Food Security Information System for Tubas, Hebron and Bethlehem Governorates (FSIS)

Household Baseline Surveillance Report
Hebron Governorate

Conducted by
Applied Research Institute-Jerusalem (ARIJ)

Funded by
Spanish Cooperation

February 2011

1. Project Background

The FSIS project "*Food Security Information System in Tubas, Bethlehem, and Hebron Governorates*" is a one of the approved projects by CAP 2008 in the oPt under food aid and food security sector. It is funded by Spanish Cooperation and implemented in the year 2008-2010. The project comes in response to the food insecurity status in the oPt especially in Tubas, Bethlehem and Hebron governorates, where the largest percentage of food insecure population exist (33%, 15%, 33% respectively)[1]. The project aims at investigating food security and vulnerability status of the vulnerable households of Tubas, Hebron and Bethlehem Governorates, and improving awareness and capacities of stakeholders to assist them in developing proper food security strategies, through creating food security information system (FSIS). The project also aims at improving the awareness of food insecure and poor households toward better food practices and supporting the poorest of the poor to increase their food production activities in a sustainable approach. During the implementation of the project an analytical study was conducted to improve the understanding of the Palestinian socio-economic and nutritional health status, causes behind food insecurity over the different life sectors, the nutritional performance of Palestinian poor peoples, the poor people awareness about better nutritional food intake performance, and to investigate the current nutritional diseases due to the imposed reduction in amount, quality and type of food eaten by poor people. In addition, the project is tackling the issue of improving poor households' food production capacities and income generation sources, through the implementation of agro-developmental activities in the poorest targeted areas. The project results are disseminated to relevant stakeholders and organizations through its web-database (http://foodsecurity.arij.org), awareness campaigns, and activated networks.

2. Project Specific Objectives

- To formulate the project stakeholders, decision makers and advisory committees to select the targeted communities, empower and sustain the projects activities.
- To create a food security information system based on surveying and analyzing food insecurity and nutritional health indicators based on the FAO, WFP and WHO standards.
- To prepare specialized awareness materials and conduct awareness programs to targeted community regarding food intake, food hygiene, nutritional health and food insecurity coping strategies.
- To enhance stakeholders and decision makers' coordination in the field of food insecurity and nutritional health (FINH), through creating a coordination body, and assisting in capacity building of related governmental bodies.
- To implement some agro-developmental activities on a household level to improve food production capacities and income generation sources.

3. Project Baseline Methodology

The design and implementation of the FSIS project was done based on consultation with several national and international institutions including the Ministry of Agriculture (MoA), Ministry of Health (MoH), the World Food Program (WFP), Food and Agriculture Organization (FAO), UNRWA, the Food Security Working Group as part of the Consolidated Appeal Program / OCHA and others. Such coordination with relevant

[1] WFP/FAO, 2009. Socio-Economic and Food Security Report West Bank Survey (SEFSec report).

stakeholders has enriched the quality and quantity of information sets available and has positively directed the project activities towards better methods of interventions' achievement, in addition it has raised the accuracy of collected information at governorate, locality and household level and has helped avoid any overlap of implemented interventions in the at same geographical area.

While conducting the baseline survey in the Hebron Governorate, additional contacts and coordination with stakeholders at governorate level including active local and international NGO's, and local governmental institutions took place.

Several steps was accomplished before starting the baseline survey at household level including specifying the poor and most vulnerable marginalized areas / localities at Hebron Governorate and specifying the most needy households at each targeted localities to be surveyed. To facilitate selection of the poorest localities and households, the coordination with relevant stakeholders and the empowerment of project activities, several committees were formulated: the FSSC (Food Security Stakeholders Committee), GSC (Governorate Stakeholders Committee- Hebron Governorate), and CC (Community committee- at each targeted locality) committees.

FSS-Committee was formed from the relevant decision makers, planners, implementers and donors on national, regional and international level including MoA, MoH, WPA, PCBS, FAO, WFP, UNRWA, OXFAM, AECID (*photo 3.1*). The committee's main role was empowering and directing the project activities and supporting the project findings and recommendations through developing national approach towards sustainable improvement in food security.

Photo 3.1: Food Security Stakeholders Committee

Governorate Stakeholders Committee– Hebron Governorate, was formed from local decision makers, planners, implementers and donors on national, regional and international levels at Hebron Governorate level including related local NGO's such as LRC, UAWC, ESDC, PHG; international NGO's such as ACF; directorates of authority such as MoA, MoH, MoSA and others (Photo3.2). The main role of GSC was selecting the most vulnerable communities and facilitating the project studies and surveys at locality level.

Photo 3.2: Governorate Stakeholders Committee- Hebron Governorate

Food Security Community Committees (FSCCs) were formulated in the 44 targeted communities in Hebron Governorate, where the community related villages councils, women associations, health centers, agricultural unions in the targeted communities are members in the committees (Photos 3.3, 3.4). The main role of the FSCCs was manifested in developing the selection criteria for the targeted communities and the final list of selected households at targeted communities and in facilitating the project team activities, while conducting field/ baseline and blood test surveys and awareness programs mainly key and community women trainings.

Photo 3.3: Community Committee – Dura cluster

Photo 3.4: Community Committee– Bani Nai'm village

Following the formulation of the national, governorate and locality committees, the project targeted localities and households at Hebron Governorate were specified, where 44 most vulnerable villages at Hebron Governorate and 2348 poor households were short listed after a selection process. The process of selection was conducted in a way to ensure the appropriate selection for the poorest localities, where two steps were considered as following: first MoSA, UNRWA, and WFP were consulted for providing the FSIS project with a list for the most vulnerable areas (rural areas) in Hebron Governorate according to each institute standards and criteria. Accordingly and with the help of ARIJ GIS (geographical information system) the locality that was set as vulnerable by more than one institute was short listed; second the short list of most vulnerable localities in Hebron Governorate were presented for Governorate Stakeholders Committee - Hebron Governorate, who justified the selection and agreed on a final list of most needy villages in the governorate.

The 2348 baseline households at locality level were selected based on the recommendations of the formulated Food Security Community Committees (FSCCs) in the 44 targeted communities of Hebron Governorate, where a list of household names were provided by the committee of each selected locality stamped and signed by the committee itself. In addition, ARIJ working team has conducted a refining procedure for the selected household lists by either visiting a sample of households or through its working experience in the selected villages, and accordingly only those considered the poorest households were selected.

Other steps were necessary before conducting the baseline survey including the preparation of the questionnaire template based on identified FINH (food insecurity and nutritional health) indicators, which were used in the baseline survey at household level after revision and refining of project specialists and FSSC. The questionnaire selected indicators were reviewed based on:

- Previously conducted relevant projects such as the Socio-economic and Food Security Atlas project, taking into consideration the project's developed indicators, database, and mapping system.
- FAO, WFP and WHO standards that suit the Palestinian situation.
- Revision and follow up of formulated Food Security Strategic Committee (FSSC).
- Refining of questionnaire through testing and evaluating the questionnaire in the field where 60 samples were filled and analysed; accordingly minor modification were done on the questionnaire template.

The questionnaire template *(*Photo 3.5) was covering the following main aspects:

- Identification data including questionnaire code, governorate and locality name, type of location, name of head of household, date of filling the questionnaire and identification data concerning interviewer.
- Demography including household members, and housing characteristics, information on pregnant women and children.
- Socio-economic including labor force and employment, type of work, income and expenditures (on food and non-food commodities), and households' assets (including water and electricity networks, refrigerator, washing machine, etc.), changes on expenditures (details on reduction on food expenditures including quality and quantity, food on credit, etc.).

Photo 3.5: Baseline questionnaire

- Food security and poverty indicators including food utilization, access to food, food insecurity worries, food consumption, and food dietary diversity.
- Education and health indicators including household members attending schools and / or universities, number of disabilities and type, number of diseases and type with focus on those in relation to mal-nutrition, and number of households that have health insurance.
- Assistance and type of assistance, coping strategies and mitigation plans / households' vulnerability, and aids satisfaction.
- Household available assets including land, water, agricultural production (plant and animal production).
- The questions included in the survey were correlated with common indicators of poverty and food consumption, sensitive to changes at household situation over time, useful to measure general food security and nutritional health status and related activities.

The baseline survey was conducted in the 44 targeted localities in Hebron Governorate (map 3.1 and table 3.1), where 2348 household questionnaires were filled.

Table 3.1: Total targeted localities and households in Hebron Governorate

Name of Targeted Locality	Number of Targeted Households
Beit Ula	112
Hitta	28
Khirbet ad Deir	6
Surif	170
Beit Ummar	160
Jala	15
Safa	11
Sa'ir	125
Wad Al Rim	4
Bani Na'im	234
Wadi Al Amayer	8
As Simiya	18
As Samu'	214
Ash Shuyukh	128
Anab al Kabir	24
Arab al Fureijat	5
Ar Ramadin	113
Khirbet Besm	6
Sikka	63
Al Majd	97
Beit ar Rush at Tahta	19
Beit ar Rush al Fauqa	41
Deir al 'Asal al Fauqa	69
Deir al 'Asal al Tahta	16
Kallet Edar	31
Qalqas	19
Birrin	5
Wadi al Ghrous	3
Al Bowereh	6
Al Jawaiya	8
Ma'in	10
Khallet Salih	12
Ar Rifa'yya	12
Om Ashoqhan	24
At Tuwani	24
Zif	7
Huraiz	63
Umm Lasafa	29
Al Buweib	32
Ad Deirat	52
Khero Shewesh Hadedeyah	53
Khallet al Maiyya	80
Om al Amad	42
Sahel Wadi Elma	60
Total	2348

It is worth noting that the mentioned target localities were gathered as sub-localities under main relevant localities to ease the analysis process as following:

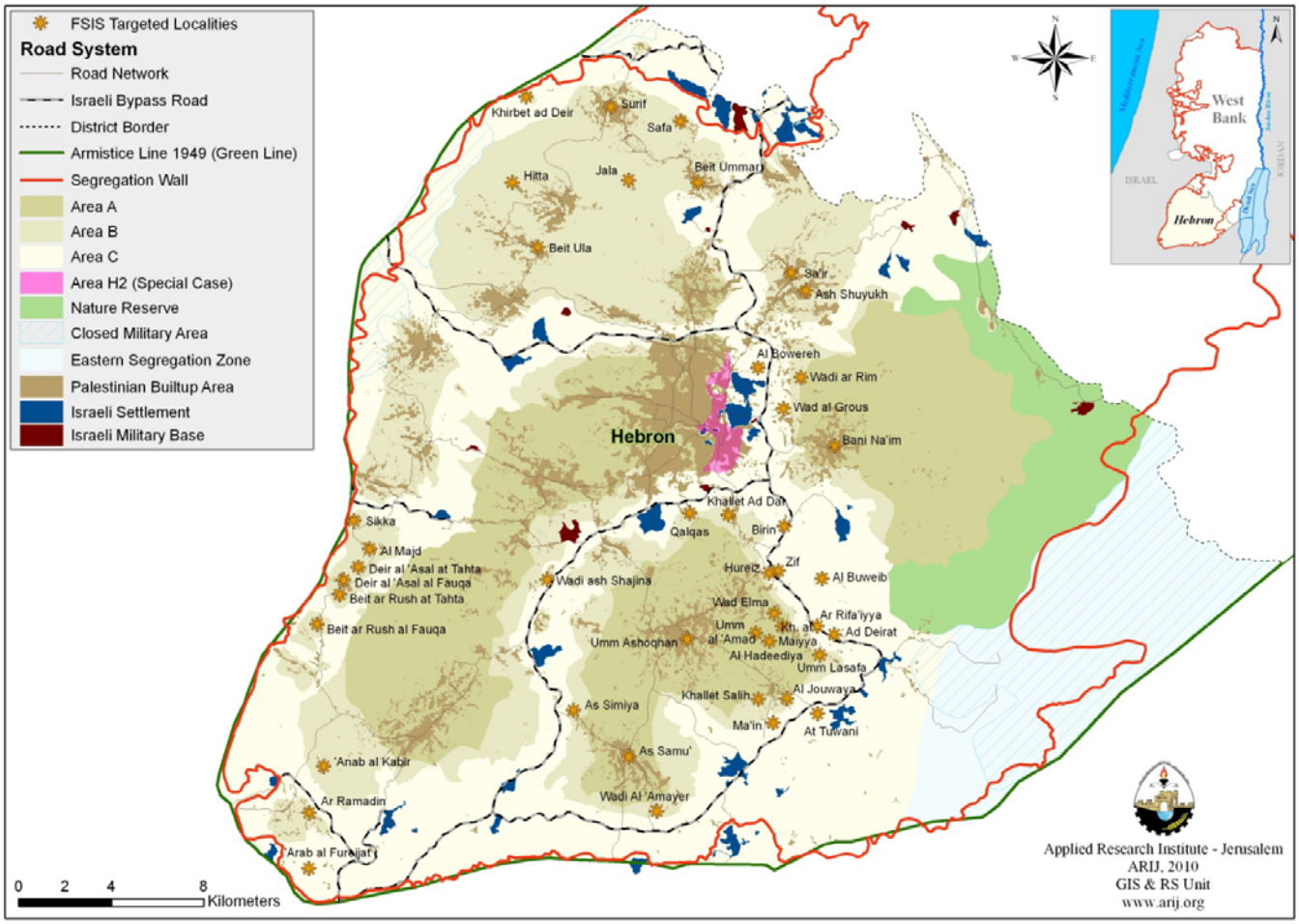
Table 3.2: Total targeted localities and households in Hebron Governorate	
Name of Targeted Locality	**Number of Targeted Households**
Beit Ula	**112**
Hitta	**28**
Surif (Surif, Khirbet ad Deir)	**176**
Beit Ummar (Beit Ummar, Jala, Safa)	**186**
Sa'ir (Sa'ir, Wad Al Rim)	**219**
Bani Na'im	**234**
As Samu' (As samu', Wadi Al Amayer, As Simiya)	**240**
Ash Shuyukh	**128**
Ad Dahiriya ('Anab al Kabir, Arab al Fureijat)	**29**
Ar Ramadin	**113**
Dura (Khirbet Besm, Sikka, Al Majd, Beit ar Rush at Tahta, Beit ar Rush al Fauqa, Deir al 'Asal al Fauqa, Deir al 'Asal al Tahta)	**311**
Hebron (Kallet Edar, Qalqas, Wadi al Ghrous, Birrin)	**64**
Yatta (Al Bowereh, Al Jawaiya, Ma'in, Khallet Salih, Ar Rifa'yya, Om Ashoqhan, At Tuwani, Zif, Huraiz, Umm Lasafa, Al Buweib, Ad Deirat, Khero Shewesh Hadedeyah, Khallet al Maiyya, Om al Amad, Sahel Wadi Elma	**508**
Total Hebron Governorate	**2348**

