

Executive Summary of the

Rapid Nutritional Assessment For West Bank and Gaza Strip

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Executive Summary

Introduction

In December 2001, the Palestinian Minister of Health requested the USAID West Bank/Gaza (WB/G) Mission to undertake an assessment of the nutritional status of preschool aged children and women of reproductive age throughout the West Bank and Gaza Strip. USAID WB/G accepted this task and added it to the portfolio of the Emergency Medical Assistance Program (EMAP), a cooperative effort of USAID and CARE International (CARE)/American Near East Refugee Aid (ANERA). CARE had a pre-established contractual relationship with Johns Hopkins University (JHU) to provide technical assistance in health. Within that context, JHU developed a comprehensive three component nutritional assessment to evaluate the extent and causes of malnutrition and anemia and to identify areas for strategic programmatic interventions. The assessment contained: 1) a household interview and examination survey; 2) a survey of market places; and 3) a survey of maternal child health (MCH) clinic practices and capabilities. The surveys of the Nutritional Assessment for West Bank and Gaza Strip (NA/WBGS) were field tested and carried out during June-August 2002 by Al Quds University and the Global Management Consulting Group under sub-contracts with CARE.

Objectives

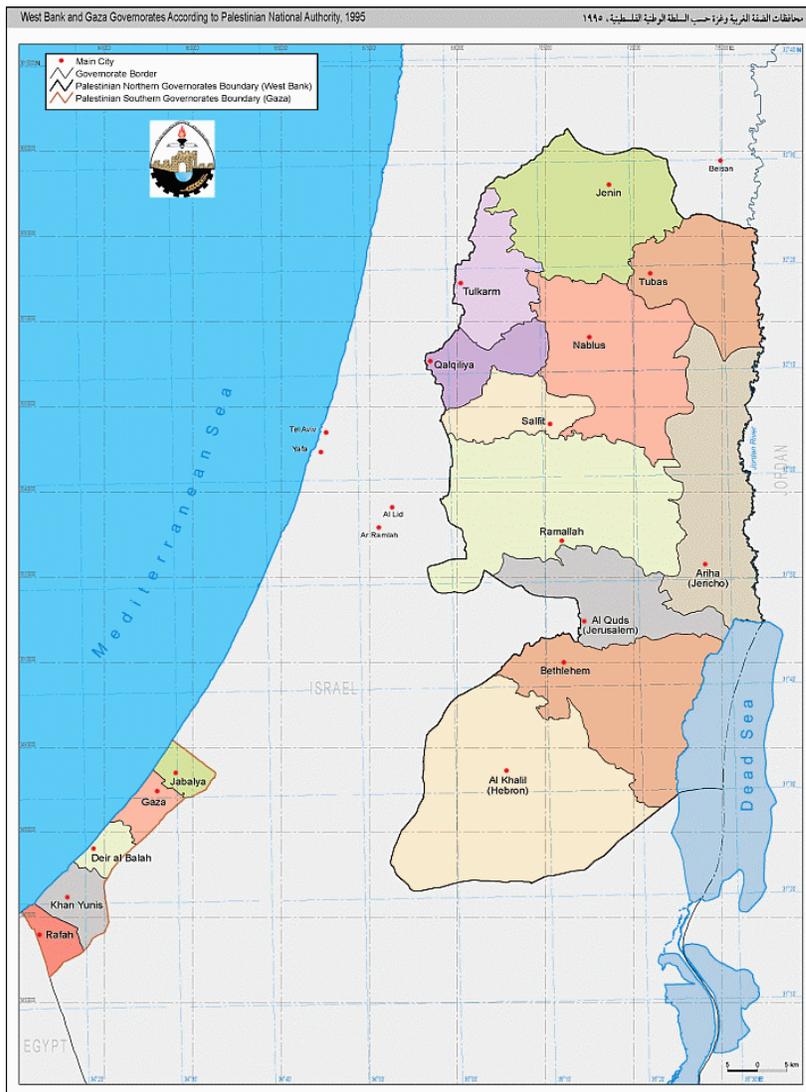
Populations affected by conflict will experience food insecurity and undernutrition. The escalation of the Palestinian-Israeli conflict which commenced September 2000, and increased in intensity during the Spring of 2002, has led to a deterioration of the household economies in the West Bank and Gaza Strip, interfered with food availability and accessibility, and raised the probability of a significant problem of undernutrition. Furthermore, clinics responsible for recognizing and treating undernutrition-related problems face budgetary constraints and travel restrictions for staff and patients. Thus, principal questions to be addressed included:

- What is the prevalence of undernourishment among children (male and female) aged 6-59 months as determined by conventional and internationally recognized anthropometric measures;
- What is the prevalence of undernourishment among reproductive age women 15-49 years as determined by body mass index (BMI);
- What is the prevalence of iron deficiency anemia as determined by hemoglobin measurement amongst these two populations;
- What is the consumption of selected macronutrients and micronutrients for the women and children as determined by a 24 hour food intake;
- What is the status of food security at the household level;
- What is the availability of staple foods in the marketplace and does the market remain continuously functional for these food types; and
- What are the growth monitoring practices at MCH clinics and do these clinics have the capacity to properly and accurately diagnose, treat, and follow-up cases of undernutrition and anemia?

