
Protein Intake (g)	61.53	65.55	64.53	0.19	0.37	0.75
Iron Intake (mg)	7.80	8.42	8.61	0.12	0.06*	0.65
Household Characteristics						
Age	39.62	39.36	39.22	0.56	0.38	0.75
Household size including head	3.72	3.65	3.59	0.44	0.12	0.52
Number of Children	2.70	2.62	2.54	0.48	0.08*	0.38
Marital Status (1 = married)	0.09	0.08	0.10	0.60	0.30	0.12
Never attended education	0.41	0.35	0.36	0.13	0.24	0.77
Attended secondary educ. or above	0.34	0.40	0.39	0.15	0.17	0.88
Attended primary or preparatory	0.23	0.23	0.23	0.83	0.93	0.75
Attended nursery, irregular	0.03	0.03	0.01	0.90	0.14	0.10
Access to private income	0.58	0.53	0.54	0.15	0.29	0.78
Income from work	0.28	0.28	0.30	0.87	0.77	0.65
Disability	0.01	0.02	0.01	0.84	1.00	0.85
Monetary Savings	0.19	0.16	0.19	0.31	0.88	0.25
Debt	0.39	0.42	0.36	0.55	0.45	0.18
Ration card	0.82	0.79	0.80	0.33	0.46	0.80
Own residence	0.71	0.70	0.73	0.88	0.69	0.58
Reside in apartment	0.57	0.60	0.62	0.66	0.46	0.74
No. of Rooms	2.93	2.88	2.93	0.65	0.96	0.61
Own smart phone	0.48	0.51	0.53	0.58	0.29	0.63

[8] On average, households are composed of 3.6-3.7 members, including the head. The average age of the respondents is 39-40 years, with just a small fraction of them (about 8 percent) being married. As much as 35-41 percent never attended any type of education, and only 3-4 percent of the sample proceeded to secondary school. More than half of the sample (53-58 percent) have access to private income. The majority of respondents (79-82 percent) possess a ration card that allows them to access the national food subsidy program, *Tamween*.

Internet access	0.12	0.14	0.12	0.46	0.89	0.52
Financial card (debit/credit/pre-paid)	0.73	0.71	0.72	0.62	0.92	0.68
Bank account	0.30	0.32	0.28	0.76	0.49	0.35

Source: Authors' calculations based on (baseline) household data.

4. Empirical Estimation Strategy

To identify the impact of the various treatment arms, we use the random assignment of villages to treatment arms. While random assignment generates unbiased average treatment effects using simple mean differences, the availability of baseline data enables estimation of more structured differences-in-differences or fixed effects models. We start by estimating the pooled impact of food distribution including both "nutrition-sensitive" and "staple-heavy" food boxes) using the following fixed effects specification:

$$Y_{ht} = \alpha_h + \alpha_1 Round_t + \alpha_2\, Food\ Box_{ht} + \epsilon_{ht} \quad (1)$$

Where Y_{ht} stands for outcomes variables for household *h* and round *t*, α_h is a household fixed effect that captures all time-variant differences across households, and $Round_t$ is a dummy variable that takes on a value of 1 for baseline and 2 for midline. Households in Egypt experienced significant surge in food inflation after the baseline survey, where food inflation tripled from about 20 percent immediately before the baseline to 63 percent in March 2023. The coefficient on the $Round_t$ captures aggregate time trends including this inflation and other factors. $Food\ Box_{ht}$ is a binary indicator variable assuming a value of 1 for those households who received either of the food boxes. Note that the $Food\ Box_{ht}$ is defined as time-varying and hence assumes a value of 0 for all households in the baseline while assuming a value of 1 only for those households in treatment arms assigned to receive any of the boxes in the midline survey. Our variable of interest is α_2 which captures the average treatment effect of food box distribution. ϵ_{ht} stands for idiosyncratic unobservable factors that may affect households' food and nutrition security.

Our three-arm treatment design also allows us to measure differences in impacts between the "staple-heavy" box and the "nutrition-sensitive" box. We thus expand the specification in equation (1) by disaggregating the overall treatment into nutrition-sensitive and staple-heavy box. Thus, our preferred empirical specification is the following:

$$Y_{ht} = \alpha_h + \beta_1 Round_t + \beta_2 StapleBox_{ht} + \beta_3 NutritionBox_{ht} + \varepsilon_{ht} \quad (2)$$

Where $StapleBox_{ht}$ and $NutritionBox_{ht}$ stand for binary indicators assuming a value of 1 for households in communities assigned to distribution of the "staple-heavy" and updated "nutrition-sensitive boxes," respectively. The remaining terms are as defined in equation (1). Compliance with randomization was almost perfect with only five households mistakenly taking wrong treatment assignment. More than 97 percent of households report using the food items for their own consumption while 2-3 percent report they gave or sold items to someone else or discarded them. Accordingly, we interpret the estimates associated with the food boxes (β_2 and β_3) as average treatment effects associated with receiving each food box. By comparing the size of both coefficients, we can infer the relative efficacy of the staple-heavy and nutrition-sensitive food boxes. Besides quantifying the impact of the food boxes, we also evaluate whether joint exposure to the food boxes and inflationary shock affect households' preference for in-kind versus cash transfers. To explicitly explore whether inflation is associated with higher preference for in-kind food transfers, we extend the empirical specification in equation (2) by interacting the treatment with governorate-level food consumer price index (CPI). We estimate the following interacted empirical specification:

$$P_{ht} = \alpha_h + \delta_1 Round_t + \delta_2 StapleBox_{ht} + \delta_3 NutritionBox_{ht} + \delta_4 CPI_{ht} + \delta_5 StapleBox_{ht} * CPI_{ht} + \delta_6 NutritionBox_{ht} * CPI_{ht} + \mu_{ht} \quad (3)$$

Where all terms except CPI_{ht} are as defined in equation (2). CPI_{ht} stands for governorate-level food consumer price index, which captures changes in food prices[9]. The interaction terms and associated coefficients, δ_5 and δ_6, uncover whether higher food inflation moderates the impact of food boxes on households' preferences for in-kind transfers.

As pre-specified in our pre-analysis plan, we also explore heterogeneity of impacts across households with varying size, education level, and access to food subsidy programs and other social protection schemes. We are particularly interested in exploring whether the food boxes have greater impacts on nutrition and food security for those households not benefiting from the national food subsidy program, *Tamween*, or the national cash transfer program, *Takaful and Karama*. To

[9] The Central Authority for Public Mobilization and Statistics (CAPMAS) produces monthly Consumer Price Index (CPI) for food and non-alcoholic beverages for rural and urban areas in each of the 27 republic's governorate. These are Egypt's first level administrative units. The second level, within governorates, are *Marakiz* and the third level is composed of villages. The study's unit of randomization is villages.

explore these heterogeneities, we split the sample across these dimensions and estimate equation (1) and (2) on a split sample.

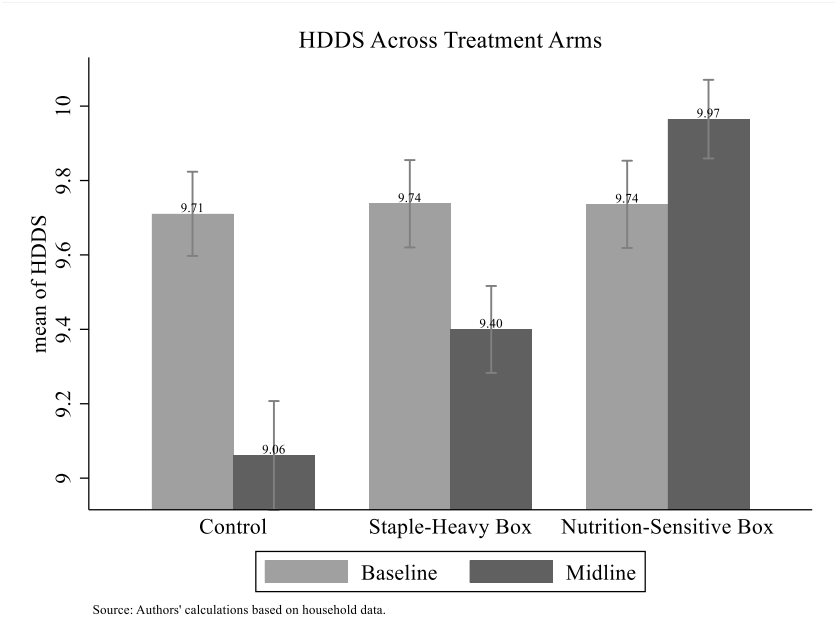
Households living in the same community face similar treatment as well as similar food markets and food environment, which can generate correlation of unobserved effects (error terms) across households from the same community. Thus, standard errors are clustered at community level, which is the level of randomization in our case and hence the usually recommended level of clustering standard errors (Abadie *et al*., 2017).

5. Results

5.1 Impacts on Dietary Diversity, Food Insecurity, and Dietary Quality

Household dietary diversity score (HDDS) and Food Insecurity Experience Scale (FIES) are both proxies for food accessibility at the household level, while dietary quality is measured for the female main respondent based on detailed analysis of food consumption in the 24-hour recall. Figure 3 shows changes in HDDS across the treatment and control group households as well as across the baseline and midline surveys. In the absence of any intervention, households in the control group experienced a deterioration in dietary diversity between baseline and midline (Figure 3). In less than six months, dietary diversity dropped from 9.71 to 9.07 among this group. On the other hand, households receiving food boxes were relatively protected. Indeed, for those households who received the new box dietary diversity increased from 9.74 to 9.97 food groups.

Figure 3: Nutrition-sensitive food distribution and changes in Household Dietary Diversity (HDDS)



Source: Authors' calculations based on household data.

Figure 4 shows the dynamics in Food Insecurity Experience Scale (FIES) across the baseline and midline as well as across different groups of households. Households in the control group reported a significant increase in food insecurity experience in the midline survey whereas those receiving the food boxes seem protected and this effect was concentrated in the "nutrition-sensitive" treatment arm in which FIES decreased between baseline and midline.