During the questionnaires filling; the sample size per targeted locality, the selected method for sampling at the different communities were all taken into consideration as following:

a. A balanced sample size of households in the targeted communities in Hebron Governorate was measured using the comparison system of household number at locality level. For example, Bani Na'im town had the highest number of households (almost 16% of total number of households of the selected villages in the Hebron Governorates), and accordingly almost 10% of the questionnaires went to households at Bani Na'im town.
b. Consulting the community committee at each locality and UNRWA list of vulnerable households at the three governorates when selecting the vulnerable households per locality.
c. The GIS applications were taken into consideration when selecting the houses using mapping system to locate the surveyed households. Each house was given a tag number and a code so as to facilitate the households' tracking procedure during the survey.
d. The interviewers are well trained for conducting baseline surveys including explaining the questions, appropriately asking the questions and getting the needed data out of the survey.

It is worth noting that the questionnaires were coded in relation to governorate, locality and household code and the collected data were refined and modified and then entered

into a specialized analysis program; SPSS program. The entered data was assessed for its Validity and Reliability. The 2348 questionnaires were analyzed and documented as a raw database with all indicators studied in the questionnaire included. It was presented as a web-based database which facilitated access within a search system on the web. All questionnaires were also documented as hard copies and their data was filled as a soft copy. All field visits were also documented as field visit reports and photos were taken throughout the survey.



Map 3.1: Hebron *Governorate targeted villages – FSIS project*

4. Background about Hebron Governorate

The Hebron Governorate has a total area of 1,067,000 dunums (1,067 km^2) and is located 36 km south of the city of Jerusalem, in the southern part of the West Bank. It is bordered by the Bethlehem Governorate to the north and the 1949 Armistice Line (Green Line) in all other directions. There are 182 Palestinian built-up areas in the Hebron Governorate, 17 of which are run by municipalities; compared with only four municipalities in the year 1994. These municipalities are Hebron, Halhul, Yatta, Dura, Surif, Kharas, Beit Ula, Tarqumiya, Idhna, Beit Ummar, Sa'ir, Esh Shuyukh, Bani Na'im, Taffuh, As Samu', Edh Dhahiriya, and Beit Awwa. There are also two refugee camps in the governorate, which are Al Fawwar and Al 'Arrub Refugee Camps, these are run by refugee camp committees. Other built-up areas are run by village councils, project

committees. Palestinian built-up areas comprise 7.9% of the total area of the Hebron Governorate[2].

The Hebron Governorate is the largest governorate in the West Bank in terms of area and population. ***The total population of the Hebron Governorate*** in 2007 was 552,164, forming about 23.6% of the total population of the West Bank with females accounting for 49% of total governorate population[3]. It is estimated that almost 29.3% of the population has increased since the year 1997, where the highest population density concentrated in the geopolitical Area "A", reaching up to 1,454 persons/km^2/[4].

According to the PCBS classification[5] for the types of the Palestinian communities in the 2007 census, about 85.3% of the population in the Hebron Governorate live in urban areas, and 12.1% live in rural areas, while 2.6% live in refugee camps.

In terms of economy, the Hebron Governorate registered the highest unemployment rate among the West Bank Governorates, climbing to 21.2% in 2010 compared with an average of 16.5% for the West Bank. The labor force forms 47.5% of the population. The average daily wage is up to NIS 88.5[6]. However, 16.4% of the Hebron population are unpaid family members. It is worth noting that 83.6% of Hebron inhabitants work in the Hebron Governorate itself, 5.1% work in other governorates of the West Bank, and 11.3% work in Israel and Israeli settlements[7].

Furthermore, the PCBS census in the year 2007 showed that the Hebron Governorate has a large average family size equal to other West Bank governorates with 6.6 persons per household. The average of the West Bank was 5.5 persons per household. These large families increase food consumption and household expenses. Up to 36 percent of the Palestinians in the Southern West Bank (Bethlehem and Hebron Governorates) are suffering from poverty and hardship. Of these 36 percent, most live in rural areas where low productivity and limited access to a wide variety of crops exists. Poverty and deep poverty in the year 2007 stood at 23.6 percent and 3.2 percent in the West Bank respectively[8].

The fundamental causes of food insecurity are related to the underlying and immediate causes of poverty. These causes include limitations on food availability, negative effects

[2] The Applied Research Institute-Jerusalem (ARIJ). Locality Profiles and Needs Assessment in the Hebron Governorate. Funded by Spanish Cooperation and Azahar Program. 2009.

[3] Palestinian Central Bureau of Statistics 2009, Population, Housing and establishment, Census -2007, Final Results

[4] ARIJ/WFP. Socio-Economic and Food Security Atlas: in the occupied Palestinian territory. February 2010

[5] *An urban area is any locality whose population amounts to 10,000 persons or more. This applies to the entire Governorates' centers regardless of their size. Additionally, it refers to all localities whose population varies from 4,000 to 9,999 persons provided they have at least four of the following elements: a public electricity network, a public water network, a post office, a health center with a full-time physician and a school offering a general secondary education certificate.

*A rural area is any locality whose population is less than 4,000 persons or whose population varies from 4,000 to 9.999 persons lacks four of the aforementioned elements.

*A refugee camp is any locality referred to as a refugee camp and administrated by the United Nations Relief and Work Agency for Palestinian Refugee in the Near East (UNRWA).

[6] Palestinian Central Bureau of Statistics, 2010. *Labor Force Survey: Annual Report: 2010*

[7] Palestinian Central Bureau of Statistics 2009, Population, Housing and establishment, Census -2007, Final Results

[8] Palestinian Central Bureau of Statistics, 2010. *Labor Force Survey: Annual Report: 2009*

on agricultural production, food trade/market supplies, insufficient economic means to access to food, artificially high prices and few opportunities to secure employment and higher household incomes. Also affecting food insecure households are impaired food utilisation: poor water, poor sanitation, poor hygiene, a lack of access to health care, and a declining quality of diet.

Due to strict measures and difficult economic conditions as well as natural crises such as drought and limited water resources, the economical status of the Hebron Governorate is deteriorating. Approximately 32.7% of households in the Hebron Governorate were found food-insecure during the second trimester of 2009[9], in comparison to 25% in the West Bank. Food insecurity is the highest in Hebron Governorate the WB after Tubas and Jenin Governorates. This represents nearly 179,453 food-insecure people, with another 60,186 persons who are vulnerable to food insecurity (10.9%); 167,306 persons are marginally secure (30.3%), and 144, 667 persons are food secure (26.2%) (figure 4.1). Food-insecure households in the Hebron Governorate are unable to secure sufficient income to meet their essential food and non-food requirements[10] mainly due to the lack of income-earning possibilities. This situation is causing families to decrease their intake of food items in terms of quality and quantity, and is aggravated by the impoverishment process that started in the year 2000.

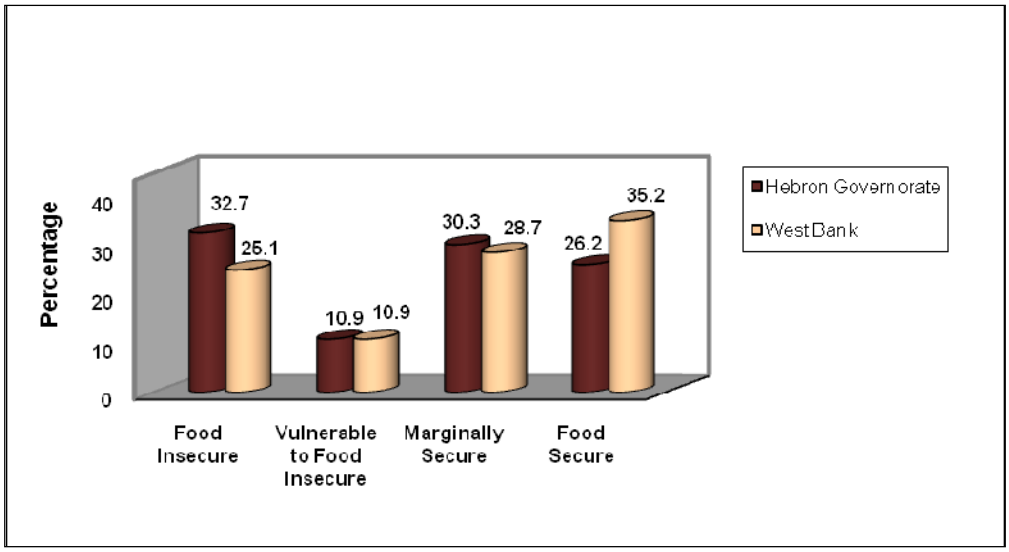


Figure 4.1: Food security levels in the Hebron Governorate, 2009

Food-price increases have significantly deteriorated the food-security situation of households in the Hebron Governorate, as a high share of household expenditures (49%) goes toward food. Between 2005 and 2009 the price of several food commodities, mainly rice, flour, lentils, and red meat, increased significantly in the Hebron Governorate by

[9] ARIJ/WFP. Socio-Economic and Food Security Atlas: in the occupied Palestinian territory. February 2010

[10] Households with income and consumption below 1.6$/capita/day and Households showing a decrease in total, food and non-food expenditures, including households unable to further decrease their expenditure patterns.

45.7%, 38.3%, 54.4% and 31% respectively[11]. Fruits and vegetables are the only groups of food items that experienced only a small rise in prices over the same period.

Due to the declining food security situation of Palestinians, negative coping mechanisms are increasingly being relied on to compensate. The combination of decreased incomes and increased food prices has forced poorer households to change food consumption patterns. Almost 58.4% of the Hebron Governorate residents reduce their food expenditures as a main coping strategy, forcing these families to buy fewer food items and to substitute normal foods with cheaper/less desirable items. Food reduction mainly on quantity of meat purchased/consumed reaches up to 69.9 % of the Hebron Governorate households that have adopted this strategy. However, even if the coping mechanisms are reversible (e.g., switching to less preferred but cheaper food, decreasing the amount of food consumed, forgoing health or education expenditures, and purchasing food on credit), using then temporality they can have a permanent cost on lives and livelihoods, by negatively affecting health and nutritional intake .

As a consequence of increasing numbers of food insecure families the health status of the governorate is deteriorating. Children are the most adversely affected by malnutrition. Poor environmental conditions may increase infections and contribute to environmental deficiencies in micronutrients. Additional factors include unemployment, impoverished economic situation, and changes in household food consumption patterns, with reduced amounts of proteins, vegetables, and fruits. This contributes to a decrease in the amount of minerals and vitamins ingested. Conversely, the effects of malnutrition can result in micronutrient deficiencies in young children, which are known to delay growth. Accordingly, Iron deficiency affected approximately 50.6% of children and 22.1% of pregnant women in the Hebron Governorate in mid-year 2009, compared to 45.2 percent and 27.5 percent, respectively in the West Bank[12].

The type of agriculture practiced in the Hebron Governorate varies according to region, but in general, it can be divided into two groups, plant production (both rain fed and irrigated), and livestock production. The Hebron Governorate constitutes 22.5% of the value of agricultural production in the West Bank, of which 8.4% is plant production and 14.1% is livestock production[13]. The total area of the Hebron Governorate is estimated to be 1,067,539 dunums, with nearly 530,632 dunums of agricultural land; of which are 195,320 dunums of permanent crops, 16,584 dunums of mixed agriculture, and 749 dunums of protected agriculture and 317,979 dunums of arable lands, where part of it used to be cultivated with seasonal crops (table 4.1)[14]. The Hebron Governorate is considered the second largest agricultural area after the Jenin Governorate. 12.5% of the labor force in Hebron Governorate worked in agriculture in the year 2010.

Table 4.1: Land Use/ Land Cover in the Hebron Governorate 2009

Land use / Land cover Type	Area in Dunum*
Agricultural Land	530,632

[11] Palestinian Central Bureau of Statistics: Food Prices Survey, 2005-2009.
[12] Palestinian Central Bureau of Statistics, 2009. Palestinian Family Health Survey, 2008: Final Report. Ramallah. Palestine.
[13] Palestinian Central Bureau of statistics, 2009. Agricultural Statistics for the year 2007/2008. Ramallah. Palestine.
[14] Applied Research Institute-Jerusalem (ARIJ): GIS Unit, 2009.