Each of these questions will be addressed separately for the West Bank and Gaza Strip.

The NA/WBGS will, by means of accepted scientific methodology, inform the Palestinian Ministry of Health, the international and local donor community, and key public health professionals on the state of nutrition in WBGS (see Figure 1). In so doing, the findings should be used to aid in pinpointing areas for targeted interventions and for the thoughtful implementation of short and long term nutritional programs and policies. It should also serve as a baseline for ongoing nutritional surveillance and any follow-on impact studies or further nutritional assessments.

Figure 1: West Bank and Gaza Strip by district.



Methods

Through a competitive tendering process, Al Quds University in Jerusalem was chosen to partner with Johns Hopkins University for the household (HS) and clinic surveys (CS). Also chosen was Global Marketing Consulting Group in Ramallah for the implementation of the market survey (MS). Al Quds and Johns Hopkins faculty members jointly designed the questionnaires and jointly trained the data collectors. Likewise, Global and Johns Hopkins personnel jointly designed the MS tool. Field work was carried out under the supervision of the Palestinian partners

with Johns Hopkins consultation and was subject to data quality assurance protocols. The Palestinian institutions were responsible for primary data entry, cleaning, and analysis with secondary review carried out by Al Quds University primary investigators and Johns Hopkins University faculty.

Traditionally, women and children have been the most vulnerable groups during periods of food insecurity worldwide. The HS was a representative sample of 1004 households in WBGS, equally stratified between the two regions to ensure greater precision and to reduce sampling error. The sample size was based on required levels of precision and the sampling distribution on the population figures from the official 1997 census carried out by the Palestinian Center Bureau of Statistics (PCBS) and the mid-2002 population estimates. Clusters were randomly selected by computer from stratified units within urban, non-urban, and refugee camps in all 11 districts of the West Bank and all 5 districts of the Gaza Strip. The 1,004 households yielded 936 children between 6 and 59 months of age (485 males, 451 females) and 1,534 non-pregnant women between 15-49 years of age. The assessment's nutrition parameters included:

- **Iron deficiency anemia** of women and children by hemoglobin determination and classified by severity using World Health Organization (WHO) criteria;
- **Acute malnutrition** of children defined by the ratio of weight for height classified by severity using WHO criteria;
- **Chronic malnutrition** of children defined by the ratio of height for age classified by severity using WHO criteria;
- **Undernutrition** of women defined by the Body Mass Index (BMI), a ratio of weight for height squared; and
- **Nutrient deficiencies** of critical macronutrients (energy and protein) and micronutrients (iron, calcium, vitamins A and E, and folic acid - folate) by a 24 hour dietary recall on the youngest children in the household and their mothers.

Al Quds University developed the 24 hour dietary recall survey adapted for the Palestinian diet. An Al Quds 24 hour recall database of reproductive age women developed in calendar year 2000 provides a basis for comparison in nutrient consumption for this target group. The 24 hour recall for preschool aged children presented here is the first ever such body of information collected in WB/G.

The CS covered a sample of 68 clinics each of which was the most frequently visited for child growth monitoring as reported by the households in each of the clusters of the HS. Investigation of the following parameters included:

- Qualitative recognition, prevalence, and etiologies of malnutrition in the community based on interviews with senior health providers;
- Prevalence of growth monitoring and malnutrition in children less than 36 months of age by a random sample of 24 clinic records in each clinic;
- Prevalence of hemoglobin checks and anemia in children less than 30 months of age by a random sample of 24 clinic records in each clinic; and
- Capacity and adequacy of care in the clinical management and treatment of malnutrition and anemia based on interviews, on-site inspection, and a random sample of 24 children's records in each clinic.

The chart review gave an indication of how well malnutrition and anemia were "discovered" at the health care level in comparison with the HS. (Note: HS is

considered the most reliable method for determining the prevalence of malnutrition and anemia in any community.)

While the household component of the NA/WBGS describes the capacity of families to provide food for their own household consumption, the market component (MS) assesses the capacity of the market to supply that food. The MS was a representative sample of 660 retailers and 140 wholesalers stratified by urban wholesale, urban retail, large village and refugee camp, and small village. Specifically, the MS examined:

- Frequencies of major disruptions in the marketplace of staple (non-luxury) food items that contribute to the nutritional intake of the population;
- Reasons for such disruptions; and
- Trends in food prices.

“Disruption” was defined as three or more days over the course of a month in which retailers and wholesalers regarded food products in a state of significant shortage (not available as usual or severely diminished in stock) and were unable to replenish them during that three day period.