Figure 4: Nutrition-sensitive food distribution and changes in Food Insecurity Experience Scale (FIES)

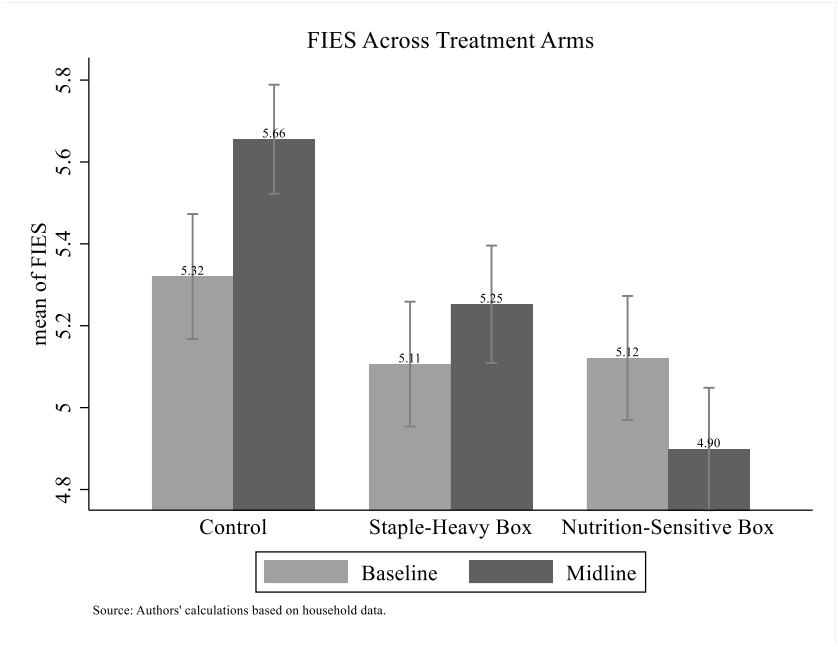
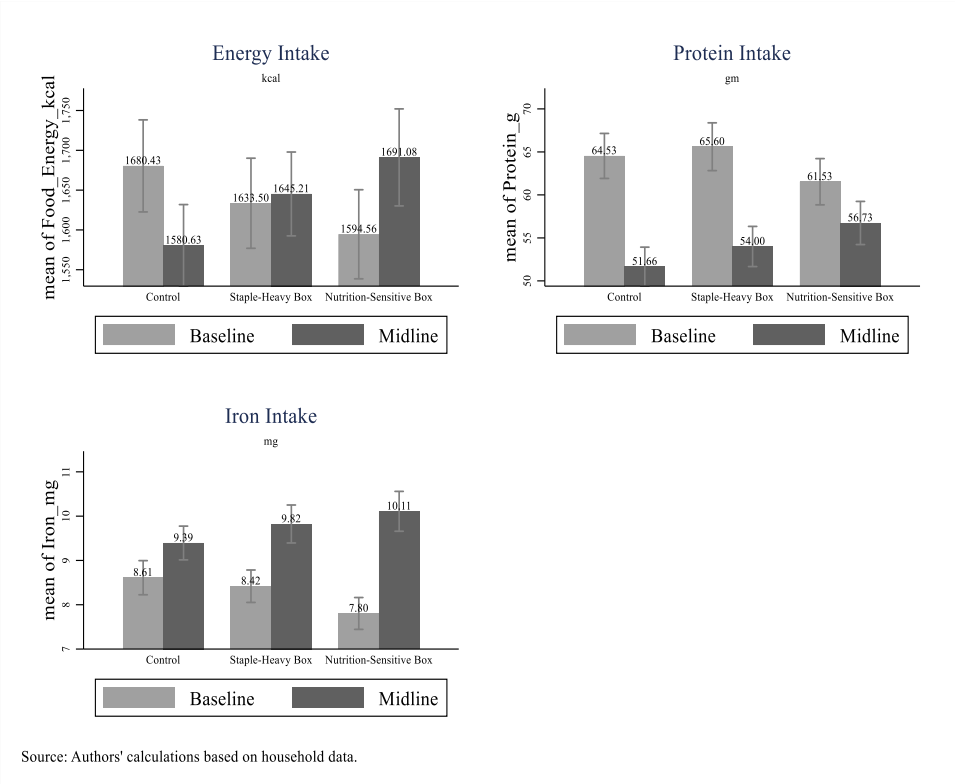


Figure 5 shows food energy intake, protein and iron intake.[10] The first graph in Figure 5 shows that the control group households experienced significant reduction in energy intake while the treatment group households were protected or increased their energy intake. Indeed, those households receiving the nutrition-sensitive food box reported an increase in energy intake while those receiving the staple-heavy food box were mostly protected from further deterioration in energy intake. Nevertheless, all these figures point to continued food energy insufficiency, as they are below the recommended daily allowance levels. This is not surprising given that our sample mainly consists of ultra-poor households. In terms of protein and iron intake, we also see significant reduction in protein intake after the inflationary shock in both treatment and control group households, which may reflect two important patterns: First, food groups that are major source of protein such as dairy and eggs witnessed disproportionately higher increases in prices, compared to other food groups, after the outbreak of the Russia-Ukraine war (CAPMAS, 2023). Second, although the nutrition-sensitive box fares better than the staple-heavy box and hence offers significant protection, it was probably not sufficient to absorb the total deterioration in protein intake households experienced. On the other hand, the third graph in Figure 5 shows that iron

[10] Table A4 and A5 in the Appendix provides the conversion factors as well as the food composition table used for converting quantities into macro and micro-nutrient intake.

intake increased during the midline, and higher increase was observed for those receiving the nutrition-sensitive food box. This is not surprising given that the nutrition-sensitive food box was designed to address micro-nutrient deficiencies such as iron.

Figure 5: Nutrition-sensitive food distribution and changes in macro and micro-nutrient intake



Source: Authors' calculations based on household data.

We now report results estimated using equation (1)-(2). The first two columns in Table 2 report impacts on HDDS using equation (1) and (2), respectively. The next two columns provide impacts on consumption of selected nutrient-dense food items while the last two columns provide impacts on food insecurity experience. For all measures of food security, we observe significant deterioration in food and nutrition security, as reflected by the coefficients associated with round dummy. This is not surprising given the major inflationary shock these ultra-poor households are facing. However, the nutrition-sensitive food box distribution more than off-set these deteriorations in dietary diversity and food security. The estimates in the first column of Table 2 show that receiving any of the food boxes increases households' dietary diversity score by 0.6. The results in the second column show that the impact of the nutrition-sensitive food box on HDDS reaches 0.9 food groups (9 percent increase in dietary diversity) while the impact of the staple-heavy food box appears to be statistically insignificant. The estimates in the fourth column show

the nutrition-sensitive food box increased the likelihood that households consume one or more nutrient-dense food items (milk, meat, nuts, dates, or other fruits) by 8 percentage points. This is intuitive given that these nutrient-dense food items were included in the nutrition-sensitive food box. The impacts reported in the last two columns show that access to the updated and nutrition-sensitive reduces perceived food insecurity experience.

Table 2: Impact of nutrition-sensitive food distribution on household dietary diversity and food insecurity experience

	(1) HDDS	(2) HDDS	(3) Nutrient-dense foods (milk, meat, nuts, dates, or other fruits)	(4) Nutrient-dense foods (milk, meat, nuts, dates, or other fruits)	(5) Food Insecurity Experience scale (FIES)	(6) Food Insecurity Experience scale (FIES)
Round	-0.654***	-0.654***	-0.035	-0.035	0.343**	0.343**
	(0.211)	(0.211)	(0.025)	(0.025)	(0.155)	(0.155)
Food Box	0.587**		0.048*		-0.369*	
	(0.243)		(0.029)		(0.204)	
Staple-heavy Box		0.290		0.019		-0.185
		(0.281)		(0.031)		(0.247)
Nutrition-sensitive		0.877***		0.076**		-0.548**
Box		(0.254)		(0.031)		(0.239)
Household fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.031	0.043	0.005	0.010	0.007	0.010
Mean of dep. Variable	9.728	9.728	0.934	0.934	5.183	5.183
No. observations	4626	4626	4626	4626	4626	4626

Notes: Standard errors, clustered at village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. HDDS stands for Household Dietary Diversity Score, a qualitative measure of the household's consumption and food security, reflecting the economic ability of the household to access a variety of foods, ranging from 0 (consuming no food groups) to 12 (consuming twelve food groups). The FIES is Food Insecurity Experience Score constructed based on eight questions on food-related behaviors and experiences associated with difficulties in accessing adequate food due to financial or other resource constraints, ranging from 0 (no insecurity at all) to 8 (maximum level of food insecurity).

Table 3 reports impacts on macro and micro-nutrient intake measured using total energy (calorie), protein and iron intake. These data come from the 24-hour recall module and using the procedure described in Section 3 and the conversion factors reported in the Appendix. The first two columns show overall impacts on energy intake while the next two columns provide impacts on protein intake. The last two columns report impacts on iron intake. Consistent with the previous descriptive results, in the absence of any food distribution program, households reported significant deterioration in macro and micro-nutrient intake as reflected by the coefficients associated with the round dummy. However, beneficiaries of the nutrition-sensitive food distribution program were not only sheltered, but also witnessed significant improvements in energy, protein and iron intake.

Households receiving "nutrition-sensitive" food boxes increased their energy, protein and iron intake by 12, 13 and 19 percent, respectively. This is intuitive given that the nutrition-sensitive food box was carefully designed to address micro-nutrient deficiencies. For example, as shown in Table A1, the nutrition-sensitive food box contains four times iron content than the staple-heavy box. On the other hand, the impacts of the staple-heavy food box appears to be statistically insignificant even on energy intake. This is surprising and an important finding, which may be explained by two important features associated with the design of the food box and the context this was implemented in: (i) the staple-heavy food box fails to provide and address micro-nutrient deficiencies; (ii) although the staple-heavy food box provides reasonable energy content, most of the households in the control group may have access to similar energy-dense food items through the national food subsidy, *Tameween,* program. As shown in Table 1, 80 percent of the control group households have ration cards that allows them to enjoy the benefits associated with *Tameween*.

Table 3: The impact of nutrition-sensitive food distribution on macro and micro-nutrient intake

	(1) Food energy intake (kcal)	(2) Food energy intake (kcal)	(3) Protein intake (gm)	(4) Protein intake (gm)	(5) Iron intake (mg)	(6) Iron intake (mg)
Round	-110.221*	-110.221*	-13.425***	-13.425***	0.688	0.688
	(59.435)	(59.442)	(2.791)	(2.791)	(0.454)	(0.454)
Food Box	160.554**		5.169		1.117*	
	(79.057)		(3.437)		(0.583)	
Staple-Heavy Box		122.519		1.941		0.662
		(90.968)		(3.979)		(0.679)
Nutrition-Sensitive Box		198.041**		8.351**		1.566**
		(98.066)		(3.940)		(0.691)
Household fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.005	0.006	0.046	0.049	0.041	0.044
Mean of dep. variable	1636.25	1636.25	63.89	63.89	8.28	8.28
No. observations	4607	4607	4607	4607	4607	4607

Notes. Standard errors, clustered at village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.2 Impacts on preference for in-kind food subsidy over cash transfer

We also evaluate whether experience with the food boxes distribution affected households' preference for in-kind versus cash transfers and the degree to which this depended on the level of local inflation. Respondents were asked a hypothetical question involving a choice between an in-

kind food box or equivalent cash transfer. The two graphs in Figure 6 show that, in the baseline, preference for in-kind transfers was similar for both control and treatment groups. Among the control group, 62 percent of the households preferred in-kind food box over equivalent cash while the corresponding rate for the treatment group, those receiving one of the food boxes (staple-heavy or nutrition-sensitive food box), amounts 59 percent. However, few months later (during midline data collection), and in response to the drastic spike in food inflation, households' preference for in-kind transfer (food box) jumped significantly both for the control and treatment group households. Panel B of Figure 6 shows that preference for in-kind transfer increased from 62 to 78 percent for the control group households. On the other hand, for those households who received the "staple-heavy" food box, preference for in-kind transfer increased from 63 percent to 86 percent while the corresponding change for those receiving the "nutrition-sensitive" food box was from 55 percent to 83 percent. This shift in households' preference for in-kind transfers may be interpreted as a response to inflation or a positive experience with EFB's in-kind food distribution pressure.