Open space with little or no vegetation	226,371
Pastures, forests and shrubs vegetation	198,994
Wall Zone	149
Palestinian Built-up Area	83,224
Israeli Settlements	13,466
Israeli Military Base	1,841
Mine, Dump and Construction Sites	10,237
Total Area	**1,067,539**

**Dunum = 1,000 m^2 = 0.1 Hectare*

Nonetheless, due to Israeli restrictions, less than 50% of the land in the Hebron Governorate is open to Palestinian farmers for utilization. The Israeli segregation wall passes through the western and southern parts of the Hebron Governorate; a 160 km long wall enclosing an area of about 104,255 dunums of the Hebron Governorate land, of which 80,954 are agricultural.

The total cultivated area in the West Bank is usually categorized into 'Fruit Trees', 'Vegetables', and 'Field Crops and Forages'. The major area of plant production is rain-fed; however, irrigation is used in some parts. According to the PCBS, the total area of plant production in the Hebron Governorate in the agricultural year 2007/2008 reached 330,623 dunums with total plant production of 90,526 tons and a total value of US $87,431,000. Compared to the year 1997/1998, we notice an increase of approximately 5.94% in the total planted area and a 28% increase in total production.

Furthermore, rain-fed agriculture dominated in the Hebron Governorate and formed 97% of the cultivated area in the year 2007/2008, with a total production reaching 60,007 tons, which is approximately 65% of the total agricultural production. However, although the irrigated area formed only 3%, its production was approximately 32.749 tons, which constituted 35% from the total production.

Thus, the agriculture in the Hebron Governorate is mainly dependent on rainfall and is vulnerable to any limited precipitation or poor distribution of rainfall. To sustain this viable sector, copping plans and strategies should be developed to mitigate the impact of low precipitation and poor distribution of rainfall, which became very noticeable during the last couple of years.

Livestock production, on the other hand, during the agricultural year 2007/2008 reached 22,145 tons of meat (red and white), 55,788 tons of milk, 105 million of egg and 19 tons of honey in Hebron Governorate[15]. The value of livestock production in the Hebron Governorate during the agricultural year 2007/2008 registered approximately US $145,947 thousand with an increase of 53.5% compared to the year 1997/1998. The contributions of these sectors from the total livestock production value of the Hebron Governorate were as follows: 57.4% meat, 34.2% dairy and 6.6% eggs.

It is worth noting that the climate of the Hebron Governorate ranges from arid to semi-arid with an increase in aridity towards the Negev Desert in the south, and the Jordan

[15] Palestinian Central Bureau of statistics, 2009. Agricultural Statistics for the year 2007/2008. Ramallah. Palestine

Valley in the east. Summers in the Hebron Governorate are hot and dry, while the quantity of mean rainfall varies from year to year. The mean annual rainfall in the Hebron Governorate is 592mm/year. The mean annual rainfall in the Hebron Governorate in the year 2008/2009 was 405.5 mm, forming only 68% of average annual rainfall; noting that the north western part of the governorate enjoys greater amounts of rainfall. The year 2007/08 was a drought year as only 327.5 mm of rainfall was received which formed 55% of the average annual historical rainfall. The year 2010 was better in its precipitation reaching to 430.2mm[16]. However it is still lower than the average annual rainfall by 27%. These drought conditions create additional obstacles to the level of family food security and their income as most of the agriculture production in Hebron is subsistence agriculture. Furthermore, most of the people who had lost employment in Israel began farming their lands to produce food for their families and generate income. It is worth mentioning that 12.5% of the formal employees of the Hebron Governorate in the year 2010 were employed in the agricultural sector compared with 11% in the year 2000[17].

The renewable water resources in the Hebron Governorate consists primarily of groundwater resources. The Governorate is located above the Eastern and Western Basins of the West Bank Aquifer system. It is worth mentioning that the Hebron governorate is the most arid governorate of the West Bank. Drinking water resources in the Hebron Governorate are divided into two main sources, namely: (1) local resources from the groundwater wells, (2) purchased resources from the Israel National Water Company "Mekorot".

Water needs are defined as the minimum water required sustaining a healthy life. Based on the World Health Organization's (WHO) recommendations, each person should receive a minimum quantity of 100 liters of fresh water per day. The Governorate's total domestic water needs were estimated by 31.17 MCM for the year 2008. Therefore, the total real deficit in domestic water supply, taking into consideration water losses, reached approximately 19.55 MCM for the whole Governorate[18]. This deficit is expected to worsen as the population increases.

The percentage of water losses is high in the Hebron Governorate. The overall loss and uncounted for water rate was estimated to be 30 % in 2008. Taking water losses into account, it was estimated that the actual average consumption rate didn't exceed 56 liter per capita per day (l/c/d). In terms of water quality, the result of the water quality analysis conducted by the PWA in 2007 revealed that the well's water in the Hebron Governorate is considered of high quality and within the permitted limits of the Palestinian drinking water standards.

5. Hebron Baseline Survey Results

5.1 Households Identification Data

During the baseline survey the project has targeted 44 vulnerable localities in the Hebron Governorate through which 2348 households were surveyed. The targeted localities formed 23% of the total number of localities in the governorate (reaching up to 189 localities) and the targeted population of the localities formed 5% of the

[16] Al A'ghbar, Raed, and Al A'arawi, Shafeeq. Annual Rainfall Report: Season 2008/2009. MoA; Soil and Irrigation General Directorate. Palestine. 2009
[17] Palestinian Central Bureau of Statistics, 2010. Labor Force Survey: Annual Report: 2010
[18] Palestinian Water Authority, 2009

total population of the Hebron Governorate (reaches up to 552,164 persons) (figure 5.1.1).

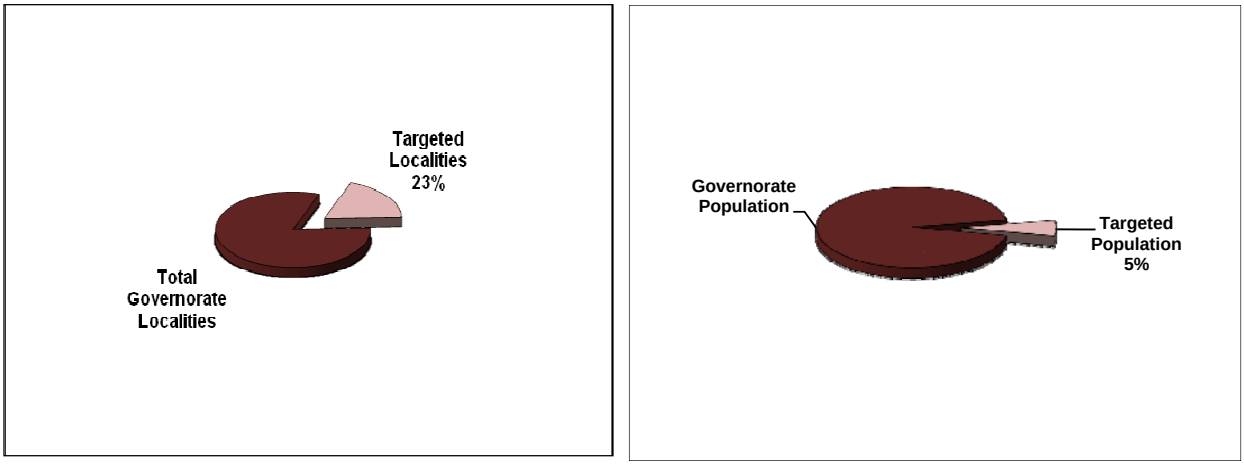


Figure 5.1.1: Total project targeted population and localities of their total in Hebron Governorate

The total number of surveyed households' members live in the same targeted house was 18,447 persons, 48.5% were males and 51.5% were females. The average number of household members of surveyed sample was 7.9 people compared with 5.4 persons per household as was reported by the PCBS in 2007. Only 2.3% of the surveyed households are headed by women, and 60.3% are headed by men. Children less than 16 years old formed 46.6% of the total targeted population (figure 5.1.2). Up to 73.3% of targeted household members live in the same targeted house. Up to 13.6% of the urban family members do not reside with their families where in rural families the figure is 28%.

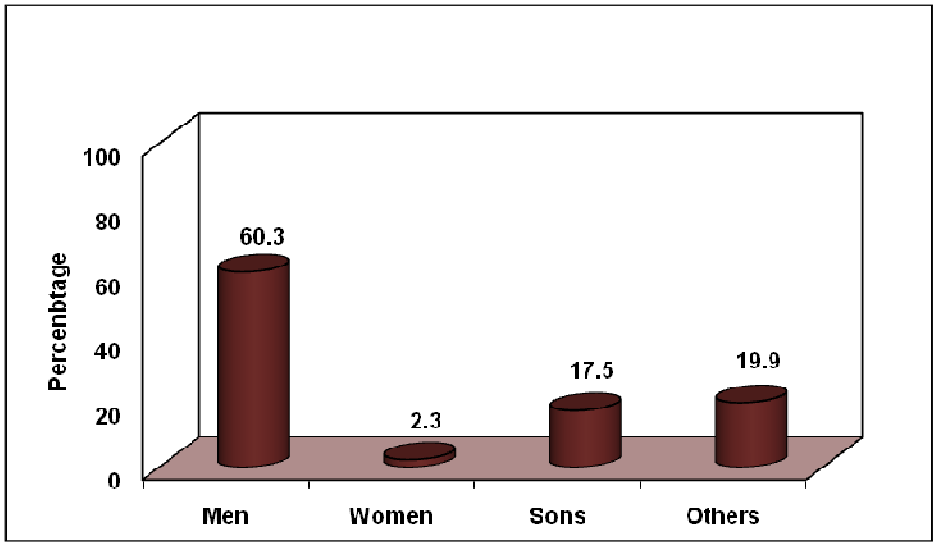


Figure 5.1.2: Percentage of targeted household per type of head at Hebron Governorate level

Up to 81.8% of targeted localities are classified as rural areas and 81.8% are urban areas (see classification section 4), where almost 94.2% of localities are served by a municipality or a village council.

Comparing the targeted localities; it appears that that Bani Na'im town had the highest number of population among the targeted villages reaching up to 20,084 persons (forming 15.6% of total targeted population) followed with As Samu' town reaching up to 19,649 persons (forming 15.2% of total targeted population). In relevance to the total number of questionnaires selected by locality, Bani Na'im town has the highest percent of targeted households reaching up to 10% (figure 5.1.3).

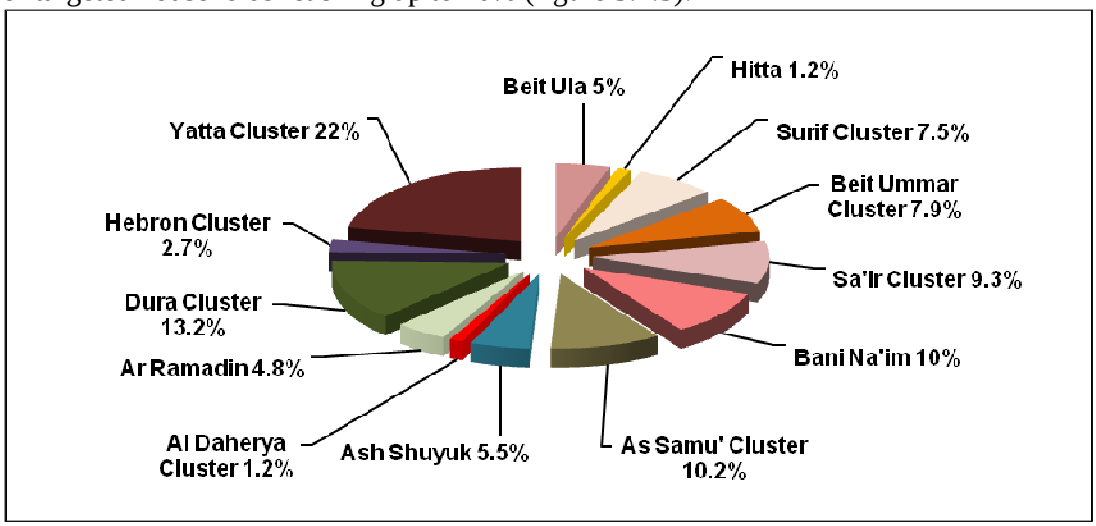


Figure 5.1.3: Percentage of surveyed questionnaires by targeted locality-cluster in Hebron Governorate

Children less than 16 years old were found mainly in Sa'ir cluster targeted population forming 92.4% of total surveyed population (figure 5.1.4). The highest percentage of pregnant women was recorded in Yatta cluster forming 5.8% of total surveyed population in Yatta cluster. The highest household size was found in Hitta village, reaching up to 7.8% followed by 7.6 % in Yatta cluster (figure 5.1.4).