Summary of Findings

A. Household Interview and Examination (HS)

A nutritional disorder or condition resulting from faulty or inadequate nutritional intake is defined as **malnutrition**. **Acute malnutrition or wasting** reflects inadequate nutrition in the short-term period immediately preceding the survey. The ratio of a child’s weight to height (or in the case of an infant, weight for length) is the commonly used and most accurate indicator of wasting. **Chronic malnutrition, or stunting**, is an indicator of past growth failure, thus implying a state of longer term (weeks to months to years) undernutrition. Chronic malnutrition may lead to serious irreversible growth and developmental delays. The ratio of a child’s height for age is the most useful indicator for chronic malnutrition.

The difference between the value for an individual and the median value of the population for the same age or height divided by the standard deviation of the population defines the Z score, the conventional statistic measured for acute and chronic malnutrition. The World Health Organization (WHO) has classified the **severity** of acute and chronic malnutrition based on the U.S. National Center for Health Statistics (NCHS) standards. The **measure of greatest interest** (and the one most commonly referred to by donor and humanitarian agencies) is that segment of the population below 2 Z score, classified as **moderate (between -2 and -3 Z) and severe (below -3 Z) combined**. This combination of moderate and severe is applied to both wasting and stunting and is termed **global acute malnutrition (GAM) and global chronic malnutrition (GCM)**, respectively. Table 1 below reflects the distribution of GAM and GCM in the population of Palestinian children ages 6-59 months.

Anemia reflects a decrease in the oxygen carrying capacity of the blood due to a decrease in the mass of red blood cells. Hemoglobin, the oxygen carrying protein of red blood cells is the most useful indicator of anemia. Iron, folic acid, and dietary protein are necessary for hemoglobin and red blood cell production. Iron deficiency in particular is the leading cause of anemia worldwide. Thus, malnutrition or inadequate nutrition can lead to anemia and subsequent impaired learning and growth development (children), low birth weight infants and premature delivery (maternal anemia), fatigue and diminished physical and mental productivity (adults), and decreased immunity from infectious diseases (all ages). WHO classifies the severity of anemia by hemoglobin levels in gm/dl of blood. As in malnutrition, the widely accepted combined categories of moderate and severe, hereafter referred to as **global anemia**, is most commonly used as an indicator.

Table 1: Prevalence of global malnutrition and anemia, children ages 6-59 months, by territory

Indicator	West Bank n=416	Gaza Strip n=520	WB/G* n=936
Global Acute Malnutrition (%)	4.3	13.3	7.8
Global Chronic Malnutrition (%)	7.9	17.5	11.7
Global Anemia (%)	20.9	18.8	20.2

* Weighted by mid-2002 census estimates: West Bank=0.609; Gaza=0.391 for children < 5 years

- Among children 6-59 months of age, the prevalence of GAM (moderate and severe acute malnutrition) is 13.3% in the Gaza Strip and 4.3% in the West Bank. As a reference, a normally nourished population below -2 Z would be 2.3%.
- A significant proportion of children are chronically malnourished (< -2 Z) with ratios in Gaza more than double those of the West Bank (17.5% and 7.9% respectively).
- In Gaza, the prevalence of GAM among low income (< 1800 NIS per month or US\$ 390 per month) households was 15.0% compared to 5.0% in high income (≥ 1800 NIS) households; in the West Bank, the prevalence of GAM among low income households was 5.0% compared to 3.7% in high income households.
- The prevalence for global anemia among children 6-59 months of age varies little between the West Bank (20.9%) and the Gaza Strip (18.8%).

Nutrition is defined not only by quantity of food but particularly by quality of food. Energy, measured by calorie consumption, and protein are referred to as macronutrients while vitamins and minerals also critical for normal healthy development constitute micronutrients. The Recommended Dietary Allowances (RDA) of a macro or micronutrient is defined as “the levels of intake of essential nutrients that, on the basis of scientific knowledge are judged by the [U.S.] Food and Nutrition Board to be adequate to

meet the known nutrient needs of practically all healthy persons” and will provide the reference for outcomes presented here.¹

Table 2: Nutrient indicators, children ages 12-59 months, by territory

Indicator	West Bank n=215	Gaza Strip n=262	WB/G* n=477
24 hour calorie intake (% <80% mean)	55.8	59.2	57.1
24 hour protein intake (% <80% RDA**)	10.2	9.5	9.9
24 hour iron intake (% <80% RDA)	80.5	78.2	79.6
24 hour vitamin A intake (% <80% RDA)	54.0	67.2	59.2
24 hour folate intake (% <80% RDA)	51.6	47.7	50.1
24 hour zinc intake (% <80% RDA)	87.0	86.6	86.8

* Weighted by mid-2002 census estimates: West Bank=0.609; Gaza=0.391 for children < 5 years

** Recommended Dietary Allowance

- Four of five children in each territory have inadequate iron and zinc intake, deficiencies which cause anemia and immune deficiency respectively.
- Over half the children in each territory have inadequate caloric and vitamin A intake.
- Half the children in each territory have inadequate folate intake.
- In general, calorie, folate, and vitamin A intake decrease with age. Non-urban areas of the Gaza Strip fared worse in all categories of intake.