In Table 4, we report estimates associated with the impacts of access to the food boxes on households' preference for in-kind transfer over equivalent cash, estimated using equation (2) and (3). The first column results show that receiving food boxes increases preference for in-kind transfer by about 10 percentage points. The estimates in the second column show that this increases to 11 percentage points for those households who received the nutrition-sensitive food box. The results in columns three and four suggest that most of these impacts are driven by those households experiencing significant increases in food prices. For example, the coefficients associated with the interaction term between treatment and inflation (CPI) in the third column show that those households exposed to the food box and experiencing major inflationary shock exhibit stronger preference for in-kind food transfers over equivalent cash.

The results in Figure 6 and Table 4 highlight two important empirical regularities with broader implications. First, exposure to food distribution programs can shape beneficiaries' preferences for in-kind versus cash transfers, and second, this is especially true in contexts where inflationary pressure threatens the purchasing power of cash transfers. This confirms evidence found in other contexts that in-kind transfers may fare better and be preferred more by beneficiaries in inflationary environments (Hirvonen and Hoddinott, 2021).

Figure 6: Nutrition-sensitive food distribution and changes in preference for in-kind transfer

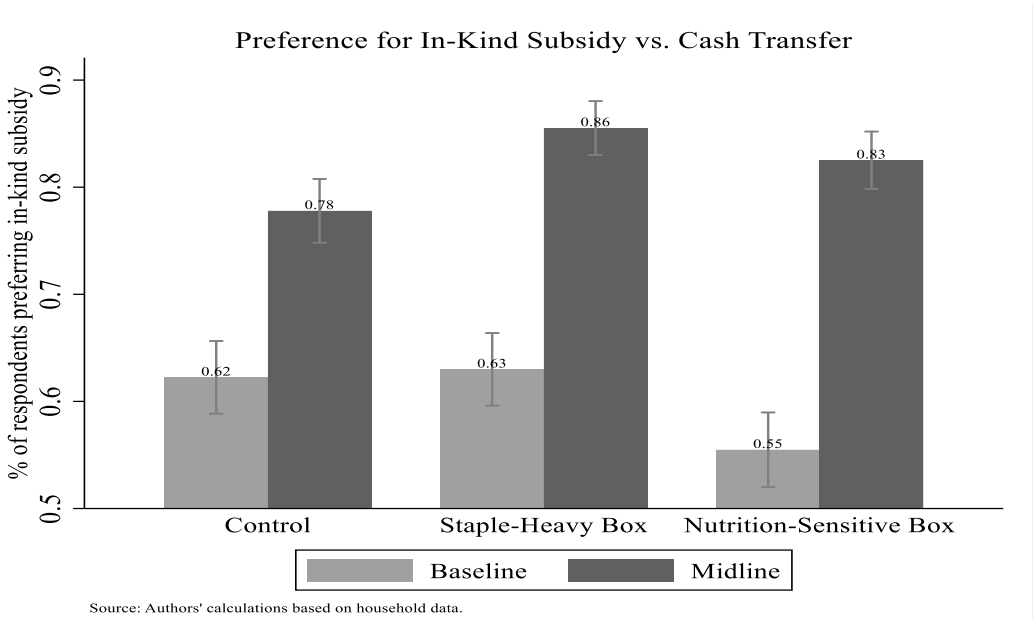


Table 4: The Impact of food distribution and inflationary shocks on preference for in-kind transfers

	(1)	(2)	(3)	(4)
	Prefer in-kind	**Prefer in-kind**	**Prefer in-kind**	**Prefer in-kind**
Round	0.158***	0.016	0.345	0.344
	(0.026)	(0.176)	(0.254)	(0.254)
Food Box	0.092***		-9.546*	
	(0.032)		(4.856)	
Log (CPI)		0.353	-0.461	-0.459
		(0.427)	(0.618)	(0.617)
Staple-Heavy Box		0.070*		-11.714*
		(0.040)		(6.164)
Nutrition-Sensitive Box		0.113***		-7.437
		(0.036)		(5.328)
Food Box # log (CPI)			1.821**	
			(0.918)	
Staple-Heavy Box # log (CPI)				2.226*
				(1.164)
Nutrition-Sensitive Box # log (CPI)				1.427
				(1.008)
Household fixed effects	Yes	Yes	Yes	Yes
R-squared	0.154	0.156	0.157	0.159
Mean of dependent variable at baseline	0.602	0.602	0.602	0.602
No. observations	4626	4626	4626	4626

Notes. Standard errors, clustered at village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Preference for in-kind is a variable assuming a value of 1 for those households preferring in-kind transfers over equivalent cash and 0 otherwise.

5.3 Heterogeneity analysis and robustness checks

This section explores potential differential effects while also providing some robustness checks. We consider alternative observable characteristics of households to uncover potential differential effects of the food boxes. For example, we anticipate that households not benefiting from similar food subsidy programs, including the national food subsidy program *Tamween*, would see more substantial nutritional benefits from the food box distribution, especially if *Tamween* ration points can be diverted to non-food uses or other households so that the food box elements substitute for alternative sources of staple foods.[11] Results show that the control group households not benefiting from the *Tamween* program suffered larger deterioration in food security than those benefiting from the program: about one food group reduction in dietary diversity compared to a 0.56 reduction for those households benefiting from the program. Similar patterns are observed using food insecurity experience. In Table 5 we formally estimate these differences by splitting the sample into *Tamween* beneficiaries and non-beneficiaries. The results generally show that nutrition-sensitive food boxes are more effective and impactful for households who are not receiving other types of intervention. For example, the results in Panel A of Table 5 show that access to the nutrition-sensitive food box increases dietary diversity of *Tamween* beneficiary households by 0.7 food group while this almost doubles for those not benefiting from the national food subsidy program. Relative to the baseline outcome, this effect translates to 7 and 14 percent for *Tamween* beneficiaries and non-beneficiaries, respectively. Surprisingly, the staple-heavy food box seems ineffective for both groups of households. However, although imprecisely estimated potentially because of sample size, the size of the effect for those non-beneficiary sample is almost four times of the coefficient for the beneficiary sample. Beyond asserting the protective role of the nutrition-sensitive food box for nutrition outcomes, the results in Panel B of Table 5 also show that exposure to the food boxes triggered higher preference for in-kind transfer among those households not benefiting from the *Tamween* program. This may be because *Tamween* beneficiaries already benefit from the certainty of being able to afford staple food items even if prices increase, the key benefit of in-kind transfers relative to cash.

[11] The *Tamween* subsidy program is the largest social protection program in Egypt, which offers ration cards for accessing subsidized food items and *baladi* bread allowance. The ration card offers beneficiary households 50 Egyptian Pounds (EGP) per household member per month to spend on multiple food items such as bread, oil, and sugar, among others, and nonfood items found in *Tamween* shops (Breisinger *et al*., 2023). The *baladi* bread allowance offers beneficiaries five loaves of bread per day at a subsidized price of 0.05 EGP per loaf (Ecker *et al*., 2016; Kassim *et al*., 2018; Breisinger et al., 2022).

Table 5: Heterogenous treatment effects across *Tamween* beneficiaries and non-beneficiaries

Panel A: Heterogenous effects on household dietary diversity				
	(1)	(2)	(3)	(4)
	HDDS	**HDDS**	**HDDS**	**HDDS**
	***Tamween* Beneficiaries**		***Tamween* non-Beneficiaries**	
Round	-0.542***	-0.542***	-0.982***	-0.982***
	(0.191)	(0.191)	(0.326)	(0.326)
Food Box	0.452*		0.969***	
	(0.230)		(0.363)	
Staple-heavy Box		0.158		0.620
		(0.272)		(0.401)
Nutrition-sensitive Box		0.730***		1.342***
		(0.248)		(0.377)
Household fixed effects	Yes	Yes	Yes	Yes
R-squared	0.023	0.036	0.060	0.077
Mean of dependent variable at baseline	9.802	9.802	9.427	9.427
No. observations	3683	3683	943	943
Panel B: Heterogenous effects on households' preference for in-kind transfers				
	(1)	(2)	(3)	(4)
	Prefer in-kind	**Prefer in-kind**	**Prefer in-kind**	**Prefer in-kind**
	***Tamween* Beneficiaries**		***Tamween* non-Beneficiaries**	
Round	0.174***	0.174***	0.100*	0.100*
	(0.029)	(0.029)	(0.051)	(0.051)
Food Box	0.077**		0.183***	
	(0.038)		(0.063)	
Staple-Heavy Box		0.062		0.144*
		(0.047)		(0.074)
Nutrition-Sensitive Box		0.092**		0.224***
		(0.043)		(0.070)
Household fixed effects	Yes	Yes	Yes	Yes
R-squared	0.159	0.160	0.171	0.174
Mean of dependent variable at baseline	0.601	0.601	0.607	0.607
No. observations	3683	3683	943	943

Notes: Standard errors, clustered at village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
HDDS stands for Household Dietary Diversity Score, a qualitative measure of the household's consumption and food security, reflecting the economic ability of the household to access a variety of foods, ranging from 0 (consuming no food groups) to 12 (consuming twelve food groups). The FIES is Food Insecurity Experience Score a self-reported metric, constructed based on eight questions associated with difficulties in accessing adequate food due to financial or other resource constraints, ranging from 0 (no insecurity at all) to 8 (maximum level of insecurity). Preference for in-kind is an indicator variable assuming a value of 1 for those households preferring in-kind transfers over equivalent cash and 0 otherwise.

More broadly, our heterogeneity analysis reinforces some important patterns worth noting. First, even within the ultra-poor population proper targeting that aim to reach the most "deprived" may generate relatively higher treatment effects and the trade-off between targeting for deprivation versus for impact may be negligible especially for food distribution programs that require limited complementary inputs (Haushofer et al., 2022).[12] Second, the significant heterogeneity in the impact of the food distribution program corroborates previous studies arguing that relative efficacy

[12] Haushofer *et al*. (2022) raise the question whether social protection and other development interventions should target based on deprivation or expected impact and they document significant trade-off substantial trade-off between targeting for deprivation versus for impact.

of in-kind and cash transfers likely varies across targeted populations (Hidrobo et al., 2014; Cunha, 2014; Schwab, 2020; Hoddinott et al., 2018).

6. Concluding Remarks

We implemented a clustered Randomized Control Trial (RCT) to evaluate the potential of alternative variants of direct food distribution interventions by the Egyptian Food Bank (EFB) to cushion the adverse impact of the inflationary shock triggered by the Russian-Ukraine war. We randomly assigned communities (villages) into various treatment arms, including: (i) "nutrition-sensitive" food box, (ii) "staple-heavy" food box and control group. We evaluate the absolute as well as relative short-term impacts of direct distribution of a standard "staple-heavy" food basket and a redesigned "nutrition-sensitive" food basket on a range of outcomes, including household food and nutrition security, and preferences for cash versus in-kind transfers. We also evaluate the impact of joint exposure to the food baskets and inflationary shocks on households' preference for in-kind and cash transfers. We finally explore potential heterogeneous impacts across various types of households.

We find that nutrition-sensitive food distribution cushioned falls in dietary quality and food security of ultra-poor households in an inflationary context. Access to the nutrition-sensitive food box protected beneficiary households while the staple-heavy food box falls short of protecting households' food and nutrition security. This appears to be consistent for those measured and perceived dietary quality and food security indicators. The nutrition-sensitive food boxes increased household dietary diversity by about 9 percent, while also increasing energy, protein, and iron intake by 12, 13, and 19 percent, respectively. On the other hand, the staple-heavy food box does not significantly increase macro and micro-nutrient intake. We also find that experience with the food boxes increases households' preference for in-kind transfers, more so among households experiencing high inflation rates and among those households not covered by other food and cash transfer programs.