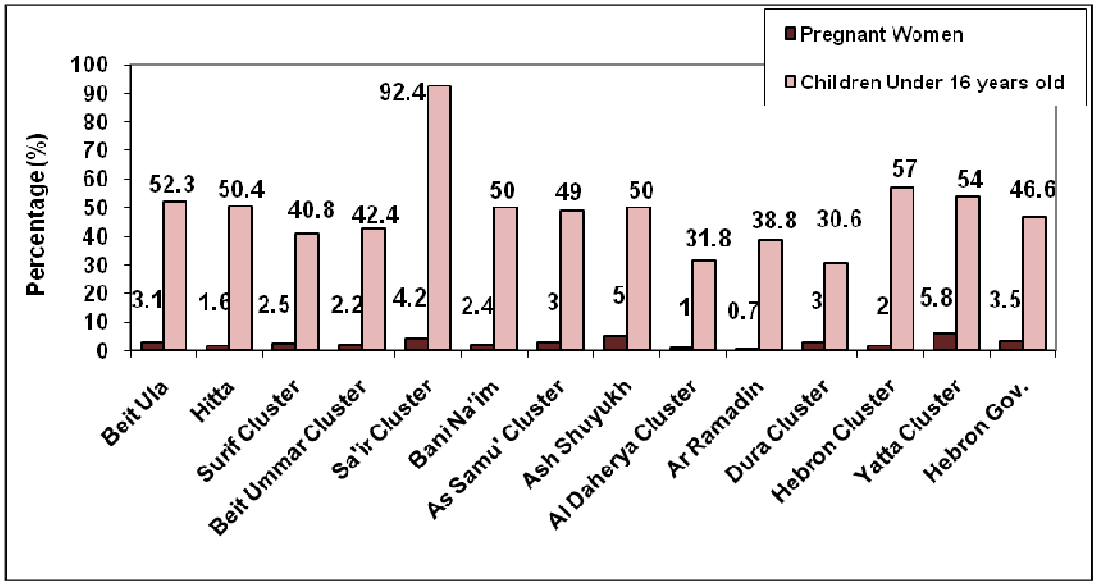
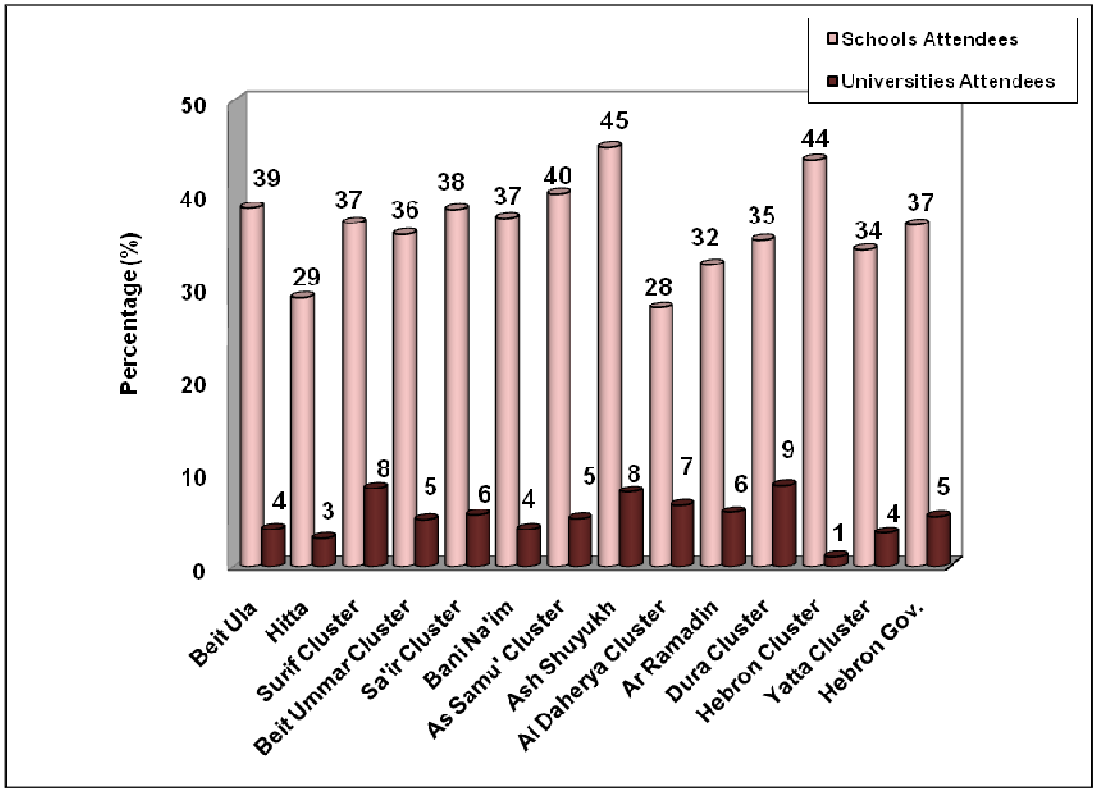


Figure 5.1.4: Percentage of children less than 16 years old and pregnant women in a sample of targeted localities-clusters in Hebron Governorate

5.2 Education Data

The percentage of targeted family members that attend school (including kindergarten) reached up to 36.7% of the total targeted population, in comparison to 45.8% of population attending school in the year 2007[19]. Up to 45% are family members that attend school in Ash Shuyukh town, followed by Hebron cluster (43.7%) and As Samu' cluster (40%) (Figure 5.2.1). Females and males attending school were almost evenly distributed reaching up to 51.1% and 48.9% respectively. The highest percentage of females attending school was in Hebron cluster and Ash Shuyukh town reaching up to 46.1% and 44%, respectively.

The percentage of family members that attend higher education institutions reached 5.3% of total family members at targeted villages, in comparison to 8.1% at governorate level in the year 2007. The females and males attending the higher education institutions were almost evenly distributed reaching up to 51.5% and 48.5% of total family members attending higher education institutions, respectively. It is worth noting that the Dura cluster has the highest percentage of family members attending university reaching up to 8.7%, followed by the Surif cluster, Ash Shuyukh town, and the Al Dahiriya cluster reaching up to 8.4%, 8%, 6.6% respectively (figure 5.2.1). The highest percentage of females attending higher education institutions was found in the Dura cluster and the Surif cluster reaching up to 9% of total females in the village clusters, and 4.8% of total family members, respectively.



[19] Palestinian Central Bureau of Statistics (PCBS). Census Final Results – Summary (population, buildings, housing, establishments). Hebron Governorate. December 2008.

Figure 5.2.1: Percentage of family members that attend school and higher education institutions by locality-cluster in Hebron Governorate

5.3 Infrastructure and Accessibility to Public Services

Almost 94.2% of localities are served by a municipality or a village council. Up to 91.3% of surveyed families live in a house, which were mainly built of baton (39.1%) and building blocks (35.2%) (Figure 5.3.1)**.** The houses were mainly owned, as 86.5% of targeted families were home owners, followed by 10.1% of targeted families who rented house for free. The average number of rooms per house was 2.7, with the highest number of rooms in the Yatta, Hebron area, Dura clusters, Al Shuyukh town, Sa'ir, Beit Ummar, Surif clsuters and Hitta village, reaching 3 rooms. It is worth noting that almost all targeted households owned a cooker, followed by 90% owning a TV, 72.1% owning washing machine and 71.7% owning a refrigerator (figure 5.3.2). Only 3.3% in Hebron cluster and 12.7% in Beit Ummar town of targeted households have a car mainly and a computer mainly.

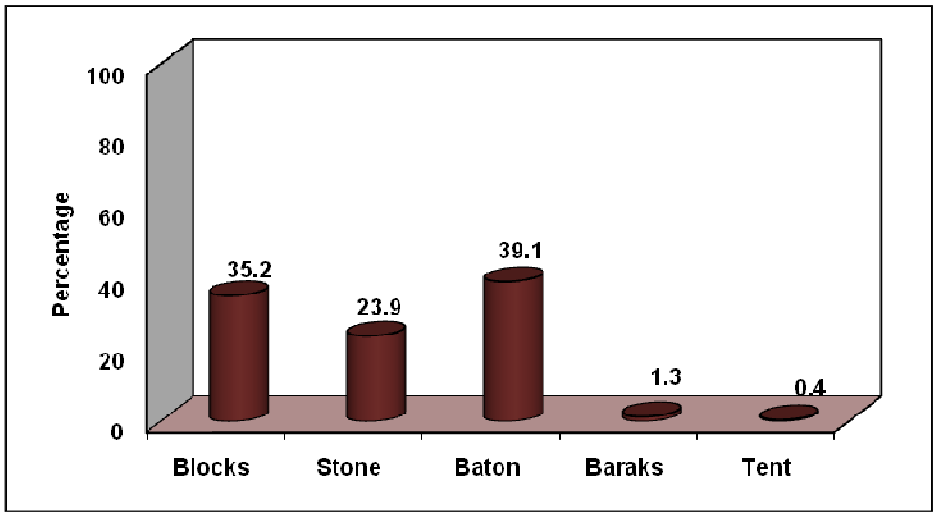


Figure 5.3.1: Type of houses that targeted households live in at Hebron Governorate level

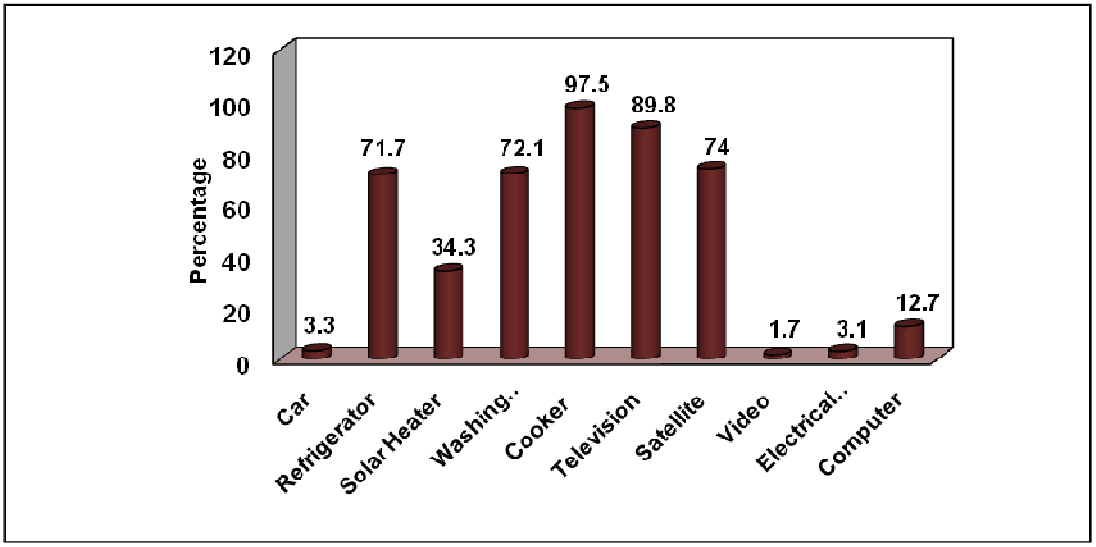


Figure 5.3.2: Percentage of household assets per type at Hebron Governorate level

Only 0.5% of the targeted families were connected to a local public wastewater network while 72.1% of households got rid of their wastewater through cesspits. Concerning the source of drinking water, it was found that 12.1% of targeted households were connected to the Israeli water network mainly in Bani Na'im town, Hebron, Surif, and Beit Ummar clusters, while 46.4% are connected to local water network mainly in Hitta village, Ash Shuyukh town, and Beit Ummar cluster. It was also found that 21.6% of targeted households are connected to a cistern (figure 5.3.3).96% of targeted households were found connected to public electricity network; while 4% of households were found with no source of electricity mainly in Hebron – Birrin.

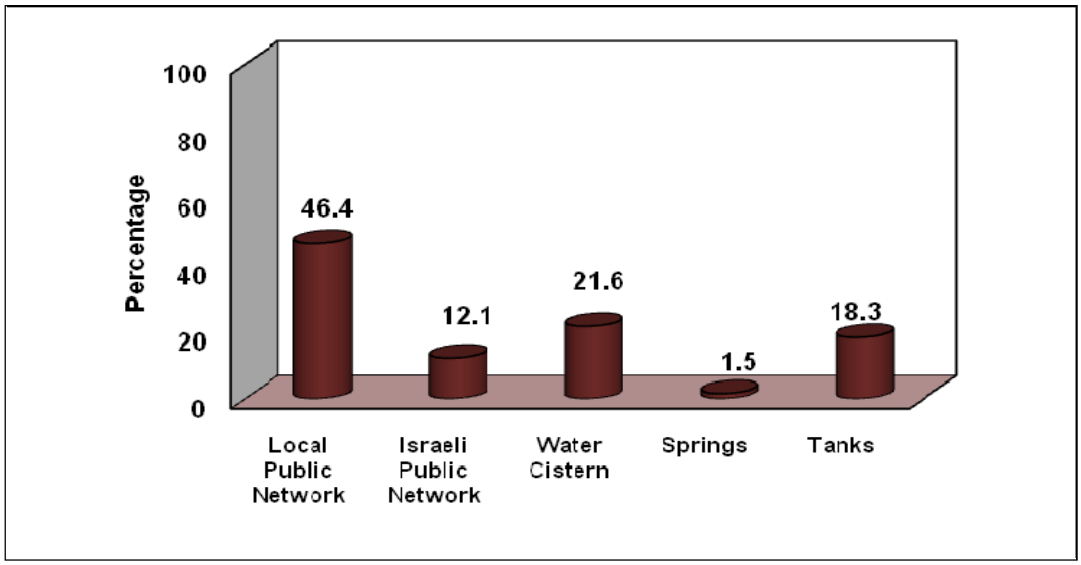


Figure 5.3.3: Percentage of households connected to drinking water sources at Hebron Governorate level

5.4 Agriculture Data

Out of the 2348 surveyed households, it was found that 48.3% own agricultural lands (1134 households), and 19.4% own livestock (456 households). Of those who own land only 55.1% households (625 households) planted their lands, where total cultivated area was 1865.7 dunums. The main type of cultivation adopted by surveyed households was field crops forming 54.6% of total cultivated area, followed by fruit trees forming 40.3% of total cultivated area and vegetables forming 4.5% of total cultivated area. More than 80% of households in Ar Ramadin, and Al Daherya clusters planted their lands (figure 5.4.1).

