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The Nutritional Status in Palestine

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Introduction :

Nutritional status is one of the indicators of both the level of development and the development potential of a given country. In many developing countries nutritional status is linked to the availability of food, often related directly to food production in a given year. It is also an indicator of the type of food available to people, the traditions or habits that have developed over time and the level of poverty in a given society.

It has been commonly assumed that the nutritional situation in Palestine is generally quite good. Since 1969, the kilo-calories and fats consumed by residents of the West Bank and Gaza has risen continuously, according to the Israeli Central Bureau of Statistics, as have total proteins. Prior to the Intifada, in 1985/1986, the calories consumed per capita in the West Bank and Gaza were more than 2900 kilo-calories (kcal) well above the 2450 Kcal considered by the World Health Organization (WHO) to be necessary for a healthy, active life for a normally sized person, and total proteins consumed were more than 82.4 grams (g). There is considerable debate as to an acceptable, healthy level of protein ([CBS, 1991](#)).

However, two areas of concern have developed regarding nutrition. First, even throughout the period from 1969-1980, concerns have existed about the quality of food consumed by Palestinians, especially in cities, and the level of education about nutrition in the society. The increasing availability and consumption of tinned and processed foods may well be effecting nutritional levels as a population that increasingly works outside the home begins to eat these instead of fresh foods (specifically fruits and vegetables) possibly lowering the intake of vitamins and minerals ([Zayed 1982](#)). The second area of concern is more recent and more urgent, though related. Since the Palestinian Intifada (uprising) in 1987, anecdotal evidence has shown that the nutritional situation in both the West Bank and Gaza has deteriorated. The situation has become worse since the Gulf War and there are now those who talk of cases of marasma, third degree malnutrition, amongst poor children in Gaza ([Sexton, 1993](#); [UNICEF, 1995](#); [Terre des Homme](#)).

In either case, no organizations working in this area have yet done comprehensive studies on the extent of malnutrition, either from the perspective of numbers of people (children) affected, or from looking at the possible socio-economic and dietary causes of the problem. The problem could well be two-fold in Palestine: the truly poor, specifically families of unemployed workers in Gaza and other parts of the West Bank, are suffering from a lack of food; and other parts of the society are malnourished because of lack of education about proper nutrition and beliefs that interfere with proper eating habits.

Nutritional Status 1967-Present :

Although other parts of the Palestinian economy and quality of life had been severely negatively affected during the first 20 years of the Israeli occupation, it is probably safe



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to assume that the nutritional status of Palestinians in terms of caloric intake per capita, improved during that period. The only comprehensive statistics from this period are from the Israeli Central Bureau of Statistics. For a variety of reasons there are those who say that these statistics are not always accurate. Even so, their results are interesting. In 1969, caloric intake was 2344 kcals /capita, by 1980 it was above 2800 Kcals/capita and by 1986 it was above 2900 Kcals/capita. There was also an upward trend in consumption of animal proteins (from 17.1 g/capita/day to 21 g/capita/day) and fats (from 61.4 g/capita/day to 73.4 g/capita/day) during the same period. It should be noted however, that the ratio of proteins to fats is reversed from what is recommended by WHO, an indication that people tend to eat more energy foods than protein rich foods, a trend commonly associated with lower-income societies (CBS). (Appendix, Tables 1, 2, 3; Figures 1, 2, 3)

Although Palestinian food balances have only been calculated through 1985, the following tables (Appendix, Tables 1, 2, 3; Figures 1, 2, 3) show interesting trends. From 1968-1985, there was an increase in total calorie intake in the West Bank from 2340 Kcals per capita to 2850 Kcals per capita. Likewise Gaza's per capita calorie intake has risen from 2090 to 2550 Kcals. This reflects on the poor standard of living that has existed in Gaza since before the Israeli occupation, mostly resulting from the large numbers of refugees who fled to there in 1948. While calorie, protein and fat intake in Gaza have all grown at about the same rate as in the West Bank since 1968, they have remained lower by about the same amount as well. Total protein consumption per capita per year increased in the West Bank from 68.1 grams to 82.4 grams, and in Gaza from 61.1 grams to 71.9 grams from 1968 through 1985. It is interesting to note that calorie intake and total protein rose only slightly from 1978 to 1985 in the West Bank, but both rose more significantly in Gaza during the same period. In both the West Bank and Gaza, increases in animal proteins and fats increased at a steady rate during this period, with intake in the West Bank remaining considerably higher for both intakes. (Appendix, Tables 1 & 3)