Our findings have important implications for the debate on the efficacy of alternative interventions to cushion inflationary pressure and the relative efficacy of in-kind and cash transfers. Our study provides rigorous empirical evidence that a well-designed and nutrition-sensitive in-kind food transfers can effectively cushion the adverse of impact of inflationary pressure on dietary quality and food security. The lack of effectiveness of the staple-heavy food boxes suggests that the design and content of in-kind transfers are crucial when considering this

policy option, including compared to cash. Finally, our findings show that access to in-kind transfers can shape consumers' preferences. Indeed, the results show that the nutrition-sensitive food boxes are not only more effective in improving dietary quality, but they also increased households' preference for in-kind transfers over cash transfers. These additional insights on beneficiary preference are important inputs for designing alternative models and modalities to deliver social protection programs.

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Appendix

Figure A1: Images of the Food Boxes

Staple-Heavy Food Box

Nutrition-Sensitive Food Box

Source: Authors based on information provided by the Egyptian Food Bank (EFB)

Table A1: Nutritional Composition of the Boxes

Panel A

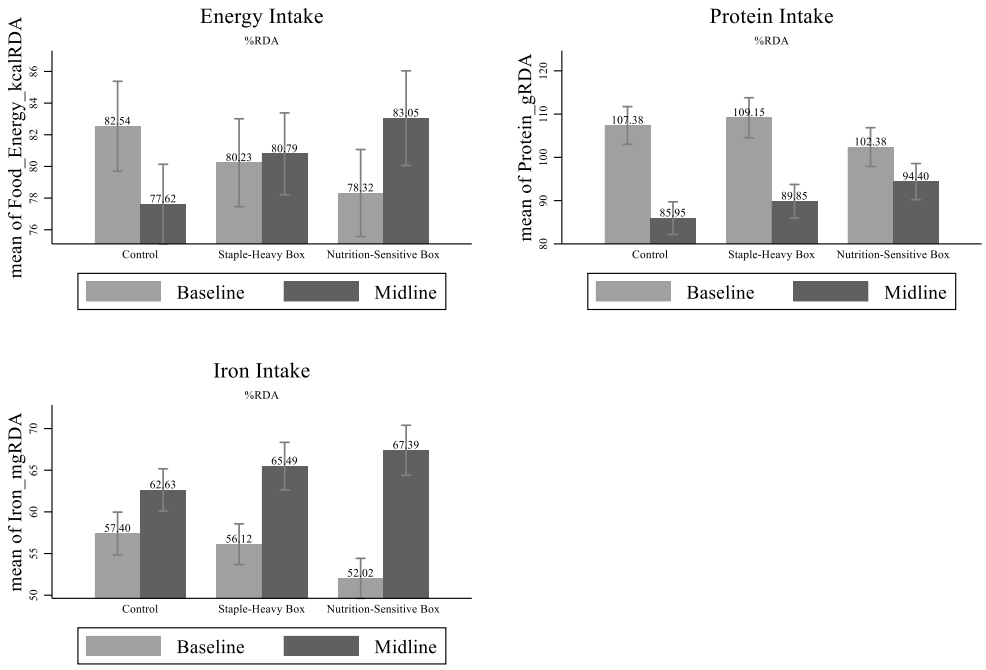
Staple-Heavy Box	Kcal	Protein (gm)	Fat (gm)	Carbs (gm)	Calcium (mg)	Iron (mg)	Total lipid (fats)	Potassium (mg)	Zinc (mg)	Vitamin A (mg)	Vitamin B12 (mg)	Vitamin C (mg)	Vitamin D (mg)	Vitamin E (mg)	Vitamin K (mg)	Iodine (mg)	Folate B9 (mg)	Copper (mg)
Rice	3900	81	9	840	300	36	9	1050	15	0	0	0	0	0	0	120	1740	3
Sugar	3870	0	0	1000	10	1	0	20	0	0	0	0	0	0	0	0	0	0
Macaroni	3710	130	15	750	210	13	15	2230	14	0	0	0	0	1	1	0	180	0
Beans (Green, white)	485	16	2	100	640	5.5	2	2090	5	200	0	11	0	1	133	0	635	0
Oil	5316	0	600	0	0	0	600	0	0	0	0	0	0	0	0	0	0	0
Tomato Paste	364	12	0	72.8	144	12	0	0	0	0	0	0	0	0	0	0	0	0
Salt	0	0	0	0	96	1.2	0	32	0.4	0	0	0	0	0	0	2400	0	0
Packaged Fava Beans	704	63.2	5.6	144	296	12.8	5.6	2656	8	136	0	29.6	0	9.6	327.2	0	1184	0
Cheese (plant-based oil)	1325	71	107.5	19.5	1665	0	107.5	0	0	0	0	0	0	0	0	0	0	0
Total	**19674**	**373**	**739**	**2926**	**3361**	**82**	**739**	**8078**	**42**	**336**	**0**	**41**	**0**	**12**	**461**	**2520**	**3739**	**3**

Panel B

Nutrition-Sensitive Box	Kcal	Protein (gm)	Fat (gm)	Carbs (gm)	Calcium (mg)	Iron (mg)	Total lipid (fats)	Potassium (mg)	Zinc (mg)	Vitamin A (mg)	Vitamin B12 (mg)	Vitamin C (mg)	Vitamin D (mg)	Vitamin E (mg)	Vitamin K (mg)	Iodine (mg)	Folate B9 (mg)	Copper (mg)
Rice	2600	54	6	560	200	24	6	700	10	0	0	0	0	0	0	80	1160	2
Wheat	3640	100	10	760	150	46	10	1070	7	0	0	0	0	2	3	0	2910	1
Macaroni	3710	130	15	750	210	13	15	2230	14	0	0	0	0	1	1	0	180	0
Beans (Green, white)	970	32	4	200	1280	11	4	4180	10	400	0	22	0	2	266	0	1270	0
Dry Fava Beans	880	79	7	180	370	16	7	3320	10	170	0	37	0	12	409	0	1480	0
Yellow Lentil	1160	90	4	201	190	33	4	0	13	0	0	15	0	0	0	0	0	3
Cheese (natural)	1325	71	107.5	19.5	1665	0	107.5	0	0	0	0	0	0	0	0	0	0	0
Powdered Milk	18284	68.4	80	205.6	4000	18.4	80	3084	22.4	1540	6	308.4	0	0	64	0	0	0
Dates	3000	25	0	680	500	9	0	0	0	0	0	0	0	0	0	0	0	0
Molasses	1015	0	0.35	262.5	717.5	16.45	0.35	5124	1.05	0	0	0	0	0	0	0	0	0
Dry Fruits	598	6.6	0.6	158	124	3.6	0.6	1488	0.8	0	0	4.6	0	0.2	7	0	10	0
Red Meat	2600	260	170	0	240	25	170	3020	62	30	27	0	0	1	17	0	100	1
Spices	1000	0	0	100	2000	108	0	0	0	0	0	0	0	0	0	0	0	0
Starch	375	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vermicelli	212.8	7.52	1.44	38.4	12.8	0.48	1.44	0	0	0	0	5.6	0	0	0	0	0	0
Vanilla	11.52	0.0024	0.0024	0.506	0	0	0.0024	0	0	0	0	0	0	0	0	0	0	0
Cacao	52.5	1.365	0.675	10.2	136.35	0.495	0.675	255.75	1.95	0	0	8.175	0	0	0	0	1.05	0
Total	**24978**	**925**	**407**	**4214**	**11796**	**324**	**407**	**24472**	**152**	**2140**	**33**	**401**	**0**	**18**	**767**	**80**	**7111**	**7**

Source: The Egyptian Food Bank (EFB)

Figure A2: The Impact of Food Subsidy on Calorie Intake and Dietary Quality (% RDA)



Source: Authors' calculations based on household data.

Table A2: Heterogenous treatment effects across rural and urban households

Panel A: Heterogenous effects on household dietary diversity

	(1)	(2)	(3)	(4)
	HDDS	**HDDS**	**HDDS**	**HDDS**
		Rural		**Urban**
Round	-0.624**	-0.624**	-0.713**	-0.713**
	(0.285)	(0.285)	(0.281)	(0.281)
Food Box	0.558*		0.644*	
	(0.329)		(0.325)	
Staple-Heavy Box		0.179		0.504
		(0.380)		(0.375)
Nutrition-Sensitive Box		0.929***		0.780**
		(0.341)		(0.349)
R-squared	0.026	0.045	0.043	0.046
Mean of dependent variable at baseline	9.782	9.782	9.625	9.625
No. observations	3032	3032	1594	1594

Panel B: Heterogenous effects on households' preference for in-kind transfers

	(1)	(2)	(3)	(4)
	Prefer in-kind	**Prefer in-kind**	**Prefer in-kind**	**Prefer in-kind**
		Rural		**Urban**
Round	0.165***	0.165***	0.146***	0.146***
	(0.030)	(0.030)	(0.049)	(0.049)
Food Box	0.095**		0.088	
	(0.040)		(0.056)	
Staple-Heavy Box		0.066		0.078
		(0.050)		(0.065)
Nutrition-Sensitive Box		0.122***		0.098*
		(0.046)		(0.057)
R-squared	0.162	0.164	0.139	0.139
Mean of dependent variable at baseline	0.594	0.594	0.618	0.618
No. observations	3032	3032	1594	1594

Notes: Standard errors, clustered at the village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
The HDDS is the Household Dietary Diversity Score, a qualitative measure of the household's consumption, reflecting the economic ability of the household to access a variety of foods, ranging from 0 (consuming no food groups) to 12 (consuming twelve food groups). The FIES is Food Insecurity Experience Score a self-reported metric, constructed of eight questions on food-related behaviors and experiences associated with difficulties in accessing adequate food due to financial or other resource constraints, ranging from 0 (no insecurity at all) to 8 (maximum level of insecurity).