Body Mass Index (BMI) for adult women is an indicator of body fat and protein stores and is most useful for gauging the nutrient reserve needed during periods of reduced macronutrient intake and/or increased physiological stress. Although no standardized classification system exists for BMI, most academics and practitioners regard an index of < 18.5 as indicative of chronic undernutrition and that of ≥ 30 as obesity.

¹ National Research Council. Recommended Dietary Allowances, 10th edition. National Academy Press: Washington, DC, 1989.

Table 3: Nutritional indicators, non-pregnant women ages 15-49 years, by territory

Indicator	West Bank n=731	Gaza Strip n=803	WB/G* n=1534
BMI			
< 18.5 (%)	1.6	2.1	1.7
≥ 30 (%)	10.4	11.9	10.9
Global Anemia (%)	9.7	12.2	10.6

* Weighted by mid-2002 census estimates: West Bank=0.654; Gaza=0.346 for women ages 15-49 years

Table 4: Nutrient indicators, non-pregnant women ages 15-49 years, by territory

Indicator	West Bank n=468	Gaza Strip n=473	WB/G* n=941
24 hour calorie intake (% <80% mean)	61.5	66.8	63.3
24 hour protein intake (% <80% RDA**)	28.6	22.8	26.6
24 hour iron intake (% <80% RDA)	74.6	71.5	73.5
24 hour vitamin A intake (% <80% RDA)	65.6	77.0	69.5
24 hour folate intake (% <80% RDA)	30.3	21.1	27.1
24 hour zinc intake (% <80% RDA)	76.1	71.7	74.6

* Weighted by mid-2002 census estimates: West Bank=0.654; Gaza=0.346 for women ages 15-49 years

** Recommended Dietary Allowance

- Among reproductive age non-pregnant women, obesity appears to be more of a public health problem than undernutrition (Table 3), a factor that may contribute to the high prevalence of diabetes and hypertension in later years of life.
- A large percentage of reproductive age non-pregnant women have deficiencies in energy, iron, folate, and zinc consumption, critical for healthy fetal development.
- Maternal consumption of calories, protein, and folate decrease with age
- Reproductive age women show a 15-20% decrease in per diem calorie and protein intake compared to 2000.

B. Clinic Survey (CS)

The clinics surveyed were geographically linked to the HS households. Clinics were stratified by West Bank and Gaza Strip (34 each) and urban and non-urban (34 each). Of the 68 studied, 45 were Ministry of Health (MOH) facilities and 23 were U.N.

Relief and Works Agency (UNRWA) clinics. Tables 5 and 6 below, based on the medical record review, illustrate the ability of the clinics to properly and accurately diagnose and treat malnutrition (< 10th % of weight/height or <3rd % weight/age) and global anemia (< 10 gm/dl). Of a total 2,647 records of children ages 6-36 months that should have had anthropometric measurements documented within the patient record, only 1,587 (60.0%) had recordings. For those who had their weight recorded in the last six months, infants 6-12 months of age had the highest percentage (95%), followed by children 13-24 months (71%). Only 18% of children 25-36 months had their weight recorded in the previous six months prior to the interview indicating that attention to growth and monitoring of children decline as the age of the child increases, particularly after 2 years of age. Of 1,063 children’s records between 6 and 30 months of age with hemoglobin recordings, 216 (20.3%) had moderate or severe anemia (< 10 gm/dl), consistent with the prevalence found in the HS.

- Only 60% of records had weight measurements; of those found malnourished by clinic criteria, only 60% were recognized as malnourished.
- Despite the objective prevalence of malnutrition from the clinics’ own records, clinic managers subjectively estimated only 1% of preschool aged children were malnourished.
- 66 clinics (97.1%) had both weighing scales and measuring devices for anthropometric measurements; however, half of the clinics surveyed did not have protocols or guidelines within the clinic setting to standardize the diagnosis and treatment of malnutrition and anemia, nor have guidelines for counseling or follow-up for such cases.
- 27.9% of all 68 clinics (19) and 40.7% of the 27 rural clinics (11) lack supplemental iron for children.
- Health providers overwhelmingly rank “Family Economic Problems” as the number one cause of global malnutrition (83.3% very important; 13.6% somewhat important; 3.0% not important at all)

Table 4: Percentages of those children with malnutrition (Mal) who received a diagnosis, clinical care, parental education/counseling, and follow-up

	N	%
Mal and diagnosed	48	60.0
Mal, diagnosed, clinical care	41	85.4
Mal, diagnosed, parental education	32	66.7
Mal, diagnosed, follow-up	31	64.6
TOTAL Mal Cases	80	