Figure 1:* Energetic and nutritive value for the food consumption per capita per day in the West Bank

Figure 2:* Average consumption of calories, protein and fats per capita per day in the West Bank

Figure 3:* Average Consumption of calories, protein and fats per capita per day in Gaza Strip

The kilograms consumed of different commodities in the West Bank and Gaza have only been meticulously recorded from 1979-1985. During that period there have been several trends of interest. In both of the West Bank and Gaza there was downward trend of per capita cereal consumption, reflecting possibly the diminishing per capita cereal



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production in the Palestinian territories as a whole. There was, conversely, an increase in the consumption of potatoes during this period. While it seems feasible that Palestinians substituted one carbohydrate source for another, it should be noted that potatoes are not a major part of the traditional diet and nutrition education may be needed on complimentary and balanced food sources. In the West Bank, a decrease in the per capita consumption of red meat, and poultry seemed to have been offset by an increase in consumption of eggs and dairy, with consumption of pulses and fish remaining more or less constant. In Gaza, on the other hand, per capita consumption of fish and eggs fell during this period, while red meat, poultry and pulses all rose, possibly reflecting the decreasing fish stocks and other impediments to fishing in the Mediterranean Sea. (Appendix, Tables [4](#) & [5](#); Figures 4& 5)

There are also interesting comparisons with some of the other countries in the Middle East region. While the tables [4](#) & [5](#) (mentioned above) show a steady increase in the consumption of sugar in both West Bank and Gaza, table 6 shows both West Bank and Gaza to still consume less than Egypt and Jordan, and the average Gazan still consumes less than the average Syrian. Per capita consumption of sugar in the region is least in Israel. It is interesting to note that Israel consumes per capita far more poultry, fish, eggs and milk per year than do the West Bank, Gaza, Egypt, Jordan or Syria. Israel, the West Bank and Gaza also consume the least amount of cereals and the most fruits and vegetables per capita in the region. (Appendix, Table [6](#); Figure 6) Egypt, Israel, and Syria have the highest quantity of calories consumed percapitaper day, while Gaza Strip has the lowest. (Figure 7)

Figure 4:* Consumption of different nutritional commodities per capita per year (Kg) for the West Bank

Figure 5:* Consumption of different nutritional commodities per capita per year (Kg) for Gaza Strip

Figure 6:* Consumption of different nutritional commodities per capita per year (Kg) for Egypt, Jordan, Syria, Israel, Gaza Strip and the West Bank

Figure 7:* Total quantity of calories consumed per capita per day in Egypt Israel, Jordan, Syria, West Bank and Gaza Strip

The status of recent, however, has been more tenuous. According to the Palestinian Bureau of Statistics, the per capita GNP (gross national product) in Palestine fell by about one third between 1987 and 1992, from around \$1,500 to \$1,000. From this we might assume that the nutritional status per capita, measured by the per capita consumption of calories and protein, which grew by 20 percent as GNP more than doubled between 1968 and 1987, might have fallen slightly (by 3 percent), a potential problem in Gaza in



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particular where calorie intake was only marginally above WHO minimum recommended levels in 1985 (the last figures available) ([Palestine Bureau of Statistics](#)).

It should be remembered that except in extreme cases globally, the adverse effects of poor nutritional status in a society is most evident in pregnant women and children. Since the Palestinian uprising and the Israeli crackdown in reaction, the nutritional situation has undoubtedly worsened for Palestinians. There is some debate about the extent of this problem however. A 1990 Swedish Save the Children study documented that UNRWA and other agencies had to more than double their emergency food distribution services during this period, mostly due to Israeli curfews, and anecdotal evidence also exists that the health status of children decreased during this period, in large part from shortages in staple foods, meats, and essentials such as baby formula. Physicians reported higher numbers of cases of anemia both in children and pregnant mothers and otherwise malnourished children, though no extensive study was ever done to document this systematically ([Nixon, et al. 1990](#)). However, the Policy Research Institute study in 1992, concluded that while the nutritional situation, especially for children, was less than desired, the situation was not critical. This is to say that while incidence of low weight for height, weight for age and anemia were around 30 percent in rural parts of Palestine, there was a general upward trend in the overall nutritional status, and negligible severe malnutrition ([PRI 1992](#)).