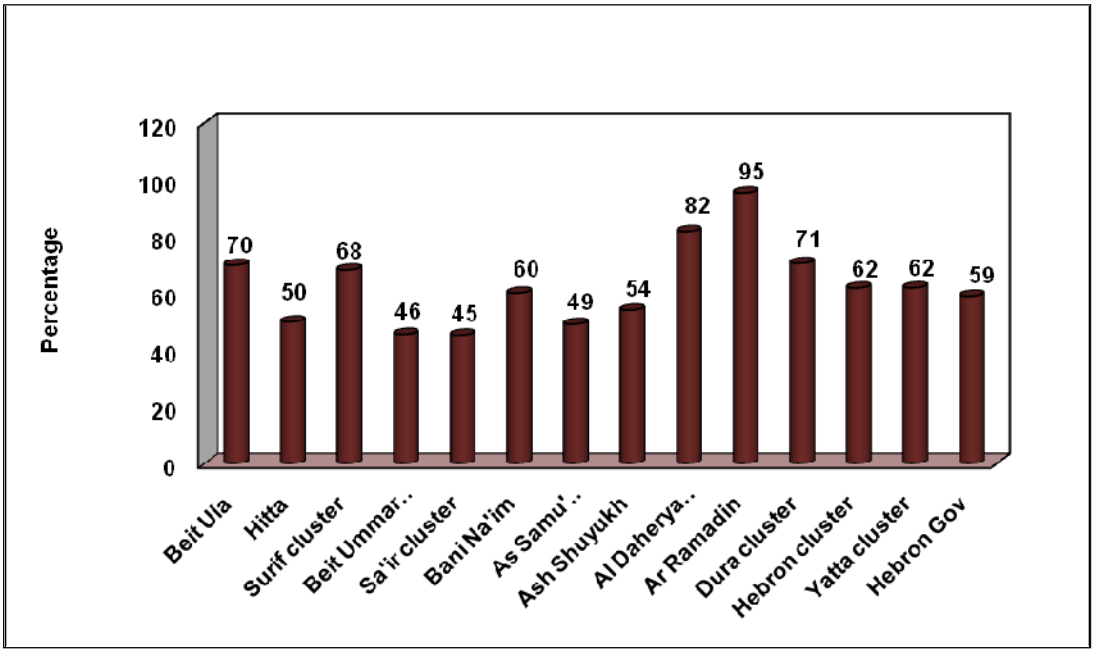


Figure 5.4.1: Percentage of surveyed households who planted their lands of total households who own lands by locality-cluster in Hebron Governorate

The largest cultivated areas were found in Yatta, and Dura clusters, Bani Na'im town, and Surif cluster, where 694, 252, 214, and 149.6 dunums were cultivated respectively (figure 5.4.2).

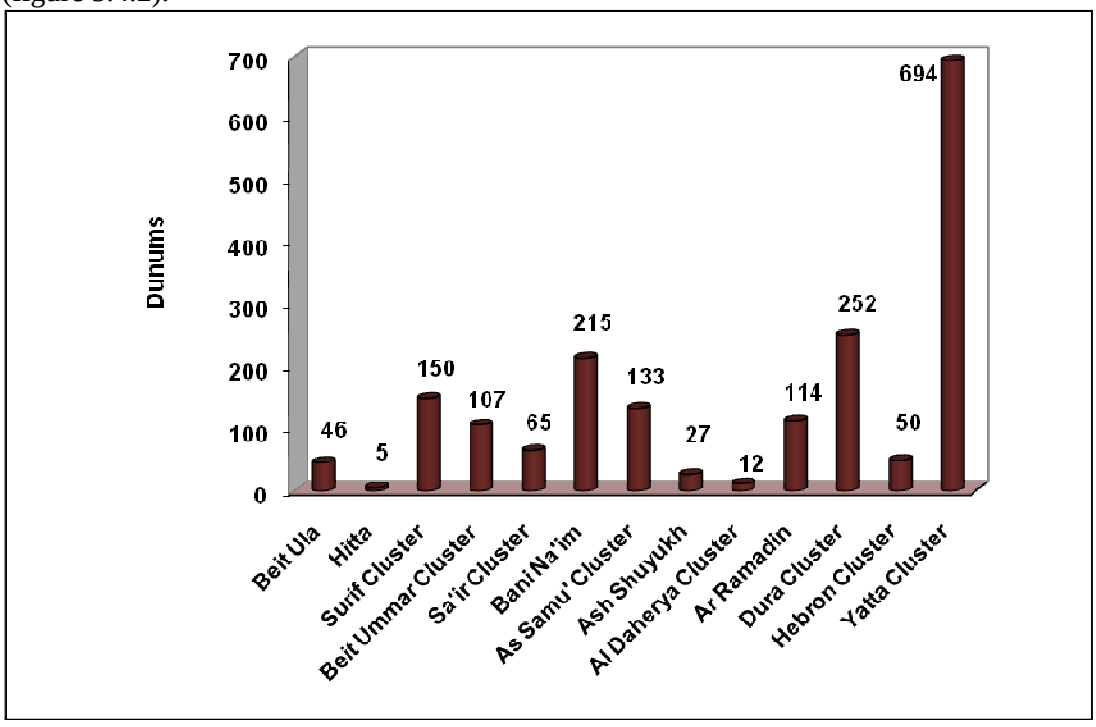


Figure 5.4.2: Cultivated area in dunums by surveyed locality-cluster in Hebron Governorate

Almost all surveyed localities are cultivated mainly with fruit trees and field crops. Ad Daherya cluster cultivate mainly field crops, however, Hitta village cultivate mainly

fruits trees, while Hebron and Sa'ir clusters cultivate additionally vegetables (figure 5.4.3).

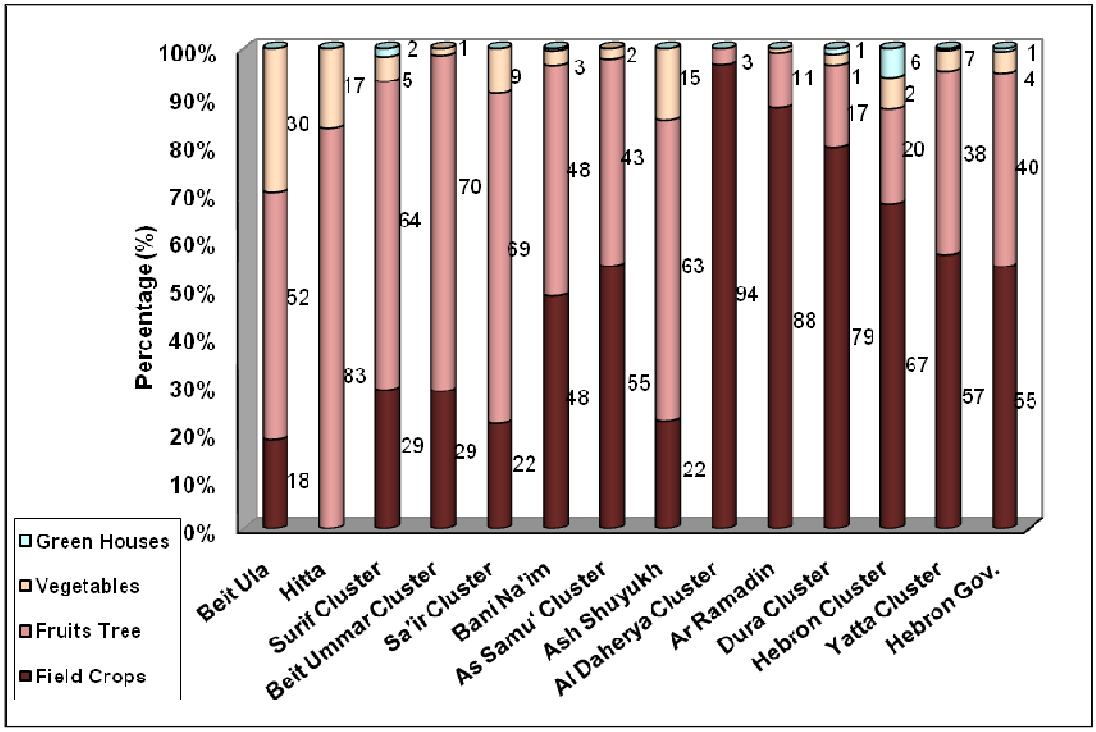


Figure 5.4.3: Percentage of cultivated area by type of cultivation by locality-cluster in Hebron Governorate

It was also found that the main source of water used for irrigation was rainwater, where almost 83.4% of surveyed households rely on rainfall for irrigation, followed by 8.5% using a cistern (figure 5.4.3). It is worth noting that natural springs and gray water were systems not used at all.

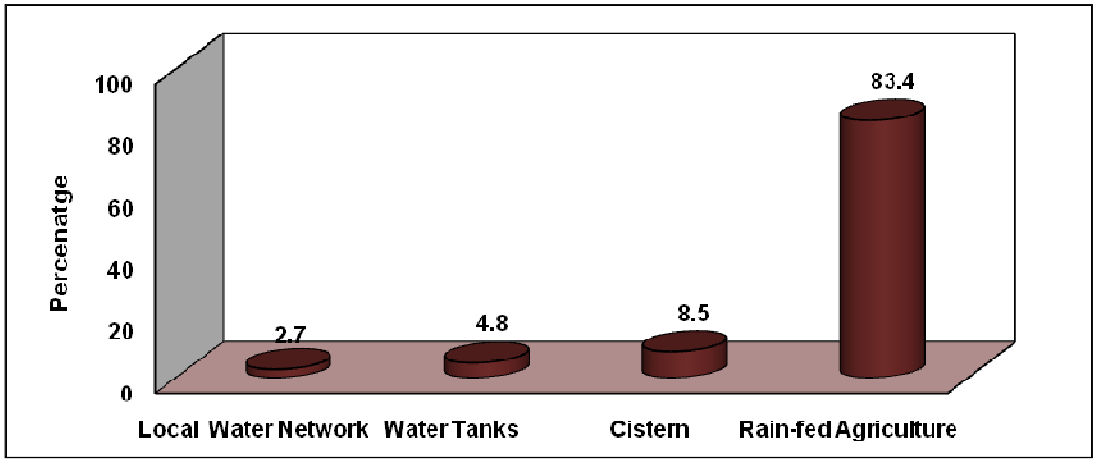


Figure 5.4.3: Percentage of surveyed households using different water sources for irrigation in Hebron Governorate

In general, out of the surveyed households that own livestock (19.4% of total surveyed households), poultry was the main type of livestock raised. The total number of raised

heads for both layers and broilers is 13,938 heads, while the rest were 4600 heads of sheep, 810 heads of goats, 20 beehives, and 17 cattle. Most of the surveyed localities considered raising sheep and poultry (Broilers), however, Yatta cluster, Dura cluster, Bani Na'im town, As Samu' cluster and Ar Ramadin raised mainly sheep. Additionally, Dura cluster and Bani Na'im town raised poultry and beehives (figure 5.4.4). The variable ecosystems including their climate where each surveyed locality is located play major role in supporting the appropriate type of livestock per locality.