Table 5: Percentages of those children with global anemia (GA) who received a diagnosis, clinical care, parental education/counseling, and follow-up

	N	%
GA and diagnosed	178	82.4
GA, diagnosed, clinical care	174	97.8
GA, diagnosed, parental education	153	86.0
GA, diagnosed, follow-up	138	77.5
TOTAL GA Cases	216	

C. Market Survey (MS)

Data looking at food availability in the marketplace reflect events during the month of June 2002, a period where there were prolonged days of 24 hour curfews for urban West Bank areas and border closures for Gaza. Wholesalers and retailers reported significant disruptions in the marketplace of such high protein foods as meat, fish, and dairy products as shown in Table 6 below. Fruits, vegetables, grains, and frozen and canned goods sustained less disruption than the higher protein foods.

Table 6: Percentages of wholesalers and retailers with major disruptions in high protein food items, June, 2002

Food Item	West Bank		Gaza Strip		WB/G	
	W (%)	R(%)	W (%)	R(%)	W (%)	R(%)
Fish	100	52.4	33.3	60.0	66.7	55.5
Chicken	66.7	35.3	20.0	52.2	52.9	40.5
Turkey	50.0	28.6	0	66.7	33.4	40.0
Infant Formula	27.9	31.8	86.7	79.2	52.0	48.3
Powdered Milk	47.1	40.2	84.8	71.5	61.6	53.6
Liquid Milk	17.8	23.5	43.5	39.8	26.5	29.3
Yogurt	12.5	25.0	54.5	51.1	27.4	34.7

W=wholesalers; R=retailers

- Infant formula and other high protein foods critical for growth sustained major market disruption. (In the Palestinian community, the prevalence of exclusive breastfeeding is 28.8% , indicating some degree of reliance on infant formula, PCBS Health Survey, 2001)
- For West Bank retailers, incursions/curfews were cited as the major reason for disruption (53%) followed by road closures/checkpoints (38%).
- For West Bank wholesalers, road closures/checkpoints were cited as the major reason for disruption (52%) followed by incursions/curfews (34%).
- For both Gaza Strip retailers and wholesalers, border closures were cited as the major reason for disruption (60 and 63% respectively) followed by road closures/checkpoints (20 and 15% respectively).
- According to the Palestinian Consumer Food Price Index, prices for indexed items have not changed for the past 24 months.

Conclusions

Although the West Bank demonstrates a concerning prevalence of acute malnutrition, the Gaza Strip, faces a distinct **humanitarian emergency** in regards to GAM, enhanced by these critical accompanying factors:

- Infants, young children, and reproductive age women require adequate protein in their diets to prevent anemia and protein-energy malnutrition.
- Market disruptions from curfews, closures, military incursions, border closures, and checkpoints affected key high protein foods, especially meat and poultry and dairy products, **and in particular, infant formula and powdered milk.**
- Preschool aged children show decreased caloric and micronutrient intake, especially iron, vitamin A, and zinc, perpetrating and contributing to the high prevalence of acute malnutrition, anemia, and affecting immune system development.
- Reproductive age women have a significant prevalence of macro and micronutrient deficiencies
- Health care providers may not be adequately identifying and diagnosing malnutrition in the community due to the fact that:
 - Children in the age group 2-3 years are not monitored sufficiently to make the diagnosis of malnutrition or anemia;
 - Only 60% of preschool children have anthropometric measurements taken and if they do, only 60% of malnourished cases are recognized;
 - Clinic managers underestimate the magnitude of the malnutrition problem in their community, further limiting their ability to detect and manage the problem; and
 - Most clinics lack protocols or guidelines for assessing and diagnosing malnutrition cases.