Certainly this situation did not improve during the closures, and curfews that were imposed throughout the Gulf War. Although efforts made during that period by NGOs to provide food delivery prevented real starvation from occurring as a result of the political and military crackdown. The closure of March 1993 which has prevented Palestinians from freely entering Jerusalem or Israel also has probably had an effect on the economic, and thus the nutritional situation, particularly in the Gaza Strip. (Sexton 1993) It is important, however, to note that the determination of reports from 1993 were that while the food situation was difficult for a segment of the population in the West Bank and Gaza, this was not because of a lack of food in the market, but because of shortages of financial resources to pay for that food, and the lack of education about nutrition and food. These reports led to the phasing out of a number of NGO food delivery programs. There continues to be some debate about the need for food assistance, especially in Gaza ([PRI 1992](#), [Rizkallah](#)).

Current Situation: Breaking Complacency

As no real comprehensive study has been done on the food and nutritional situation, the current nutritional status in the West Bank and Gaza is at best unclear. However, almost all of the major organizations working in the mother/child health care area say that they are seeing, especially in Gaza, increasing incidence of severely malnourished children.



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In the West Bank, reports are emerging from the poorer areas, such as Yatta in the Hebron district, of high numbers of relatively severe cases of malnutrition. For instances, Terre des Hommes, a Swiss-based NGO working on health and child survival issues, reported that since the beginning of this year, of 137 new cases of children in their center in Hebron, 136 were malnourished. 72 of these children were 3rd degree malnourished and 126 had no accompanying illness, indications of actual domestic food shortage ([Terre des Homme/Ard El Insan April 1995](#)). Most agree, however, that adequate amounts of food are available in the market in the West Bank. The problem is the severely limited financial resources, especially in areas like Hebron and amongst those who worked as laborers in Israel prior to the closures.

The situation in Gaza is even worse, with increasing reports of severe malnutrition coming out of clinics. While the nutritional situation within the Refugee camps seems to be adequate, due to UNWRA feeding programs for the poor, the situation outside of the camps is at risk. Even within the camps 44 percent of young children are estimated to suffer from anemia ([UNICEF April 1995](#)). Terre des Homme reports 76 percent (285) of the cases their clinics have seen from January through April have been malnourished. Of this 79 were 3rd degree malnourished, and 119 were 2nd degree malnourished. 26 percent of the cases had no accompanying illness, again indicating food shortage as the main cause ([Terre des Homme/ Ard El Insan May 1995](#)). Although the conventional wisdom is that food supply is still adequate in Gaza, increasingly there is suspicion, based mostly on anecdotal reports, that it is diminishing.

It is also important to note that in the studies done even in fairly well off rural areas in Palestine, findings indicate that the anemia rate among children may still be above 30 percent. This is quite high for a country of the economic level of Palestine, though it may be indicative of the increasingly widespread economic crisis. It may also be due to a low public education level about nutrition, or to nutritional discrepancies within the Palestinian diet.

These do not deal with the other nutritional issues which are also present in Palestine including the influence of highly processed foodstuffs on those who have money of afford them. A major gap in the current body of research and information in this area is the lack of any analysis of the Palestinian diet for its nutritional content and lack of research into Palestinian eating habits.

No studies have been done to look at the real causes of this nutritional situation. All of the major organizations working with food distribution, health and nutrition admit that the problem so far not attended to is the nutritional attitudes of the public as a whole. What studies on nutrition awareness that have been done have indicated wide-scale low understanding at the popular level of what constitutes good nutrition. All agree that there is a worrying trend of increasing numbers of Palestinians eating less healthy foods in the interest of expediency. There is reason to believe that this case is particularly concerning



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for Palestinian laborers working in Israel. With long days and often long commutes, workers would be likely to pay less than adequate attention to their food intake, especially in situations where finances are tight. Especially when this trend is passed on to the diet of children, it can have result in long term problems, including impaired intellectual capacity.

Proposed Areas of Study :

Given the information presented it is clear that nutrition needs to become an area of greater focus in the development and research in Palestine. Clearly, more projects are needed focusing on increasing the nutritional status. One of the important means of this will be an improvement in the economic situation throughout the West Bank and Gaza. Apart from this two kinds of activities need to take place.