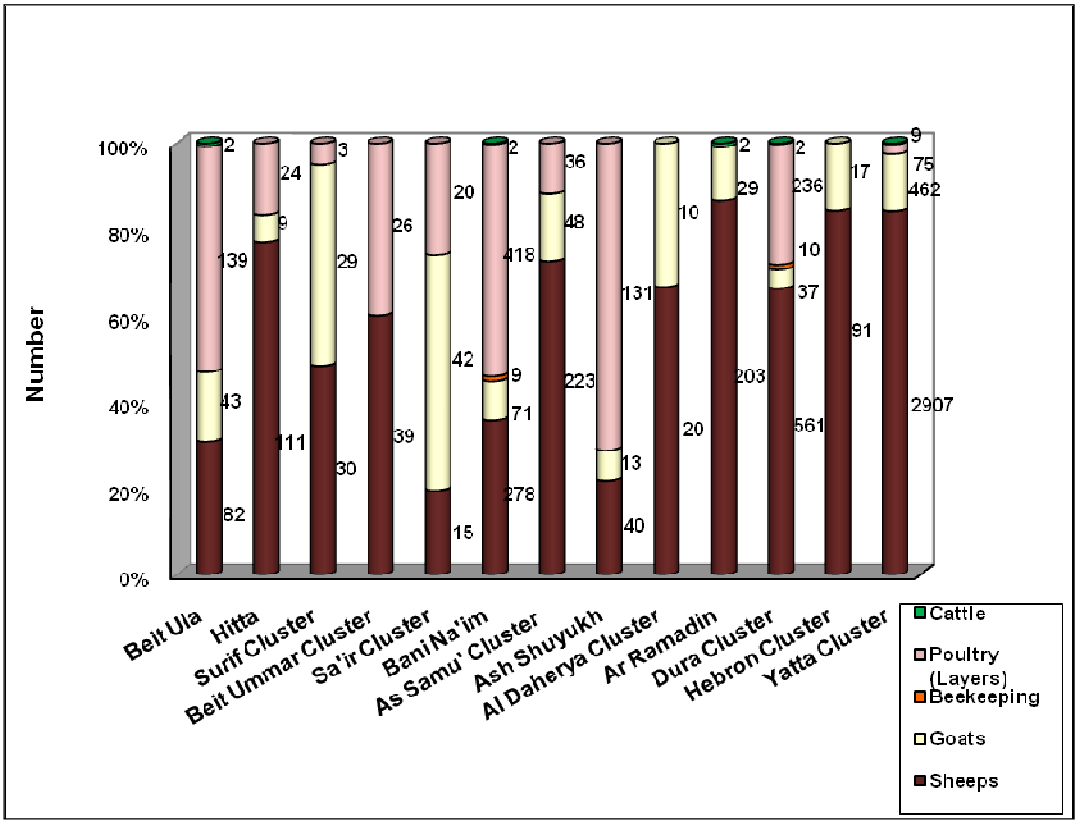


Figure 5.4.4: Number of livestock heads by type by locality-cluster in Hebron Governorate

5.5 Health Data

Disabilities and /or difficulties were prevalent in the surveyed households, where 29% of the households suffered from either having a member with a disability or a difficulty or both. The total number of disabled or/and having a difficulty is 944 persons, which were mainly found among males reaching up to 64.7% of total surveyed family members, and mainly concentrated in Beit Ummar cluster and Bani Na'im town (figure 5.5.1). The number of cases was the highest in Yatta (with 158 cases), Bani Na'im (with 136 cases), and Sa'ir (with 123 cases) villages.

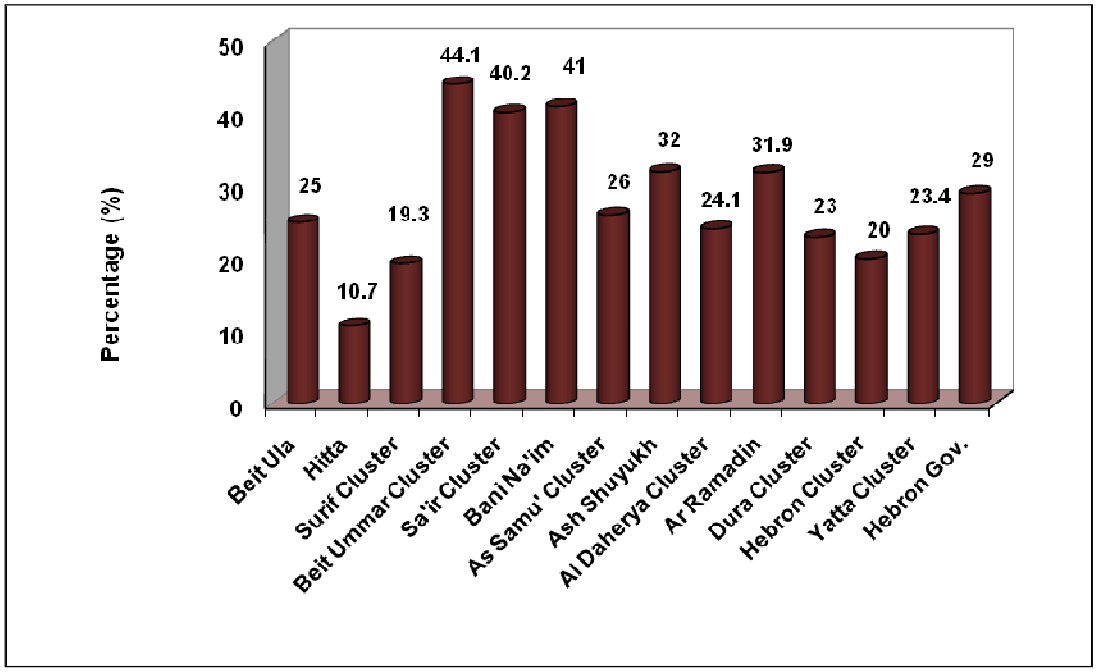


Figure 5.5.1: Percentage of surveyed households with disabilities and / or difficulty by locality-cluster in Hebron Governorate

Households with members suffering from diseases reach up to 56.8% of total surveyed households (1910 persons), which were almost equally distributed among males and females. The highest percentage of households with family members affected by diseases was found in Beit Ummar cluster, Sa'ir cluster, Bani Na'im town, Al Daherya cluster, and As Samu'cluster. Several reasons could be behind such findings but the major factors are vulnerability, poverty and lack of health awareness.

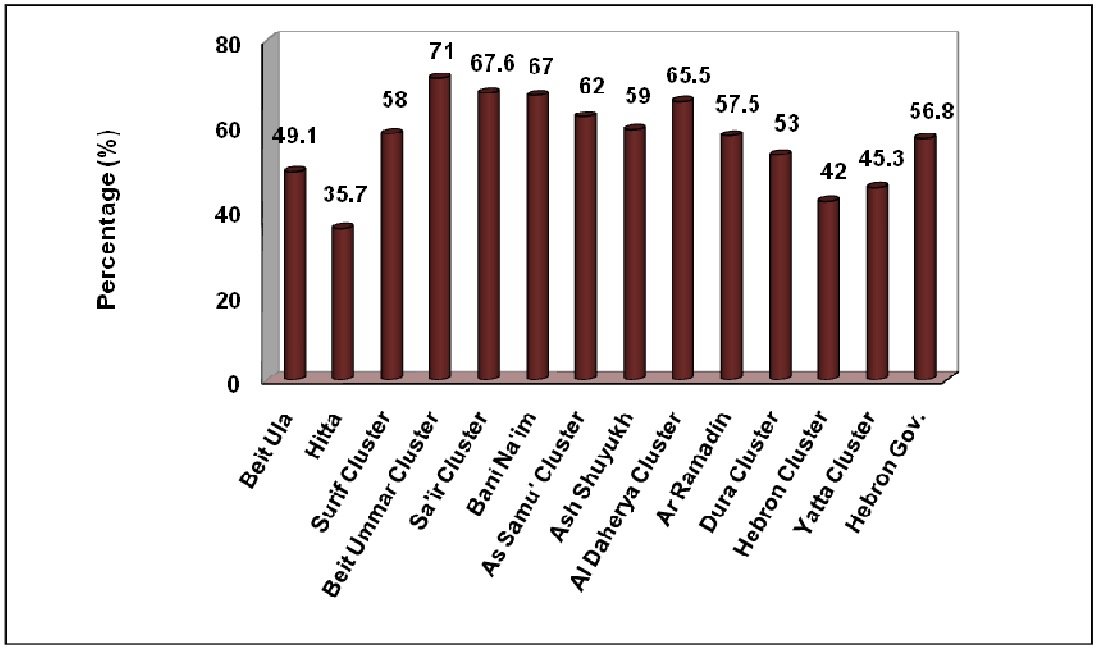


Figure 5.5.2: Percentage of households with diseases by locality-cluster in Hebron Governorate

The relationship between a deteriorating economic status and deteriorating health status appears directly in these cases, since these targeted households are considered the poorest at the locality and governorate level. Most of the surveyed households suffer from different types of disease that could be affected directly by malnutrition. For example diabetes was one of the highly exposed diseases in the governorate where more than 14% of the family members suffer from such a disease, which relates directly to malnutrition and bad health practices.[20] It is worth noting that during the blood survey that was conducted in hand with the baseline survey in Hebron Governorate, most of the beneficiaries confirmed that they never did blood test analysis which also indicates that most of them do not know was kind of a disease they have or are susceptible to; especially vitamin B12 and ferritin deficiency, which need longer periods of time to develop symptoms. Only 59% of the surveyed households' own health insurance equally distributed among males and females. Hebron cluster (83%), As Samu' cluster (71%) and Sa'ir custer (70.3%) have the highest percentage of households with health insurance.

5.6 Economic Data

Investigating the economic status of the targeted households, it appears that the surveyed communities are suffering from low incomes especially that their total income is less than their average expenditures per month, as shown in figure 5.6.1. In the Hebron Governorate, the average income of surveyed households was 1041 NIS per month, which is considered under deep poverty line in comparison to PCBS poverty line standards 2009, which reaches to 1870 NIS per month[21]. The recorded average income per household is considered very low when compared to the deep poverty measured income by PCBS 2009, where such a gap highlights the causes behind the deteriorated livelihood of selected communities and justifies the importance of such selection reflecting a new scene for the poor communities, where poverty appears deep and widespread.

The average expenses at the governorate level, appear higher than average reaching up to 1810 NIS per month, which also reveals a shortage in income to cover the needs at a household level. It is worth noting that the expenses were measured in the survey as basic needs which include food, education, health, communications, transportation, and bills.

[20] FSIS-Blood Surveillance Report indicating related results

[21] Palestinian Central Bureau of Statistics, 2010. *Main Features of Poverty in the oPt 2004-2009 according to the new methodology to measure poverty averages for year 2010 (New poverty level measuring methodology*

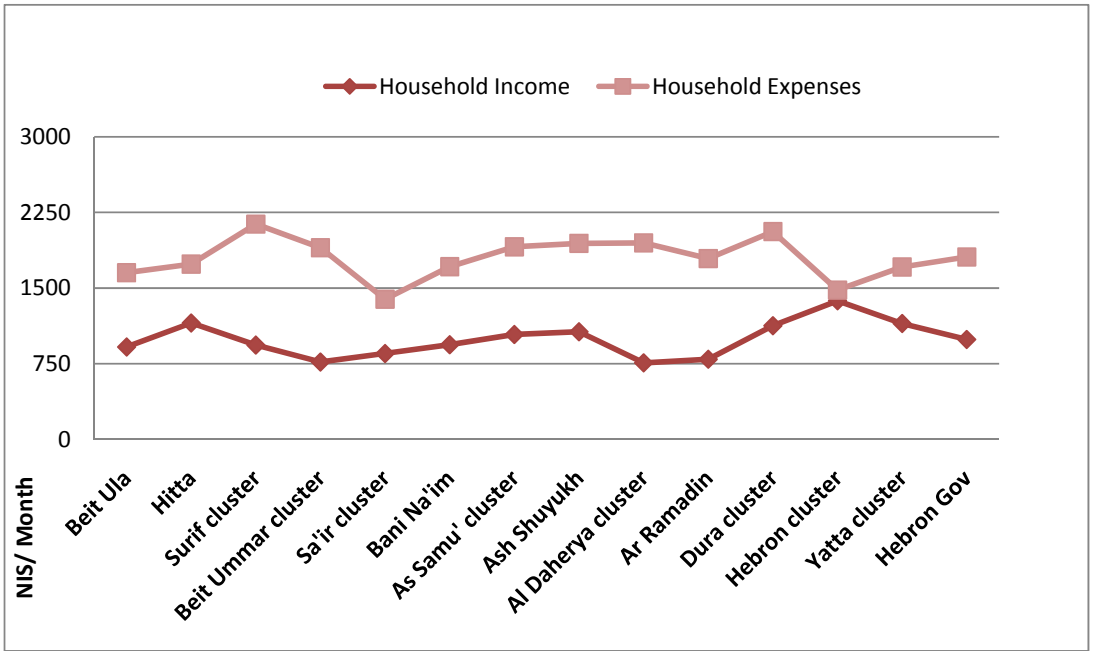


Figure 5.6.1: Household income in comparison with household expenses by locality in Hebron Governorate

All targeted localities suffer from a income shortage, where the gap between their expenses and their average income per month caused households to reduce their quality of life and to adopt coping strategies that effect all life aspects including their health status. As appears in figure 5.6.1, the shortage in income to cover the households basic needs at governorate level reached an average of more than 818 NIS/ month, where Surif, Al Daherya, and Beit Ummar clusters suffer the most and the shortage reached an average up to 1198 NIS/month, 1189 NIS/month, and 1133 NIS/month, respectively. The average income among the targeted localities was the least in Hebron cluster, which reached in average to only 107 NIS/month, while expenditures were the highest in Dura cluster, which reached in average up to 2060 NIS/month.

The findings also reveals that only 2207 people are economically active forming 12% of total surveyed family members, of which 10.7% are working part time and 2% are female.The Hebron cluster and the Ad Daherya cluster had the highest percentages of households with economically active members reaching up to 14.2% and 13.1% respectively.

Household heads in labor could be fathers, mothers, sons or others. The fathers in labor formed 62.4% of the total households in labor, mothers formed only 3.5% and sons formed 31.5%. The mothers work mainly in handicrafts and employment, while fathers and sons work mainly as workers. It was also found that working as laborers either in the oPt (occupied Palestinian territories) or in Israel is the dominant type of work at governorate level reaching up to 58.5% of households, followed by employment reaching up to 16.4%, followed by handicraft reaching to 12.6%, followed by agriculture (both plant and livestock) reaching to 9% (figure 5.6.2).