Table A3: The Impact of Food Subsidy on Calorie Intake and Dietary Quality (% RDA)

	(1)	(2)	(3)	(4)	(5)	(6)
	Food Energy Intake (kcal%RDA)	Food Energy Intake (kcal%RDA)	Protein Intake (gm%RDA)	Protein Intake (gm%RDA)	Iron Intake (mg%RDA)	Iron Intake (mg%RDA)
Round	-5.425*	-5.425*	-22.338***	-22.338***	4.589	4.589
	(2.919)	(2.919)	(4.644)	(4.645)	(3.026)	(3.026)
Food Box	7.885**		8.601		7.450*	
	(3.883)		(5.719)		(3.883)	
Staple-Heavy Box		6.017		3.229		4.415
		(4.468)		(6.620)		(4.525)
Nutrition-Sensitive Box		9.726**		13.895**		10.440**
		(4.816)		(6.556)		(4.610)
R-squared	0.005	0.006	0.046	0.049	0.041	0.044
Mean of dependent variable at baseline	80.366	80.366	106.312	106.312	55.190	55.190
No. observations	4607	4607	4607	4607	4607	4607

Notes. Standard errors, clustered at the village level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Nutrition Conversion Factors

Item	Reported Quantity	Standardized Weight (gm)	Note
Bakery			
Baladi/Flour Bread	1 loaf	45-90	Consumed nationwide.
Fino Bread	1 loaf	40-60	
Shamsi Bread	1 loaf	500	
Merahrah Bread	1 loaf	152	
Rouqaq	1 piece	50	Consumed in Qena governorate.
Motabaq	1 piece	900	
Moharad	1 piece	20	
Fayesh Seadi	Few pieces	39	
Tabana	1 piece	120	Consumed in South Sinai governorate.
Farayesh	1 piece	45	(Out-of-sample)
Shamsi Togary Bread	1 loaf	352	
Sag Bread	1 piece	47	Consumed in ElBahr ElAhmar governorate.
Qaboury	1 loaf	135	(Out-of-sample)
Sag Pie	1 piece	100	
Mgardah Bread	1 loaf	50	
Madmousa Bread	1 loaf	140	Consumed in Matrouh governorate.
Mohammar Bread	1 loaf	150	
Wheat Bread	1 loaf	431	
Battaw Abu Naghza Bread	1 loaf	60	
Battaw Mkhallat Bread	1 loaf	88	Consumed in Monofia governorate.
Battaw Mrahrah Bread	1 loaf	90	
Meshaltet Pie	1 piece	1626	
Rouqaq	1 piece	80	
Fayoumi Bread	1 loaf	420	Consumed in Fayoum governorate.
Drinks			
Any Type	Large cup	110-150	
(e.g., Juice, Milk, Hot Drinks)	Medium cup	90-110	Assuming the cup contains 90% water.
	Small cup (usually for tea)	60-70	Enumerators ask for the number of consumed spoons of sugars and convert according to the below conversion factors for spoons.
	Very small cup (for Khamseena tea)	20-25	
Plates			
General	Medium	225-256	Alternatively, measuring could be done based on the number of spoons, assuming each spoon is equivalent to 15-25 gm.
Cooked Vegetables	Large	350-365	
	Medium	225-256	Assuming the plate contains 80% water.
	Small	145-161	
Rice, Pasta, Couscous	Large	337-396	
	Medium	156-190	Alternatively, measuring could be done based on the number of spoons, assuming each spoon is equivalent to 10-15 gm.
	Small	90-126	
Fish			
Whole	Large	170-250	
	Medium	150-200	
	Small	100-150	
Piece	Large	90-140	
	Medium	80-90	
	Small	40-70	
White Meat			
Any Type	Breast piece	200-230	
	Sigh (Large) piece	190-230	
	Sigh (Small) piece	120-150	
	Pin piece	70-100	
Red Meat			
Any Type	Large piece	90-140	
	Medium piece	80-90	
	Small piece	40-70	
Fruits and Vegetables			
Large-sized	Large piece	70-110	
(e.g., Watermelon, Cantaloup)	Medium piece	50-60	
	Small piece	25-35	
Medium-sized	Large piece	150	
(e.g., Apple, Tomato, Cucumber)	Medium piece	50-60	
	Small piece	25-35	
Small-sized	Few large-sized seeds	10 and above	20 gm and above for large-sized 1-2 dry dates seeds.
(e.g., Dry Dates, Grapes)	Few medium-sized seeds	7-10	
	Few small-sized seeds	5-7	

Source: Researchers from Egypt's National Research Center.

Table A5: Food Composition Table

	Food Energy	Moisture	Protein	Fat	Carbohydrate, total (incl. fiber)	Fiber	Ash	Calcium	Phosphorus	Iron	B-Carotene Equivalent	Thiamine	Riboflavin	Niacin	Tryptophan	Ascorbic acid
	Cal.	%	gm	gm	gm	gm	gm	mg	mg	mg	mcg	mg	mg	mg	mg	mg
Rice and Rice products																
Whole grain rice (Branded rice)	353.00	10.30	6.20	2.00	76.40	10.30	5.10	27.00	312.00	7.60	-	0.34	0.05	5.80	-	-
Brown rice (Basmati)	357.00	12.40	8.10	1.60	76.60	0.90	1.30	22.00	250.00	2.00	-	0.36	0.06	5.20	-	-
Rice flour	362.00	11.10	6.80	0.50	81.10	0.40	0.50	11.00	164.00	1.80	-	0.12	0.03	2.70	-	-
White Rice	363.00	12.00	7.00	0.50	79.90	0.40	0.60	9.00	127.00	1.70	-	0.10	0.03	2.80	-	-
Cabbage stuffed cooked	125.91	69.75	4.06	7.56	10.64	1.54	4.12	40.06	-	0.56	-	-	0.14	-	-	4.76
Koshary	176.95	65.96	6.03	9.93	48.94	2.13	-	-	-	-	1.06	-	1.06	0.99	-	-
Wheat Flour Products																
Fino bread	343.00	10.30	8.90	3.00	75.60	6.20	2.20	41.00	234.00	10.00	-	0.24	0.10	1.90	-	-
Biscuits	367.00	16.10	15.40	13.60	52.30	3.70	2.60	153.00	360.00	12.50	-	0.19	0.17	1.50	-	-
Shamy bread	388.00	6.00	12.20	1.60	79.40	0.60	0.80	31.00	87.00	2.70	-	0.11	0.06	1.30	-	-
Baladi bread	267.00	35.70	7.60	1.30	54.80	0.50	0.60	20.00	100.00	1.50	-	0.07	0.01	1.20	-	-
European bread	252.00	39.10	7.90	1.40	50.50	1.00	1.10	21.00	121.00	1.60	-	0.04	0.02	0.90	-	-
Toast bread	309.00	25.00	9.30	2.30	61.30	0.40	2.10	44.00	124.00	2.00	-	0.17	0.09	1.10	-	-
Starch	360.00	13.20	4.50	0.80	81.10	0.60	0.40	10.00	58.00	4.00	-	-	-	-	-	-
Corn Biscuits	341.00	12.00	10.40	4.00	71.60	1.90	2.00	22.00	286.00	20.70	-	0.30	0.22	1.70	-	3.00
Couscous	348.00	13.70	8.20	1.20	74.10	-	2.80	300.00	200.00	11.00	-	0.16	-	-	-	-
Fitter	384.00	31.40	8.40	27.50	30.70	0.80	2.00	51.00	150.00	2.90	-	0.25	0.05	0.80	-	-
Wheat flour fine Type 405	336.77	13.89	9.72	0.99	70.85	3.97	2.22	15.08	74.02	1.59	-	-	-	-	-	-
Wheat Macaroni	330.00	32.30	4.70	12.60	49.80	0.50	0.60	23.00	88.00	1.80	tr.	0.08	0.03	0.60	-	-
Low fate cake	342.00	12.50	2.20	0.30	82.70	3.40	2.30	254.00	41.00	23.20	-	-	-	-	-	-
Pudding sweet	170.00	57.70	1.20	0.80	39.60	1.40	0.70	-	-	-	-	-	-	-	-	2.00
Wheat and corn macaroni	338.00	11.40	9.60	2.80	74.00	2.30	2.20	66.00	320.00	-	-	tr.	0.10	3.00	-	-
Germinated wheat	183.00	51.60	5.20	1.20	40.90	3.40	1.10	23.00	130.00	5.10	-	0.06	0.15	2.50	-	-
Cake with cotton seed oil	369.00	8.00	27.40	7.90	51.10	17.50	5.60	-	-	-	-	-	-	-	-	-
Flaxseed Cake	524.00	4.10	18.60	37.00	36.90	-	3.40	280.00	-	42.00	75.00	0.09	0.13	2.30	-	tr.
Legumes																
lablab bean	340.00	10.90	22.80	1.00	62.10	8.60	3.20	90.00	328.00	9.00	-	0.54	0.14	2.30	-	-
Peanut bean	549.00	6.50	23.20	44.80	23.00	2.90	2.50	49.00	409.00	3.80	15.00	0.79	0.14	15.50	-	1.00
Cake with peanut bean	386.00	8.40	36.40	12.20	38.70	5.10	4.30	80.00	568.00	18.30	-	1.32	0.18	24.90	-	-
Soybean	405.00	9.50	33.70	17.90	33.90	4.70	5.00	183.00	541.00	6.10	55.00	0.71	0.25	2.00	-	-
Taamiah f(rom Fava bean)	408.00	27.00	10.00	31.80	26.30	1.20	4.90	72.00	153.00	6.10	-	2.00	-	3.59	-	2.20
Chickpea	357.00	10.00	19.60	3.70	63.50	6.70	3.20	252.00	271.00	11.10	60.00	0.48	0.16	1.80	223.00	-
Cowpea	338.00	11.40	22.50	1.40	61.00	5.40	3.70	104.00	416.00	-	-	0.08	0.09	4.00	-	2.00
Fenugreek	369.00	7.80	28.20	5.90	54.50	8.00	3.60	220.00	358.00	24.20	55.00	0.32	0.30	1.50	274.00	-
Faba bean	554.00	1.10	29.20	42.40	24.10	20.30	3.20	194.00	474.00	6.50	-	0.08	0.97	1.90	-	-
Grassp ea	348.00	8.40	27.40	1.10	59.80	7.30	3.30	127.00	410.00	10.00	-	-	-	-	-	-
Taamiah (from grass pea vine)	405.00	29.50	9.50	32.60	24.30	0.80	4.10	74.00	162.00	4.80	-	-	-	-	-	-
Fasolia bean	348.00	9.70	19.40	1.10	66.60	5.50	3.20	103.00	392.00	15.00	-	0.76	0.19	2.30	-	-
Legumes germinated	277.75	10.33	22.92	1.42	41.83	16.58	15.16	50.00	375.00	5.00	0.08	0.75	0.25	0.99	-	1.58
Faba bean with oil (Medamis)	115.00	72.50	6.17	3.00	16.92	5.92	4.45	22.00	-	2.00	-	-	-	3.10	-	-
Kidney beans tinned	62.72	77.35	5.57	0.35	9.06	5.23	7.15	29.97	103.14	1.74	-	-	-	2.51	-	0.35
Lentils ripe tinned cooked drained	27.50	92.50	2.50	-	5.00	-	1.75	7.50	37.50	-	-	-	-	3.37	-	-
Dairy Products																
Skimmed milk	44.00	90.80	4.20	1.90	2.50	-	0.60	-	-	-	-	-	-	-	-	-
"Rayb" fermented milk	122.00	73.60	16.30	3.50	5.70	0.50	0.90	112.00	180.00	1.40	25.00	0.03	0.27	0.40	-	-
Buffalo milk	92.00	83.30	4.10	5.90	5.90	-	0.80	175.00	-	-	-	-	-	-	-	-
Skimed buffalo milk	41.00	89.20	4.20	0.10	5.70	-	0.80	-	-	-	-	-	-	-	-	-
Cammel milk	63.00	88.50	2.00	4.10	4.70	-	0.70	94.00	86.00	-	-	-	-	-	-	1.00
Cow milk	79.00	85.20	3.80	4.80	5.40	-	0.80	143.00	95.00	-	80.00	-	-	-	-	1.00
Skimmed cow milk	39.00	90.50	3.50	0.80	4.40	-	0.80	-	-	-	-	-	-	-	-	-
Kariesh Cheese	353.00	4.70	28.90	0.40	58.50	-	7.50	1,265.00	-	-	-	0.40	-	0.80	-	-
Kishk (Egyptian product made from dried buttermilk and wheat grain)	376.00	8.00	13.40	6.90	65.30	-	6.40	-	-	-	-	-	0.26	3.70	-	-
Rice milk	358.00	7.80	18.90	0.30	68.20	0.20	4.80	570.00	-	-	-	0.46	0.71	1.10	-	-
Milk pudding	10.80	39.20	6.50	38.60	1.20	4.90	520.00	-	-	-	0.30	2.30	16.10	-	-	-
Goat milk	85.00	83.90	3.40	4.90	7.00	-	0.80	-	-	-	-	-	-	-	-	1.00
Sheep milk	100.00	82.80	5.90	7.00	3.50	-	0.80	-	-	-	-	-	-	-	-	-
Cheese Domiati	228.70	58.26	10.87	17.39	7.39	-	7.16	326.96	-	0.43	-	-	-	2.27	-	-
Cheese Fita	193.79	57.92	9.63	7.45	22.20	-	15.94	222.05	-	0.47	-	11.02	0.78	2.27	-	-
Cheese Istamboli	138.04	58.70	7.61	11.41	3.26	-	36.66	290.76	-	0.54	-	-	-	2.27	-	-
Cheese Mish Egypt	89.47	71.23	12.63	2.11	5.26	-	32.01	260.00	-	0.70	-	-	-	2.27	-	-
Cheese Romi Egypt	337.65	31.76	18.82	28.24	3.53	-	15.85	665.88	-	-	-	-	-	3.70	-	-
Cheese skimmed [Karish]	91.75	76.75	11.50	1.75	8.25	-	7.02	135.00	-	0.25	-	-	0.13	1.69	-	-
Coffee with milk (beverage)	4.23	99.30	-	-	0.70	-	0.89	6.34	4.93	-	-	-	-	-	-	-
Coffee with milk and sugar (beverage)	11.70	97.15	0.30	0.10	2.35	-	0.87	6.00	5.00	0.20	-	-	-	-	-	0.05
Cow's milk boiled	65.50	87.25	3.35	3.55	4.85	-	4.33	122.00	95.00	0.05	-	-	0.15	1.44	-	0.85
Cream ice cream	188.00	62.67	6.67	8.67	20.00	-	7.03	180.00	205.33	1.33	-	-	-	1.81	-	2.00
Hard cheese	294.50	43.50	32.00	18.00	-	-	24.35	900.00	600.00	0.50	-	-	0.50	3.70	-	-
Hard cheese min. 45% fat (dry matter)	383.10	36.62	28.17	29.58	-	-	22.54	1,100.00	700.00	-	-	-	-	3.70	-	-
Ice cream from milk	84.86	81.43	2.29	2.29	13.14	-	2.97	84.00	64.00	-	-	-	-	1.81	-	1.14
Milk chocolate	536.50	1.50	9.00	31.50	54.00	1.50	10.76	214.00	242.00	2.50	-	-	0.50	-	-	-
Roquefort	366.67	44.44	22.22	33.33	-	-	27.89	666.67	388.89	-	-	-	-	2.27	-	-
Soft cheese min. 40% fat (dry matter)	266.00	54.00	22.00	20.00	-	-	16.72	450.00	350.00	-	-	-	-	2.27	-	-
Soft cheese min. 45% fat (dry matter)	275.43	53.71	20.00	21.71	-	-	19.74	400.00	400.00	0.57	-	-	0.57	2.27	-	-
Tea black with milk and sugar (beverage)	10.05	97.50	0.20	0.10	2.05	-	0.42	11.00	4.00	0.05	-	-	-	-	-	0.05
Whipping cream 30 % fat	287.50	62.50	4.17	29.17	4.17	-	2.75	79.17	58.33	-	-	-	-	-	-	-
Yoghurt min. 45% fat (dry matter)	65.75	87.67	3.42	4.11	4.11	-	4.53	130.14	100.00	-	-	-	-	2.13	-	0.68
Yoghurt min. 45% fat (dry matter) with fruit	100.00	77.78	2.78	2.78	13.89	-	3.94	113.89	83.33	-	-	-	-	2.13	-	2.78
Whole Grains																
Corn bread	332.00	10.40	6.50	5.30	70.00	-	7.80	10.00	-	4.00	-	0.12	0.23	3.50	-	-
Semolina bread	368.00	12.70	7.80	3.20	75.50	0.80	0.80	7.00	225.00	5.00	45.00	0.20	0.08	1.80	-	-