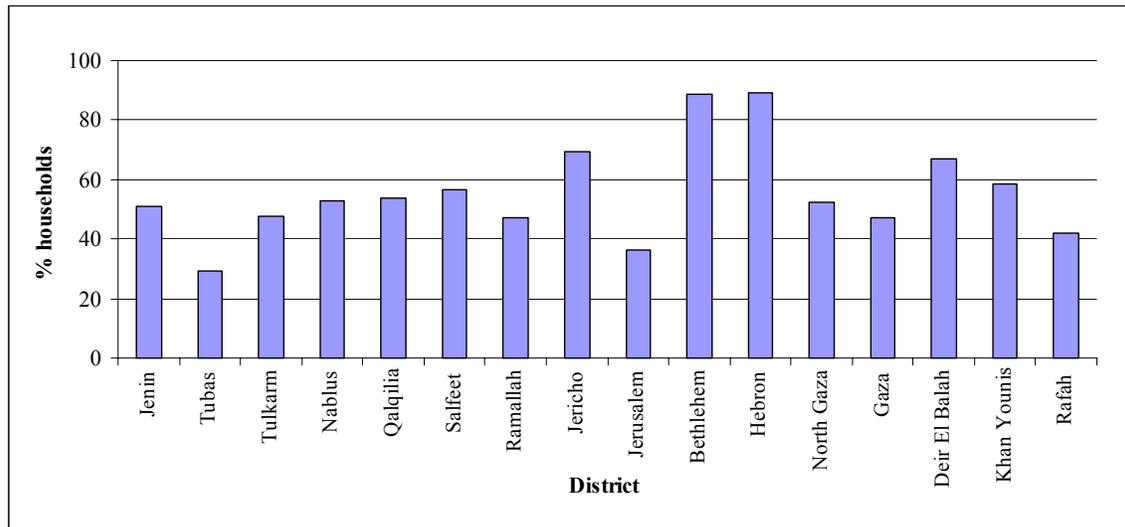
Due to the high prevalence of GAM in the Gaza Strip and the increasing prevalence of GCM in WB/G, the Palestinian Ministry of Health has declared a nutritional emergency with the stated goals of addressing the current problems and causes of issues such as wasting, stunting, iron deficiency anemia, and micronutrient deficiencies. The high level of GAM, particularly in the Gaza Strip, can be addressed by identification of households with index cases, means testing for inadequate income, and voucher distribution for acquisition of selected foods in the marketplace. The endemic problem of iron deficiency anemia, equally prevalent in West Bank and Gaza Strip preschool aged children, is best addressed by food fortification. Various modalities for this exist. Pilot trials should be initiated with careful attention to evaluation of effectiveness and cost.

Annex 1: Sentinel Surveillance System Data on Food Security

The CARE/ Johns Hopkins University Emergency Medical Assistance Project has partnered with Al Quds University to design and implement a sentinel surveillance system (SSS) for Palestinian households. The SSS is an effort to monitor the impact of the current emergency on various aspects of the health sector. It is an ongoing survey of randomly sampled 320 households, differing from those of the NA/WBGS, in urban and non-urban clusters every two weeks in all 16 districts of the West Bank and Gaza. One segment of this surveillance questionnaire evaluates trends in food security, specifically the changes in quantity, quality and the reasons for decreases in amount consumed. Data collection began on 31 May and will continue every two weeks until September 2003. Findings presented here represent cumulative data from seven rounds of collection or 2240 households.

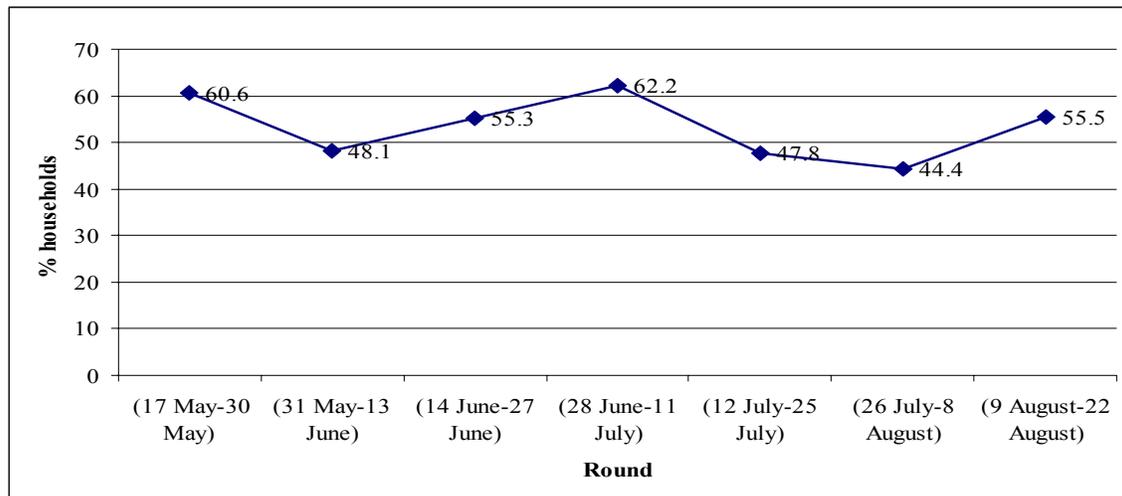
Of the 2240 households, 1244 (55.5 %) throughout all districts of WBGS reported that the amount of food eaten by household members had decreased for more than one day during the previous two weeks with little disparity between Gaza Strip (53.4%) and the West Bank (56.5%). Graph A1-1 presents the cumulative percentage of households with a decrease in the amount of food by district. Bethlehem, Hebron, Jericho and Deir El Balah remain the most vulnerable districts. The trends in food consumption over each data collection interval are represented in Graph A1-2.

Graph A1-1: Percentage of households with a decrease in the amount of food over the last two weeks by district.



n=140 households in each district/ cumulative seventh round.