First: There is the need to increase health care attention to nutrition. Currently, few, if any nutritionists exist in the Gaza Strip for instance, though organizations have shown interest in bringing one. There are two areas that need attention here. The first is care for the severely malnourished children increasingly reported in clinics in the West Bank and Gaza. The second is outreach to local populations to work to improve nutrition and nutritional practices before the situation reaches the crisis stages of 2nd or 3rd degree malnutrition. Clearly the caveat to this activity is the availability of food in the home -- increasingly of concern in Gaza.

The second set of activities involves the research so essential as a backup to the health and development activity mentioned above. Important within this area is the study of the nutritional awareness within the Palestinian society. What are practices vis-a-vis weaning, feeding children under the age of five, perceptions of what constitutes a balanced diet? What have been the effects of the increasing availability of processed foods and the development of an economy based on construction and factory labor on the nutritional status of the Palestinian society as a whole? What is the level of basic education in the society about nutrition?

We would also put forward that tremendously important at this juncture is the development of an in depth study on the relative availability of protein, fats, lipids, carbohydrates, vitamins and minerals in Palestinian foods. While information exists generally about the Mediterranean diet, a table is needed to outline and measure these elements within the types of foods eaten by Palestinians. The most efficient means of doing this would be through the development of a food composition table as part of a comprehensive study on the food balance and nutrition for Palestine. It is important to remember that the figures in the tables shown earlier are based on an estimation of locally produced agricultural commodities and imports in the markets. An important part of the study that I am proposing would be a better estimation of the quantity and quality of food that is making it to the household level.



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This study could lead to a nutritional table looking at the food types consumed; their composition; consumption of various types of foods per capita; traditional food production, preparation and consumption and changes in these areas; and the effects of food processing on the nutritional value of food. It could also outline the relationship between the food consumed in a given part of Palestine and nutrition. The quantity and quality of food available here could also be studied, specifically focusing on the staples such as cereals and legumes.

This study would serve as an important background for the design of an integrated program to improve the Palestinian nutritional status. It would provide the base information for both the nutrition education and health care development programs, as well as for the research on child nutrition practices, all mentioned above. It would also be of use to health care providers trying to determine the cause of malnutrition and prescribe solutions.

Conclusion :

Clearly the nutritional status here is now at a critical stage. Unfortunately, the Palestinian National Authority does not yet possess the means to deal with it. The challenge must rest squarely on the shoulders of the international body of donors to help in financing all of the actions needed as outlined above. It is time to look at this issue in an integrated way, developing both the infrastructure to deal with malnutrition from the perspective of health and education, and funding the research needed to provide the background for this work.



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Appendix :

Table 1: Energetic and nutritive value for the food consumption per capita per day in the West Bank

Year	Fat (gm)	Animal Protein (gm)	Calories (100 Kcal)
1970	61.4	17.1	25.5
1971	61.9	17.2	26.61
1972	63.1	18	26.9
1973	65.8	19.9	27.19
1974	66.9	20.3	27.5
1975	67.2	19.3	27.61
1976	64.5	19.2	27.67
1977	65.6	18.8	27.97
1978	68.5	19.8	28.23
1979	70.8	21.1	28.33
1980	73.4	21	28.06
1986	80.9	27.3	29.18
1987	80.8	28.2	29.31

Source: Statistical Abstract of Israel 1968-80,1988

Table 2: Average consumption of calories, Protein, and fats per capita per day in the West Bank

Year	Calories (100 kcal)	Total Protein (gm)	Animal Protein (gm)	Fats (gm)
1968	23.44	68.1	12.9	52.3
1978	28.23	81.2	19.8	68.1
1979	27.93	79.4	21.1	70.5
1980	28.06	79.4	21	73.4
1981	28.08	79	21.9	74.1
1982	28.27	80.6	24.2	76.2
1983	28.37	81.7	24.9	77.3
1984	28.61	82.7	26.2	78.8
1985	28.57	82.4	25.2	76.9

Source: Statistical Bulletin for West Bank and Gaza Strip vol. (1,2,4,5,6,7)



Table 3: Average consumption of calories, protein, and fats per capita per day in Gaza Strip

Year	Calories (100 kcal)	Total Protein	Animal Protein	Fat
1968	20.91	61.1	8.3	41
1978	24.17	68.2	13.4	57.8
1979	24.77	69.7	15.2	60.8
1980	25.1	71	15.6	62
1981	25	70	14.9	61.3
1982	25.13	69.8	15.7	64.8
1983	25.16	70.6	16.1	65.2
1984	25.54	72.8	18.9	66.8
1985	25.54	71.9	17.8	66.2

Source: Statistical Bulletin of West Bank and Gaza Strip vol. (1,2,4,5,6,7).