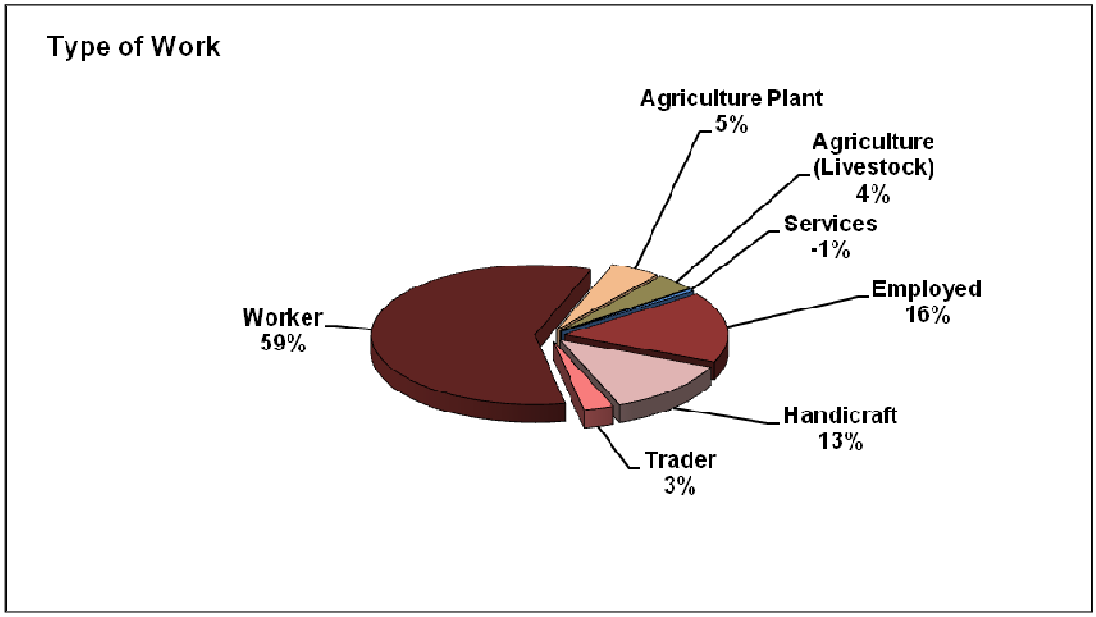


Figure 5.6.2: Type of work at household level in Hebron Governorate

It appears from the findings that more than 88% of the surveyed household members are considered economically dependent; causing greater pressure on the family and driving it towards deep poverty. Such cases deteriorate even further when income is not enough to cover the family basic needs and when families suffer from disabilities and diseases, which case extra expenses for health care.

5.7 Food Security Data

Investigating the type of expenses at household level, it appears that 45.2% of the family expenses goes to food, followed by 13.6% for education, 11.6% towards bills. Health care takes only 11.3% of total household expenses. Comparing the results with the SEFsec (FAO/WFP Socio-economic and Food Security Survey in the West Bank) report in the year 2009 that covered households (in a random sample) in the West Bank, it appears that the surveyed targeted households are living in worse off conditions than the rest of the governorate, since the percentage of expenditures that goes to food according to SEFsec survey is 42% in the West Bank, and 52.3% at Hebron Governorate level (figure 5.7.1).

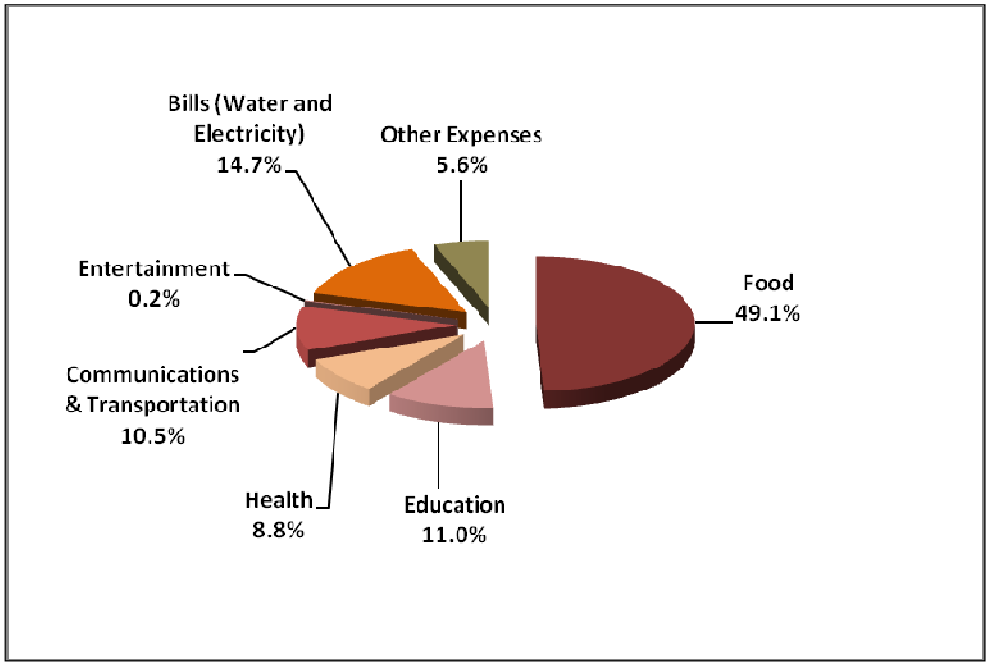


Figure 5.7.1: Percentage of households' expenditures in Hebron Governorate

Almost 52% of households reduced their expenditures during the last six months at the time of the survey (figure 5.7.2), out of which 97.3% of households reduced their expenditures on food, followed by clothes, household expenses and health, at 96.7%, 65.1%, and 53.8%, respectively (figure 5.7.3). The reduction on food goes mainly on the reduction on quantity of food where 98% of surveyed households reduced their food quantity during the last six months of the survey time, followed by 95.9%, 91.8%, 87% and 80.2% reduction in quality of food, vegetables and fruit intake, quantity of meat, and milk respectively.

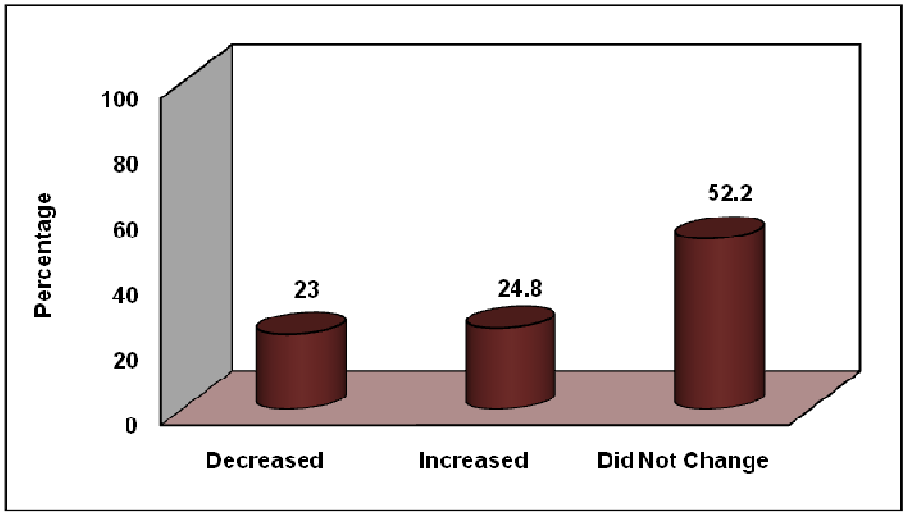


Figure 5.7.2: Percentage of households that made changes on their expenditures during the last six months of the survey time in Hebron Governorate

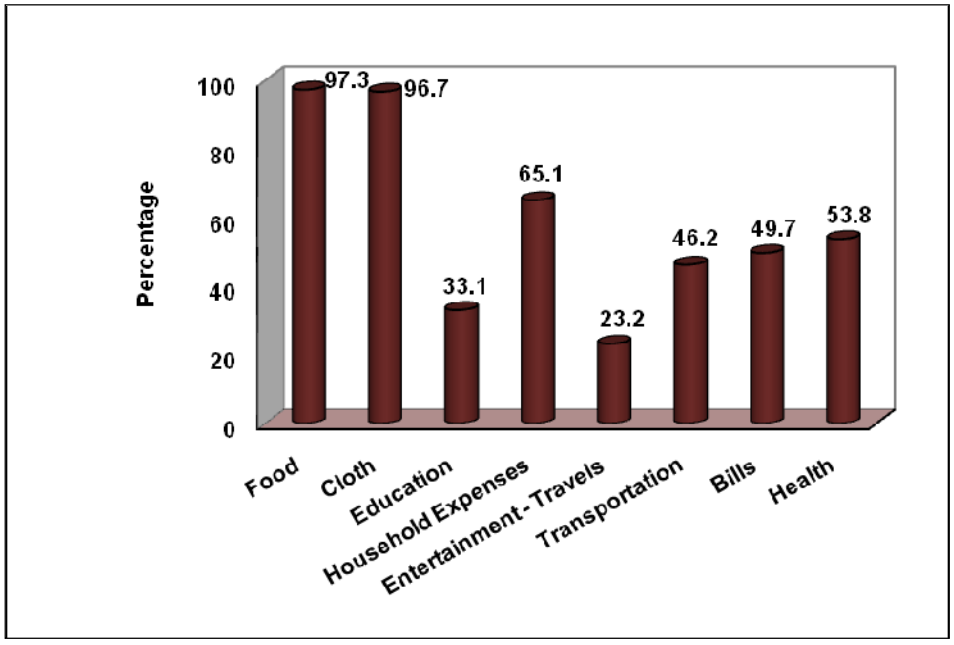


Figure 5.7.3: Percentage of households reduced their expenditures by type of sector in Hebron Governorate

Beit Ummar, Surif and Sa'ir clusters showed the highest percentage of reduction in expenditures at households' level (figure 5.7.4). The conclusion is the majority of the targeted households resort to changes in their food consumption patterns (quantities and qualities) in order to decrease food expenditures so as to cope with their income averages and meet their basic needs. In some cases, when the reduction in the amount of food is no longer possible, only quality could be further decreased. Such strategies can have direct impact on quality of life livelihoods, through poorer health and nutritional status, excessive indebtedness and loss of future opportunities for higher skills and better paid jobs.

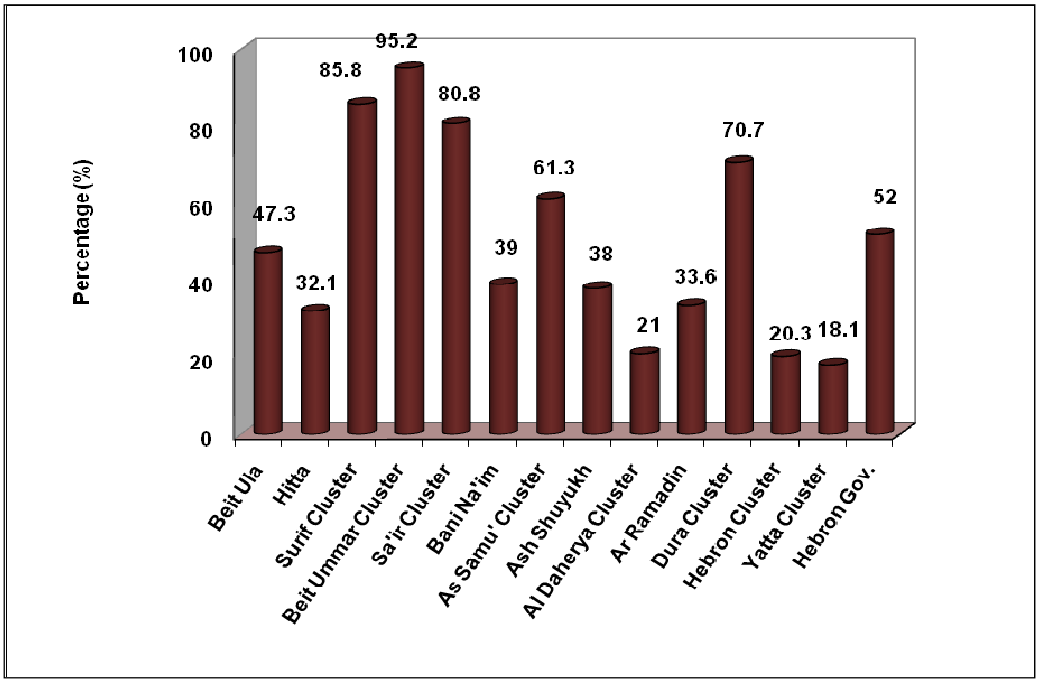


Figure 5.7.4: Percentage of households that reduced their expenditures during the last six months of the survey time by locality-cluster in Hebron Governorate

More than 86% of the surveyed households purchase their food on credit forming 47% of their food purchases. Households of Surif cluster had the highest percentage of food purchases on credit (figure 5.7.5).