Barley bread	337.00	9.90	10.00	1.60	76.20	6.00	2.30	61.00	251.00	17.90	-	0.36	-	-	-	-
Sorghum bread	154.00	61.40	4.30	1.70	31.40	0.80	1.20	37.00	-	25.0	-	0.20	0.10	1.40	-	-
Malted bread	336.00	12.80	5.60	1.40	76.80	2.60	3.40	316.00	207.00	54.50	-	0.22	0.10	0.80	-	-
Bran bread	325.00	18.00	11.00	0.80	53.40	-	10.00	80.00	400.00	41.00	-	1.01	-	-	-	-
Oat bread	394.00	8.10	12.60	7.40	70.00	1.80	1.90	-	-	-	-	-	-	-	-	-
cassava bread	259.00	35.30	3.90	1.20	59.10	1.00	0.50	44.00	46.00	1.70	-	-	-	-	-	-
Sorghum-Whole grain	342.00	9.50	10.30	2.90	74.40	2.40	2.90	-	-	-	-	-	-	-	-	-
Other Cereals																
Macaroni	140.00	68.40	2.30	3.00	25.60	0.10	0.70	8.00	44.00	0.20	-	-	-	-	-	-
Sorghum-Red	339.00	11.50	9.80	3.10	73.60	2.30	2.00	30.00	318.00	15.60	10.00	0.29	0.28	3.70	154.00	12
Sorghum-Yellow	353.00	9.40	8.70	3.90	76.60	-	1.40	70.00	-	5.00	-	-	-	-	-	-
Couscous-Sorghum-cooked	232.00	43.40	6.00	0.80	48.90	0.70	0.90	10.00	187.00	4.00	tr.	0.23	0.06	2.00	-	-
Malt porridge	85.00	79.60	2.70	0.50	17.00	0.20	0.20	4.00	31.00	1.70	-	0.04	0.01	0.20	-	-
Sudanic Cereal (corn flex)	332.00	11.30	8.70	1.90	75.50	2.30	2.60	146.00	380.00	20.9	-	0.38	0.14	1.90	-	-
Cassava	149.00	62.00	1.20	0.20	35.70	1.10	0.90	68.00	42.00	1.90	30.00	0.04	0.05	0.60	-	31.00
Vegetables																
Potato	94.00	75.60	1.30	0.20	21.90	1.10	1.00	17.00	-	6.00	-	0.05	0.02	1.00	-	1.00
Lotus root	120.00	64.00	5.20	0.20	29.50	1.00	1.10	93.00	151.00	-	-	-	-	-	-	-
Potatoes cooked with tomato	112.00	75.00	1.90	4.90	16.20	0.60	2.00	12.00	49.00	0.60	-	-	-	-	-	-
Sweet potato	121.00	68.80	1.60	0.20	28.50	1.00	0.90	33.00	38.00	2.00	2,400.00	0.09	0.04	0.70	-	37.00
Taro Raw	102.00	73.10	1.80	0.10	23.80	1.00	1.20	51.00	88.00	1.20	-	0.10	0.03	0.80	-	8.00
Taro Cooked, flavored with garlic	87.00	80.00	1.50	3.50	13.30	0.50	1.70	56.00	61.00	0.80	-	-	-	-	-	-
Taro Cooked flavored with tomato juice	96.00	78.00	1.60	3.90	14.60	0.50	1.90	42.00	64.00	0.50	-	-	-	-	-	-
Potatoes peeled fresh cooked	68.67	80.00	2.00	-	14.33	2.33	4.06	6.00	46.00	0.33	-	-	-	-	-	12.00
Watercress	18.00	93.60	1.90	0.20	3.40	0.80	0.90	64.00	46.00	1.10	960.00	0.03	0.27	-	-	-
Cucumber	40.00	88.90	0.90	0.50	9.10	-	0.60	15.00	-	1.00	-	-	-	-	-	2.00
Lemon	32.00	89.50	0.60	0.80	8.70	0.70	0.40	19.00	21.00	0.70	10.00	0.03	0.02	0.30	-	45.00
Tomato	57.00	82.70	1.50	0.20	14.50	4.20	1.10	71.00	30.00	0.70	-	-	-	-	-	-
Chili pepper	312.00	12.90	13.90	9.40	56.00	11.10	7.80	538.00	190.00	-	1,060.00	-	0.20	4.40	-	-
Ginger	301.00	10.20	7.60	2.90	72.40	-	6.90	180.00	-	-	120.00	0.16	0.27	8.40	-	-
pepper	-	21.00	7.50	-	27.80	-	4.20	750.00	-	-	-	-	-	-	-	-
Thym	68.00	78.30	4.30	0.80	14.10	5.50	2.50	56.00	45.00	9.20	-	-	-	-	-	-
Parsley leaf fresh	52.50	80.83	4.17	-	7.50	4.17	14.54	245.00	128.33	5.83	5.00	-	-	-	-	165.83
Spinach leaves cooked	60.95	87.03	2.02	4.76	7.20	3.17	5.50	83.00	-	7.78	6.48	-	-	-	-	7.35
Aubergine fried	76.00	79.25	2.00	2.50	15.00	-	5.91	23.00	-	0.75	-	-	-	-	-	2.25
Carrot fresh	25.91	89.09	0.91	-	5.00	3.64	4.47	40.91	35.00	2.27	7.73	-	-	-	-	6.82
Cauliflower fresh cooked	18.40	92.00	2.40	-	1.60	2.40	3.42	20.00	48.80	0.80	-	-	-	-	-	36.00
Cucumber fresh	12.28	95.61	0.88	-	1.75	0.88	1.96	14.91	22.81	0.88	-	-	-	-	-	7.89
Cucumber cooked	12.50	96.00	0.50	0.25	1.75	0.50	1.73	16.00	23.00	0.50	0.50	-	-	-	-	4.50
Green pepper fresh	20.00	90.00	-	-	5.00	5.00	2.30	10.00	30.00	-	-	-	-	-	-	140.00
Mixed vegetables drink	12.28	95.91	1.17	-	1.75	-	3.30	12.87	22.22	0.58	0.58	-	-	-	-	9.94
Mixed vegetables cooked	34.12	87.06	2.35	-	4.71	3.53	3.02	24.71	54.12	1.18	2.35	-	-	-	-	32.94
Peas green fresh cooked	91.99	80.14	4.53	5.23	9.76	7.32	1.48	10.10	-	1.39	-	-	-	-	-	3.14
Radish red fresh	14.63	94.31	0.81	-	2.44	1.63	3.42	34.15	26.02	1.63	-	-	-	-	-	29.27
Radish white fresh	13.21	93.64	1.20	-	2.40	2.40	4.19	33.61	28.81	1.20	-	-	-	-	-	27.61
Raw vegetable salad	80.59	79.41	0.59	-	16.47	1.18	1.38	15.88	19.41	0.59	-	-	-	-	-	17.06
Red pepper fresh	36.59	86.98	1.20	-	6.60	3.60	3.19	10.20	29.99	0.60	2.40	-	-	-	-	139.77
Tomato concentrate	174.87	50.25	10.05	2.01	25.13	1.01	33.22	154.77	299.50	5.03	6.03	-	-	-	-	148.74
Tomato paste	75.00	77.50	5.00	-	12.50	2.50	15.83	47.50	95.00	2.50	2.50	-	-	-	-	37.50
Tomato red fresh	17.50	94.25	1.00	0.25	2.63	1.00	3.02	14.00	26.00	0.50	0.50	-	-	-	-	24.50
Tomatoes fresh cooked	19.70	93.60	0.99	-	2.96	0.99	2.92	15.76	29.06	0.49	0.49	-	-	-	-	15.27
White cabbage fresh	24.56	90.35	1.75	-	4.39	2.63	3.18	45.61	28.07	0.88	-	-	-	-	-	45.61
Fruits																
Coconut	388.00	42.60	3.60	39.00	13.80	6.60	1.00	21.00	103.00	2.50	25.00	0.03	0.03	0.60	-	2.00
Coconut milk	450.00	22.80	4.20	33.30	38.50	7.20	1.20	136.00	140.00	3.60	385.00	0.52	1.14	-	-	-
Doum	395.00	6.00	3.90	6.40	80.60	9.40	3.10	144.00	226.00	-	-	-	-	-	-	-
Mango	60.00	82.90	0.60	0.20	15.80	0.90	0.50	24.00	22.00	1.20	3,200.00	0.03	0.05	0.40	-	42.00
Mulberry	-	88.40	-	-	-	-	-	38.00	33.00	1.50	-	-	0.08	-	-	61.00
cantaloupe	18.00	94.80	0.50	0.10	4.20	0.50	0.40	20.00	28.00	1.70	30.00	0.04	0.02	0.60	-	12.00
Mandarin	49.00	86.10	0.80	0.30	12.30	0.60	0.50	38.00	17.00	1.10	230.00	0.08	0.05	0.20	-	28.00
Sour Orange	37.00	89.20	0.60	-	9.70	0.40	0.50	18.00	12.00	-	290.00	-	-	-	-	48.00
Sweet orange	43.00	88.00	0.60	0.40	10.50	0.60	0.50	28.00	17.00	0.10	75.00	0.02	0.03	0.20	-	46.00
Palm date dried	540.00	26.20	1.90	58.40	12.50	3.20	1.00	82.00	47.00	4.50	42.00	0.20	0.10	1.40	-	12.00
Agwa Amhat with 70% moisture	242.00	69.10	0.40	27.60	2.60	0.40	0.30	50.00	110.00	2.40	6,150.00	0.05	0.05	0.80	1.60	3.00
Papaya	32.00	90.80	0.40	0.10	8.30	0.90	0.40	21.00	15.00	0.60	950.00	0.03	0.03	0.40	-	52.00
Peach	50.00	85.80	0.90	0.20	12.50	0.90	0.60	7.00	19.00	0.50	25.00	-	-	-	-	16.00
Pear	58.00	84.20	0.40	0.60	14.50	1.80	0.30	6.00	12.00	0.20	-	-	-	-	-	-
kaka	-	80.90	-	-	-	-	0.50	24.00	-	-	1,420.00	-	-	-	-	5.00
Pineapple	47.00	86.80	0.40	0.10	12.40	0.50	0.30	16.00	14.00	0.40	90.00	0.06	0.03	0.10	-	34.00
Plum	49.00	86.10	0.60	0.20	12.50	1.10	0.60	10.00	12.00	0.60	770.00	-	-	-	-	-
Pomegranate	78.00	78.10	1.60	0.30	19.60	4.50	0.40	12.00	37.00	1.00	40.00	-	-	-	-	-
Desert Date (Egyptian myrobalan)	94.00	74.30	1.90	1.20	21.70	5.40	0.90	-	-	4.70	-	0.02	0.03	1.00	-	1*
Strawberry	37.00	89.00	0.80	0.30	8.90	1.20	1.00	18.00	18.00	0.70	80.00	-	-	1.90	-	53.00
Sugarplum	92.00	73.40	1.80	0.10	23.80	-	0.90	125.00	-	-	-	-	-	-	-	-
Apple	87.00	75.00	1.40	0.20	22.40	1.40	1.00	59.00	-	-	-	-	-	-	-	-
Watermelon	22.00	93.60	0.50	0.10	5.50	0.40	0.30	8.00	9.00	0.30	250.00	0.04	0.05	0.10	-	8.00
Apricot	128.00	64.00	1.00	0.20	34.20	0.80	0.60	11.00	8.00	0.30	-	0.03	0.53	1.90	-	60.00
Avocado	121.00	80.30	1.40	11.30	6.10	1.80	0.90	19.00	46.00	1.40	530.00	0.05	0.15	2.00	-	18.00
Black Plum (Arasia)	104.00	70.60	0.70	0.40	27.40	1.30	0.90	0.34	0.47	0.27	-	0.02	-	-	-	9.00
Date fruit	142.00	60.20	1.60	0.60	36.60	3.30	1.00	34.00	350.00	6.00	145.00	-	-	5.40	-	30.00
Date Dried (Tamr)	293.00	17.20	2.70	0.60	77.60	3.90	1.90	82.00	85.00	9.40	30.00	0.06	0.15	1.80	13.00	-
Fig fresh	56.00	83.00	1.90	0.10	13.70	3.60	1.30	205.00	66.00	4.00	-	0.04	0.04	0.30	-	22.00
Fig Dried	251.00	27.90	2.70	-	67.20	17.00	2.20	-	-	-	-	-	-	-	-	-
Guava	64.00	82.20	1.10	0.40	15.70	5.30	0.60	24.00	31.00	1.30	290.00	0.06	0.04	1.30	-	326.00
Jujube	97.00	71.50	1.90	-	25.20	2.10	1.40	51.00	20.00	-	-	-	-	-	-	58.00
Banana fresh	95.00	73.57	1.43	-	21.43	2.14	4.67	9.29	27.86	0.71	-	-	-	-	-	12.14
Grapes fresh	70.71	81.43	0.71	-	15.71	0.71	2.40	17.86	20.00	0.71	-	-	-	-	-	4.29
Mango fresh	60.20	83.40	0.60	0.40	12.80	1.80	2.38	12.00	13.00	0.40	2.80	-	-	-	-	38.80