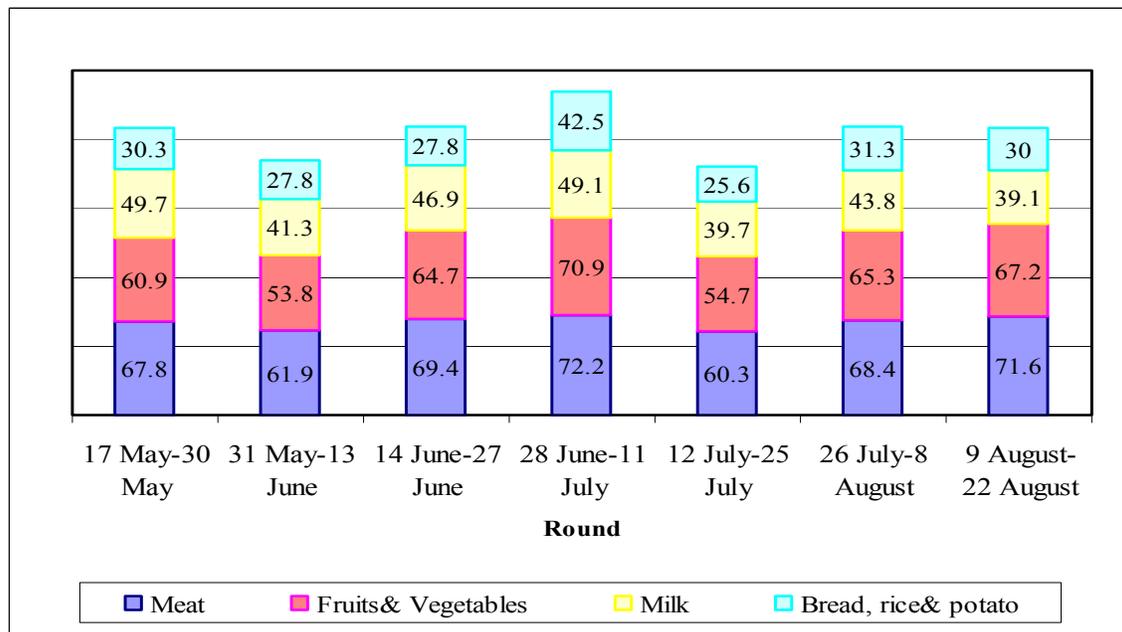
Graph A1-2: Percentage of households with a decrease in the amount of food over the two week interval in each round.



N in each round =320 households.

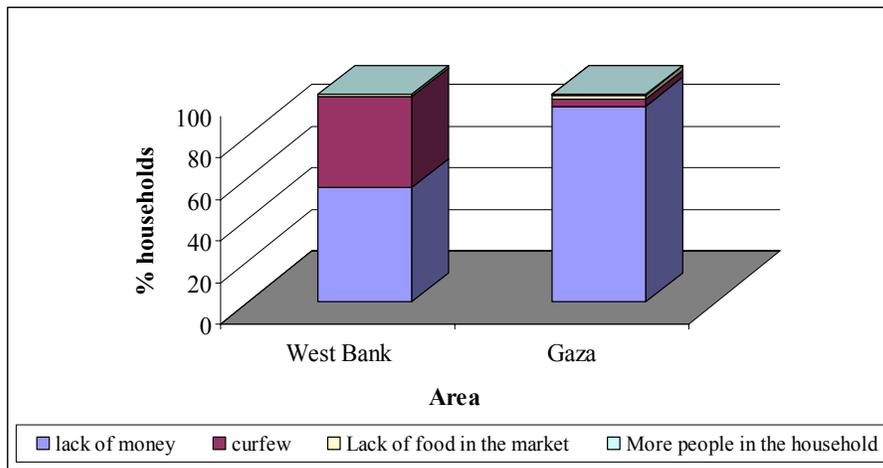
Similar to a general decrease in the amount of food for each household was the percentage of households with a decline in consumption of specific food groups (Graph A1-3), especially the higher priced category of meat, fish, and chicken. Fruits tend to be higher priced than vegetables which helps explain the significant percentages of decrease in that food group. Of perhaps even greater concern is that nearly one-third of families are consuming less of cheaper staple grain items.

Graph 3: Percentage of households with a decrease of specific food groups over the two week interval for each round.



Reasons cited for the decrease in the amount of food consumed differed significantly between the Gaza Strip and the West Bank (Graph A1-4) and in specific districts where varying lengths of curfews had taken place. In the West Bank, lack of money and curfew were the main reasons whereas in the Gaza Strip, unaffected by curfew, lack of money was the primary reason.