Table 4: Consumption of different nutritional commodities per capita per year (kg) For the West Bank

Commodities	1979	1980	1981	1982	1983	1984	1985
Cereals	137.8	138.3	137.5	134.8	135	133.8	133.6
Potatoes	17.3	16.3	22.8	21.3	19.8	19.6	19.8
Sugar	32.8	32.1	32.4	33.4	33.4	34.4	38.5
Pulses & oily seeds	11.7	11.5	8.9	9	9.9	10.1	10.3
Vegetables	161.9	131.2	143.4	149	151.2	150.2	156
Fruits	124.5	189.7	184.6	188.2	188.3	194.2	172.3
Red meat	15.5	14.9	14.1	15.7	15.5	11.8	11
Poultry	17	17.4	20	21.7	24	15.4	14.3
Fish	1.8	1.8	1.7	1.7	1.7	1.5	1.5
Eggs	4.4	4.4	5.4	5.2	4.5	6	6.1
Milk	62.3	58.3	61.6	67.2	70.9	66.8	67.7
Oil & Lipids	13.9	15	14.2	15.1	15.2	14.9	14.5
Miscellaneous	2.3	3.2	2.7	2.5	2.5	1	1
Total	603.2	634.1	649.3	664.8	671.9	614.7	646.3

Source: Statistical Bulletin for West Bank and Gaza Strip vol. (1,2,4,5,6,7).



Table 5: Consumption of different nutritional commodities per capita per year (kg) for Gaza Strip

Commodities	1979	1980	1981	1982	1983	1984	1985
Cereals	140.3	140.6	140.8	138	138.1	136.1	135.9
Potatoes	11.3	16.4	15.4	13.5	13.7	20.6	24.4
Sugar	26.2	25.6	25.8	26.5	26.5	27.6	28.1
Pulses & oily seeds	7.8	8.2	8.5	8.4	9	9	9.2
Vegetables	96.8	116.6	128.3	132.7	133	133.7	130.5
Fruits	101.5	125	133.6	134.8	126.9	134.3	137.6
Red meat	8.1	8	8.3	7.9	8.7	18.5	11
Poultry	10.2	11.5	11.9	13.5	13.6	23.7	13.7
Fish	5.9	3.7	3.7	3.8	3.7	1.7	3.2
Eggs	6.8	7.1	6.8	6.6	6.4	4.5	6.4
Milk	44.3	42.9	35.5	39.7	42.5	70.6	43.7
Oil & lipids	13.8	13.9	14.2	14.8	14.9	15.3	14.7
Miscellaneous	3.9	3.7	1.3	1.2	1.1	2.4	0.9
Total	676.9	523.2	534.1	541.4	538.1	598	559.3

Source: Statistical Bulletin of West Bank and Gaza Strip vol. (1,2,4,5,6,7).

Table 6: *Consumption of different nutritional commodities per capita per year (KG) for Egypt, Jordan, Syria, Israel, West Bank and Gaza Strip

Commodities	Egypt 1990	Jordan 1990	Syria 1990	Israel 1990	West Bank 1985	Gaza Strip 1985
Cereals	248.6	169.3	211.7	134.7	133.6	135.9
Potatoes	28.1	12	20.2	30.9	19.8	24.4
Sugar	60.5	45	31.4	25.2	38.5	28.1
Pulses & Oily seeds	10	12.7	19.4	23.6	10.3	9.2
Vegetables	132.7	69.5	96.1	167.4	156	130.5
Fruits	104.7	78.9	117.7	166.3	172.3	137.6
Red meat	18.9	10.8	12.9	21.9	11	11
Poultry	3.9	19	4.6	37	14.3	13.7
Fish	7	2.4	3.6	22	1.5	3.2



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Eggs	2.5	4.1	4	17.3	6.1	6.4
Milk	35.1	59.5	92.9	208.9	67.7	43.7
Oil & Lipids	13.2	12.9	14.5	27.6	14.5	14.7
Miscellaneous	2.3	3.2	2.6	6.6	1	0.9
Total	667.5	499.3	631.6	889.4	646.6	559.3

Sources: Agrostat 1990; Statistical Bulletin for the West Bank and Gaza Strip vol. (6&7).