Orange fresh	47.20	85.60	0.80	-	8.80	2.40	2.58	42.40	23.20	0.80	-	-	-	-	-	50.40
Peach fresh	40.75	87.00	0.75	-	9.00	2.25	2.19	7.00	25.00	0.50	0.50	-	-	-	-	10.00
Sour cherry fresh	55.90	86.96	-	-	12.42	-	1.49	6.21	18.63	-	-	-	-	-	-	12.42
Strawberry fresh	31.52	89.32	-	-	5.25	1.75	2.15	24.52	24.52	1.75	-	-	-	-	-	64.80
Mixed fruit fresh	85.96	76.32	0.88	-	19.30	1.75	2.59	16.67	19.30	-	-	-	-	-	-	20.18
Meat and Poultry																
Bacon	629.00	20.00	9.10	65.00	1.10	-	4.80	13.00	120.00	1.30	-	-	-	-	-	-
Beef-Very thin	122.00	74.60	20.60	3.80	-	-	1.00	22.00	141.00	4.60	-	0.06	0.17	3.20	-	-
Beef-Medium fat	237.00	63.10	18.20	17.70	-	-	1.00	11.00	194.00	3.60	-	-	-	-	-	-
Beef fat removed	119.00	50.60	27.10	0.40	-	-	21.90	91.00	270.00	5.40	-	0.02	0.21	3.40	-	-
Pastrami Beef	250.00	29.40	55.40	1.50	-	-	13.70	49.00	910.00	4.90	-	0.02	0.18	6.30	-	-
Cooked Beef fat	172.00	68.50	22.60	8.00	-	-	0.90	16.00	-	2.80	-	0.06	0.20	7.2	-	-
Camel meat	267.00	59.10	19.60	20.30	-	-	1.00	-	-	-	-	-	-	-	-	-
Chicken	146.00	72.00	20.50	6.50	-	-	1.00	10.00	206.00	1.10	-	-	-	-	-	-
Sheep	368.00	13.30	80.60	2.60	-	-	3.50	3.00	209.00	9.10	-	0.04	0.24	4.50	-	-
lamb meat	265.00	60.70	16.90	21.40	-	-	1.00	10.00	148.00	2.00	-	-	-	3.10	-	-
Sausage- beef	593.00	9.40	36.00	47.40	3.00	-	4.20	-	-	-	-	-	-	-	-	-
Stomach-beef-cooked	579.00	7.80	36.50	44.40	5.90	3.40	5.40	91.00	65.00	21.00	-	0.10	0.06	1.80	-	-
Tongue-beef-cooked	-	68.00	16.40	15.00	-	-	-	8.00	199.00	4.00	-	-	-	-	-	-
Beef liver cooked	147.83	65.22	21.74	4.35	4.35	-	7.83	8.70	347.83	8.70	-	-	4.35	36.46	-	17.39
Chicken egg fresh	154.00	74.00	13.00	11.00	1.00	-	5.78	56.00	216.00	2.00	-	-	-	1.66	-	-
Chicken egg fresh cooked	148.57	75.14	12.57	10.86	0.57	-	4.45	54.00	208.00	1.71	-	-	0.29	1.66	-	-
Chicken egg fried	249.00	55.00	13.00	22.00	8.00	-	18.44	182.00	396.00	8.00	-	-	-	2.30	-	-
Chicken fryer. breast fresh (white meat)	101.95	74.71	23.74	0.78	-	-	5.82	14.01	135.02	2.72	-	-	-	3.40	-	-
Chicken fryer. legs fresh cooked	214.34	59.30	28.29	11.24	-	-	6.35	17.05	205.81	1.94	-	-	0.39	2.36	-	-
Chicken stewing. legs fresh cooked	303.64	51.17	24.94	22.86	-	-	5.99	10.91	171.95	1.30	-	-	0.26	2.36	-	-
Chicken stewing. meat with skin	253.85	61.54	15.38	23.08	-	-	6.15	7.69	176.92	-	-	-	-	2.36	-	-
Duck. fresh meat (medium fat)	225.44	64.04	18.42	17.54	-	-	4.88	14.04	200.00	2.63	-	-	-	4.93	-	-
Goat. fresh meat cooked (medium fat)	190.00	63.33	26.67	10.00	-	-	5.03	10.00	163.33	3.33	-	-	-	-	-	-
Kofta grilled	238.03	59.15	16.90	15.49	7.04	-	5.11	7.04	-	12.68	-	-	-	3.46	-	-
Luncheon meat	302.67	54.67	14.00	27.33	-	-	12.89	12.00	130.00	0.67	-	0.67	-	1.81	-	24.00
Meat cooked	222.81	58.33	27.63	12.28	0.88	-	4.64	6.14	163.16	2.63	-	-	0.44	2.71	-	-
sausage	294.37	57.04	11.27	28.17	-	-	13.77	12.68	140.14	0.70	-	0.70	-	2.27	-	24.65
Fishes																
Thunnus fish	170.00	65.50	24.00	7.50	-	-	3.00	-	-	-	-	-	-	-	-	-
Sardine fish	275.00	12.20	54.90	4.50	-	-	28.40	-	-	-	-	0.18	0.08	10.00	657.00	-
Anchovy fish-raw	99.00	68.10	21.00	1.00	-	-	9.90	-	-	-	-	-	-	-	-	-
Anchovy fish-Smoked-Dried-salted	304.00	11.50	61.90	4.40	-	-	22.20	-	-	-	-	0.07	0.27	19.60	-	-
Turbot fish	134.00	74.30	18.60	6.10	-	-	1.00	-	-	-	-	-	-	-	-	-
Nile Tilapia (Bulti) fish cooked	109.00	73.20	24.50	0.50	-	-	1.80	-	-	-	-	-	-	-	-	-
Mackerel fish	89.00	78.80	19.50	0.60	-	-	1.10	50.00	196.00	0.70	-	-	-	-	-	-
Gandolfi seafood	319.00	13.50	50.20	2.20	20.60	-	13.50	1,800.00	250.00	-	-	0.05	0.27	4.70	-	-
Besaria fish	366.00	12.10	66.40	9.20	-	-	12.30	-	-	-	-	0.30	0.60	11.80	-	-
Denise Fish	267.00	11.50	55.60	3.30	-	-	29.60	-	-	-	-	0.04	0.08	7.80	695.00	-
Nile Tilapia (Bulti) Fish fried	227.11	56.63	23.49	12.65	4.82	-	8.89	18.07	-	1.81	-	-	-	3.54	-	-
Nile Tilapia (Bulti) grilled	163.64	63.64	22.73	4.55	4.55	-	9.82	36.36	-	4.55	-	-	-	4.00	-	-
Tuna tinned with oil	164.81	70.37	16.67	11.11	-	-	6.61	1.85	-	-	-	-	-	-	-	-
Eggs																
Egg noodles cooked	125.83	68.06	4.44	1.11	24.44	1.94	1.43	10.00	68.06	0.56	-	-	-	0.93	-	-
Egg boiled	140.00	77.00	11.80	9.60	0.60	-	1.00	45.00	200.00	2.60	300.00	-	-	0.30	-	-
Soda																
Carbonated soft drinks	41.59	89.72	-	-	10.05	-	0.16	4.91	0.93	0.47	-	-	-	-	-	-
Soda beverages (caffeinated)	60.67	84.89	3.33	-	10.89	-	0.16	4.00	6.00	-	-	-	-	-	-	-
Soda beverages low calory	3.51	98.68	-	-	-	-	0.20	3.95	9.21	-	-	-	-	-	-	-
Sugar and Sweetened Beverages																
Tea	3.00	98.50	0.40	0.10	-	-	0.40	9.00	18.00	0.40	-	-	-	-	-	-
Palm juice	34.00	94.00	0.40	0.10	1.50	-	0.20	2.00	5.00	0.50	-	0.03	0.01	-	-	4.00
Grape Juice	34.00	90.00	0.80	0.10	8.60	0.60	0.50	21.00	18.00	0.60	25.00	0.05	0.03	0.20	-	44.00
Sugarcane juice	47.00	86.10	0.40	-	12.70	-	0.80	15.00	22.00	0.90	-	-	-	-	-	-
Chocolate	351.00	1.00	4.40	31.10	62.10	-	1.40	-	-	-	-	-	-	-	-	-
Powder	273.00	4.90	16.50	20.80	51.50	-	6.30	-	-	-	-	-	-	-	-	-
Cinnamon	305.00	11.80	3.10	1.20	80.60	-	3.30	470.00	-	-	-	0.02	0.07	0.70	-	-
Honey	311.00	19.20	0.40	-	80.10	0.70	0.30	11.00	4.00	0.60	-	-	-	-	-	-
Molasses	-	24.00	-	-	40.10	-	-	270.00	-	7.00	-	0.06	0.10	-	-	-
Sugar	344.00	7.60	-	-	88.80	-	2.40	-	-	-	-	-	-	-	-	-
Coffee	4.00	97.50	0.40	0.10	1.60	-	0.40	9.00	18.00	0.40	-	-	-	-	-	-
Palm juice	34.00	94.00	0.40	0.10	1.50	-	0.20	2.00	5.00	0.50	-	0.03	0.01	-	-	4.00
Mango Juice, canned	62.00	83.30	0.30	0.40	15.90	0.20	0.10	2.00	6.00	4.00	285.00	0.01	0.03	0.20	-	-
Nectarine fruit pulp	39.00	88.70	0.60	0.10	10.00	0.80	0.60	10.00	17.00	0.40	-	-	-	-	-	-
Tea black with sugar (beverage)	8.85	97.75	-	-	2.15	-	0.13	2.00	-	0.08	-	-	-	-	-	-
Orange juice	44.95	88.15	0.95	0.15	8.80	0.25	2.39	43.00	24.00	0.40	0.10	0.05	0.05	-	-	30.85
Apple juice	49.52	87.62	0.48	0.48	10.48	-	1.54	7.14	10.95	0.48	-	-	-	-	-	7.62
Mixed fruit drink	71.96	81.78	0.47	0.23	16.36	-	1.29	10.98	13.08	0.23	-	-	-	-	-	7.24
Mixed fruit juice	62.87	83.80	0.93	0.27	12.67	-	2.51	18.00	26.00	0.60	0.13	0.07	0.07	-	-	16.00
Seeds and Nuts																
Almond	550.00	7.00	14.20	46.50	27.50	17.30	4.80	887.00	-	38.00	-	0.75	0.30	4.40	-	-
Sesame	518.00	6.00	10.40	36.30	43.90	18.80	3.40	272.00	294.00	1.30	-	0.05	0.47	-	-	13.00
Sesame cake	335.00	12.30	17.00	3.60	60.50	14.10	6.60	586.00	433.00	6.10	-	0.17	1.12	-	-	25.00
Black sesame	465.00	6.00	19.30	27.50	41.30	12.20	5.90	348.00	676.00	-	-	-	-	-	-	-
Cabbage seeds	416.00	7.50	22.20	18.30	45.60	15.90	6.40	-	-	-	-	0.54	0.40	6.50	-	-
Cashew	542.00	7.60	17.40	43.40	29.20	1.40	2.40	76.00	578.00	18.0	-	0.65	0.25	1.60	-	7.00
Cottonseed	437.00	8.00	20.20	21.20	46.60	18.50	4.00	158.00	824.00	-	-	-	-	-	-	-
Flaxseed raw dried	498.00	6.30	18.00	34.00	37.20	8.80	4.50	271.00	462.00	43.80	-	0.17	0.16	1.40	-	-
Cumin	463.00	8.30	7.20	23.60	59.00	2.20	1.90	165.00	247.00	-	-	-	-	-	-	-
Hazelnut	588.00	5.20	19.90	51.50	21.70	5.60	1.70	-	-	-	-	-	-	-	-	-
Mustard	471.00	13.50	23.60	33.40	27.00	3.50	2.50	132.00	371.00	6.60	-	-	-	-	-	-
Safflower seed	482.00	4.80	12.60	27.80	50.50	25.10	4.30	126.00	310.00	9.70	-	0.59	0.14	0.50	-	-
Sesam	558.00	5.20	17.90	48.40	22.30	4.50	6.20	816.00	600.00	8.10	30.00	0.68	0.19	3.40	-	tr.