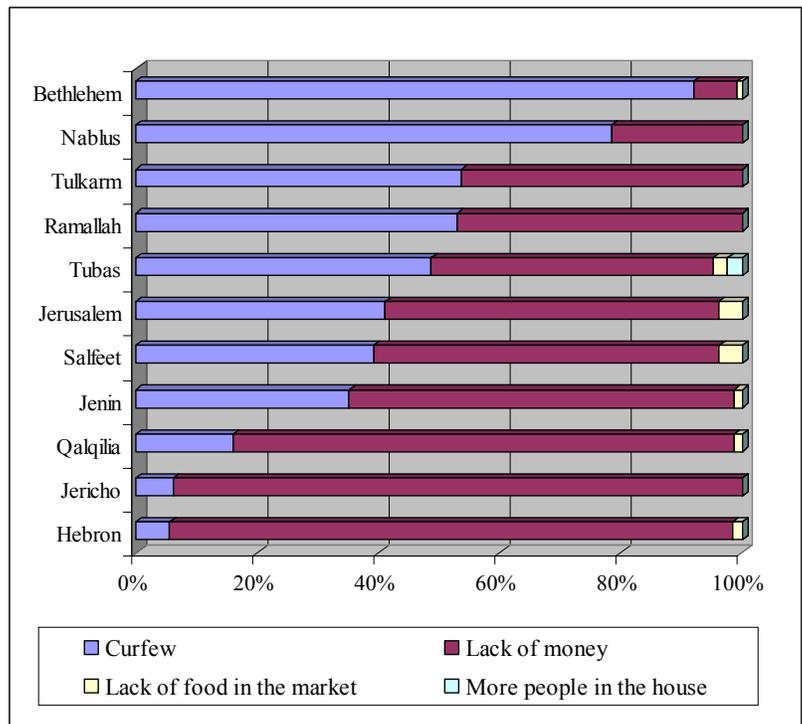
Graph A1-4: Reasons for decrease in the amount of food consumed by territory



The lengths of prolonged curfews in specific districts within the West Bank correlated well with districts in which households cited curfew as the primary reason for a decrease in amount of food consumption (Graph A1-5). Curfew hours were monitored by the Palestinian Red Crescent Society and the International Committee of Red Cross in seven districts of the West Bank and include, in order from longest to shortest:

- Nablus, under curfew for 1797 hours, from June 21 until September 6.
- Tulkarem, under curfew for 1486 hours from June 21

Graph A1-5: Reasons for decrease in amount of food consumed by district, West Bank



N in each district =140 households.

until September 6.

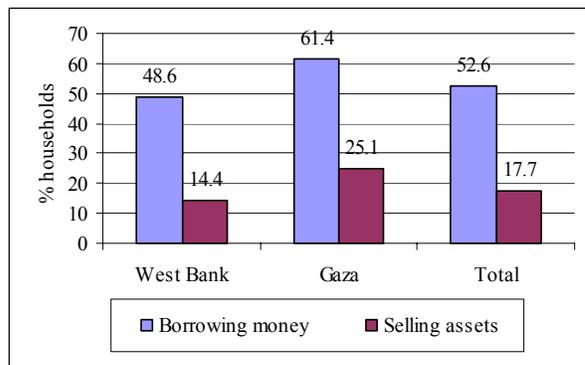
- Ramallah, under curfew for 1319 hours, from June 24 until September 6
- Bethlehem, under curfew for 1209 hours, from June 20 until August 19.²

Qalqilia, with 849.5 hours under curfew from June 19 until August 15, and Hebron under curfew 823.5 hours from June 25 until September 6 were among the West Bank districts in the SSS that cited lack of money over curfew as the reason for decreased food consumption. The curfew periods coincided with most of the intervals during which surveillance data was collected.

One factor impacting food availability and security is affordability and the need to borrow money or sell assets for consumption purposes. The data from May 31 has remained consistent in each round; the cumulative data reveals that:

- 54.1 % of 2240 households were forced to borrow money to purchase food during the two week sampling interval, while 17.7 % were forced to sell assets to buy food ; and
- Significantly more Gaza households (61.4%) were forced to borrow money compared to West Bank households (48.6%) and 25.1 % in Gaza were obliged to sell possessions compared to 14.4 % in the West Bank. (Graph A1-6).

Graph A1-6: Percentage of households borrowing money and selling assets by territory



The findings of a Palestinian Central Bureau of Statistics report in February 2001 indicated that the average Palestinian household had 17 months of financial reserves for consumption spending.³ That interval concluded in July 2002 prompting concern that Palestinian households may currently be at the end of their reserves for basic items such as food and water.

The state of the Palestinian economy and the Israeli policies of curfews and closures significantly influence household food security. Ongoing data from the SSS compliments the Rapid Nutritional Assessment findings of acute global malnutrition and anemia as well as targeted areas of food disruption in the market place by highlighting the general decrease in food consumption, particularly high protein foods, as well as economic distress.

² Palestine Red Crescent, Emergency Medical & Disaster Services.
www.reliefweb.int/library/documents/2002/opt-06sep/pdf

³ World Bank. Fifteen Months—Intifada, Closures and Palestinian Economic Crisis: An Assessment, March 2002.