lime seed	511.00	6.50	28.00	37.60	24.40	15.60	3.50	67.00	698.00	12.20	-	-	-	-	-	-
Sunflower	486.00	5.50	13.00	27.70	51.30	25.90	2.50	-	-	-	-	-	-	-	-	-
Walnut	657.00	2.50	15.60	64.40	15.80	-	1.70	-	-	-	-	-	-	-	-	-
Watermelon seed without shell	581.00	3.60	27.10	50.30	16.30	2.30	2.70	44.00	696.00	13.00	-	0.50	-	1.90	-	-
Peanut roasted	579.00	2.00	26.00	49.00	9.00	11.00	14.49	65.00	409.00	2.00	-	-	-	-	-	-
Fats and Oils																
Peanut butter	555.00	7.20	25.00	47.20	18.00	1.50	2.60	61.00	425.00	6.00	-	0.39	-	-	-	-
Tahini	640.85	2.82	18.31	61.97	14.08	1.41	9.48	100.00	839.44	8.45	-	-	-	-	-	-
Ghee	862.00	1.40	-	97.80	0.60	-	0.20	-	-	0.40	-	-	-	-	-	-
Buffalo butter	875.00	0.20	-	99.40	0.40	-	-	-	-	-	765.00	-	-	-	-	-
Palm fate	875.00	0.70	-	98.90	0.30	-	0.10	6.00	7.00	-	-	0.01	0.02	-	-	-
Extra Foods																
Biscuits with Date school	500.00	18.00	8.00	18.00	52.00	4.00	3.56	50.00	-	5.00	-	-	-	-	-	-
Biscuits wafer	433.80	2.82	5.63	21.13	77.46	2.82	2.62	22.54	-	-	-	-	-	-	-	-
Boksomat	393.50	14.50	8.50	14.00	64.50	2.00	3.10	31.00	-	-	-	-	-	-	-	-
Butter biscuits	480.00	2.00	10.00	21.33	62.00	2.67	9.49	136.00	245.33	1.33	-	-	-	-	-	1.33
Butter Cake	376.67	22.00	6.00	14.67	54.67	2.00	2.04	31.33	60.00	0.67	-	-	-	-	-	-
Crackers	376.39	4.17	9.72	2.78	75.00	4.17	16.61	66.67	458.33	1.39	-	-	-	-	-	-
Halawa Tahini	516.67	2.38	9.52	28.57	57.14	2.38	3.29	57.14	266.67	4.76	-	-	-	-	-	-
Basbousa	294.00	26.00	6.00	5.00	57.00	-	1.01	12.00	-	-	-	-	-	-	-	-
Potatoes fried Sinai	340.22	26.09	5.43	14.13	51.09	1.09	9.24	34.78	150.00	-	-	-	-	-	-	6.52
Chocolate	536.00	2.00	10.00	32.00	54.00	2.00	10.74	214.00	242.00	2.00	-	-	-	2.82	-	-
Crisps-not potato	451.72	1.10	2.34	12.28	81.93	1.66	2.74	45.93	67.03	0.97	-	0.14	-	-	-	0.55
Potato crisps	535.92	7.75	5.63	39.44	40.85	2.82	17.16	52.11	147.18	2.11	-	-	-	-	-	7.75
Honey	311.33	15.33	-	-	84.67	-	0.70	6.00	6.00	0.67	-	-	-	-	-	-
Molasses	204.67	40.00	-	-	54.67	-	0.45	-	-	20.00	-	-	-	-	-	-
Sugar	406.67	-	-	-	100.00	-	0.03	-	-	-	-	-	-	-	-	-
Sweets	410.00	-	-	-	100.00	-	-	-	-	-	-	-	-	-	-	-
Yeast	290.00	-	40.00	-	30.00	20.00	36.60	80.00	1,280.00	20.00	-	-	-	35.00	-	-
Mixed fruit jam	275.00	30.00	-	-	65.00	-	1.10	5.00	5.00	-	-	-	-	-	-	-

Source: Researchers from Egypt's National Research Center.
Note: Composition in terms of 100 gm edible portion.

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