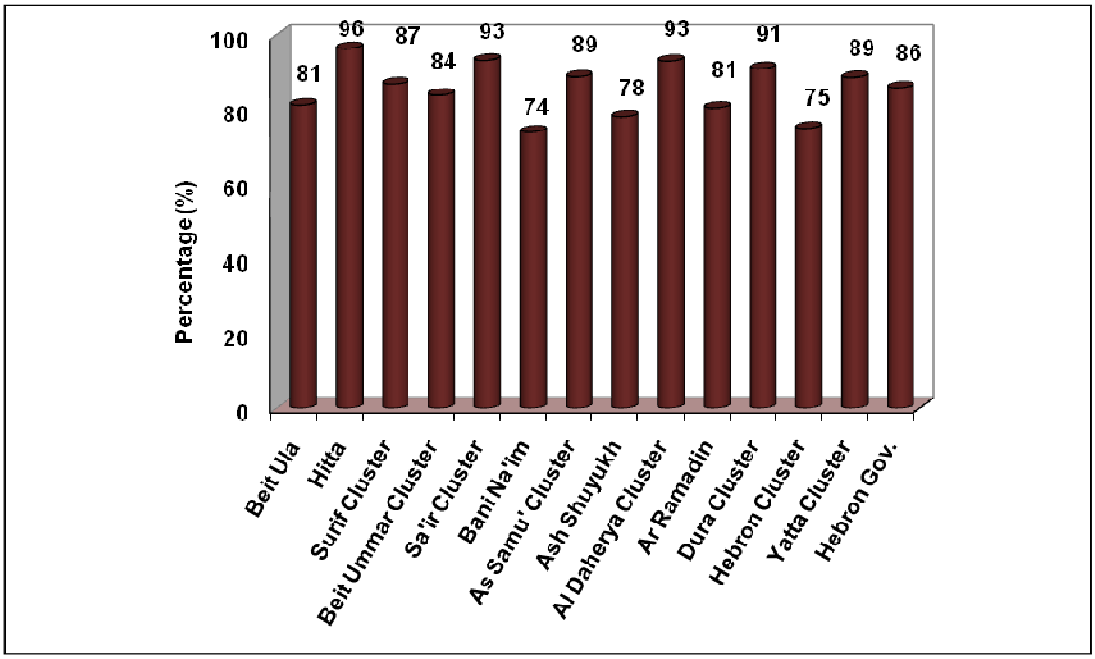


Figure 5.7.5: Percentage of households purchase food on credit by locality-cluster in Hebron Governorate

Looking at the weekly consumption of food to further assess the food security situation at the household level, the survey reveals that the main staple consumed per week by the surveyed households is bread, vegetables and thyme, while meat and fruits are consumed only once a week (figure 5.7.6). More than 91% of the households confirmed their worries of not having enough food in the last month (of the survey time), 87% of households confirmed eating not preferable foods in the last month (of the survey time), 73% confirmed eating less meals per day as a result of not having enough food during the last month (of survey time), and 33% of households confirmed sleeping at night without food as a result of not having enough food during the last month (of survey time). The statistics indicate that the food security situation, particularly in the targeted community section, is not improving and can be attributed to a significant extent to the ineffectiveness of the targeted households coping mechanisms. Food intake practices are directly affected by the reduction of food expenditures, especially on quality, where increasing the intakes of carbohydrates more than proteins and vitamins as a coping strategy to reduce food expenses causes a serious deterioration in heath and nutritional status on a family level.

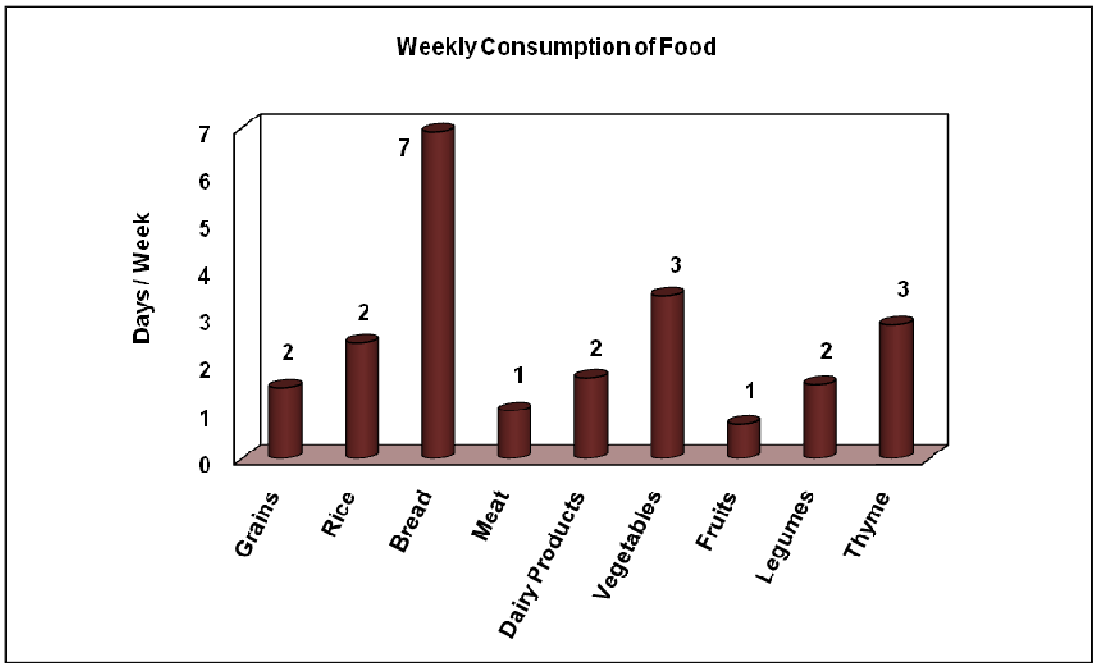


Figure 5.7.6: Weekly Consumption of Food by Type of Food Consumed in Hebron Governorate

Correlating the weekly consumption of food and the food consumption score, the survey reveals that food consumption of surveyed households is considered poor. The food consumption score estimates the amount and variety of food consumed in the households during the 7 days preceding the survey, by counting the number of times specific food items (grouped in specific food groups) are consumed.

A 'poor' food consumption consists of basic staple food (i.e. cereals, sugar and oil) consumed on a near daily basis, vegetables 4 times during the 7 days prior to the survey and very rare consumption of animal products and fruits. Quantities are also likely to be low and below kilocalorie requirements for household members with additional needs (pregnant and lactating women, physically active adults). This is the case of most

surveyed households, where 87% of localities are classified as poor consumers since they eat meat, dairy products, and fruits less than twice a week and vegetables less than 4 times a week, which also emphasize the adopted coping strategy of reducing expenditure on food quality and quantity. It is worth noting that the diet of the targeted community is further not consisting of enough daily intake of staple food, but on the contrary in most cases they consume grains and legumes only once per week and rice twice per week, which indicates a reduction in not only the quality of food but also the quantities of food consumed on weekly basis.

Poor food consumption comes as a response to deep poverty conditions which are affected by high household size reaching in most cases to 7, low household average income reaching up to only 1080 NIS /month and inability to cover basic food needs. The highest household income that was registered during the survey was only 1265 NIS/ month in Hebron cluster, which is under deep poverty levels. All studied indicators reflect poor living conditions including poor incomes, poor food consumption, poor health and nutrition status, poor resources and resource mobilization, poor housing conditions, poor clothing etc.

Only 13% of surveyed localities showed a 'borderline' diet, which is similar but includes a slightly more frequent consumption of vegetables (5 times during the 7-day period), meat and eggs (3 to 4 times) and fruits (twice); quantities are probably just sufficient to meet kilocalorie requirements. The main localities are the Hebron cluster, and Sa'ir cluster, which showed a lower gap between income and expenses than other localities (figure 5.6.1), and showed that more than 45% of their households cultivated their lands (figure 5.4.1).

The results are highlighted when comparing the FSIS baseline survey results with the SEFsec report results in the year 2009. According to the SEFsec report about 32.7% of households in Hebron Governorate are food insecure in comparison to 25% in the West Bank. It is worth noting that the FSIS targeted household section -poorest of the poor- should be considered as food insecure households since they suffer a worse off situation. For example, the percentage of households that reduce their expenditures on food is higher in the FSIS targeted households by at least 39% than the SEFsec targeted households, where percent of households reduced their expenditure on food in Hebron Governorate reach up to 58.4% in comparison to 97.3% in the FSIS targeted localities in Hebron Governorate. SEFsec surveyed households reduced expenditures on quality (47.1%) and quantity (48.4%) of food in comparison to 95.9% on quality and 97.3% on quantity of FSIS surveyed households in Hebron Governorate. The SEFsec reported a 70.1% of households purchasing food on credit while the FSIS reported 86% in the Hebron Governorate. The FSIS households reposted an overall deteriorating situation which indicates a need for targeted planning on food security measures such as small scale agro-development activities either at the community of household level.

Despite the deteriorating conditions of the targeted households only 61.2% of targeted households received assistance during the last 6 months of the survey time, while more than 38% households are in need of assistance and did not receive any (figure 5.7.7). Beit Ummar and Sa'ir clusters had the highest number of households which received assistance reaching up to 76.1% and 74.7% respectively (figure 5.7.8). The lowest number of households which received assistance was in the Yatta cluster and Ar Ramadin

village, where only 39% and 44.8% of the households received assistance, respectively. It is worth noting that Al Daherya and Hebron clusters had the largest number of households, who confirmed their need to assistance, where 55% in Al Daherya and 60.9%in Hebron did not receive assistance and need it .

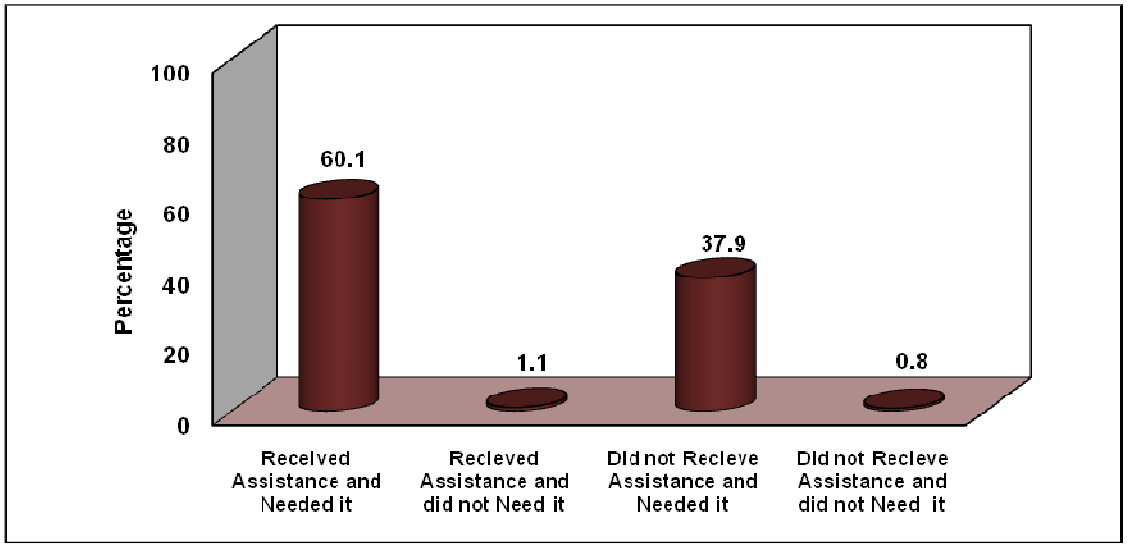


Figure 5.7.7: Percentage of households received and did not receive assistance in Hebron Governorate

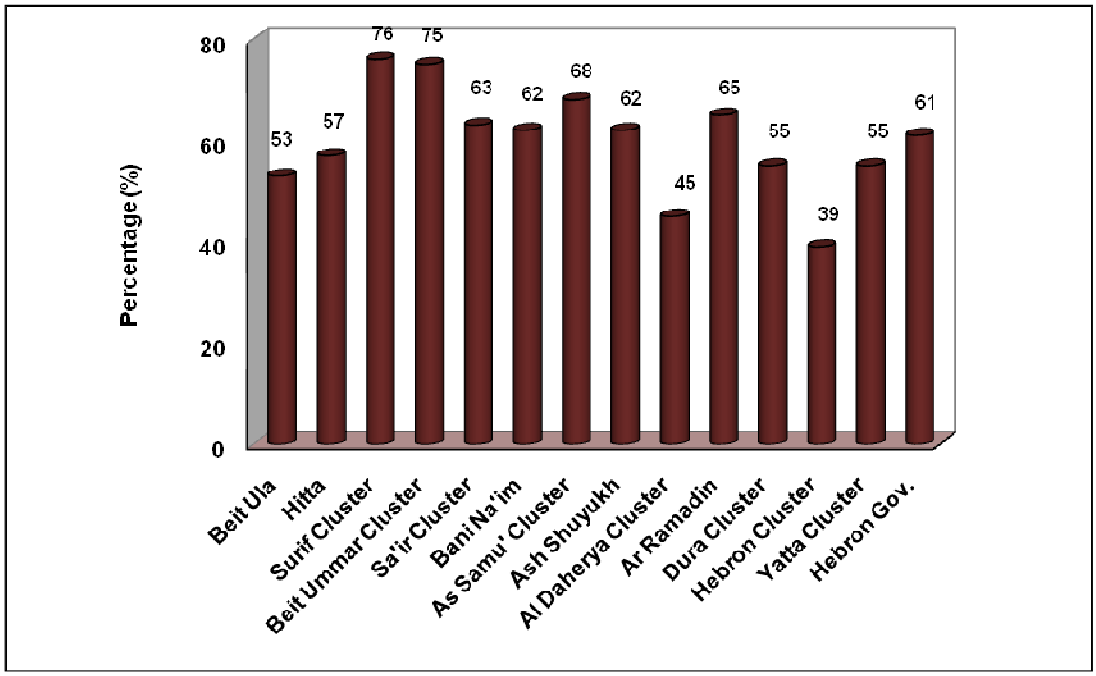


Figure 5.7.7: Percentage of households received assistance by locality-cluster in Hebron Governorate.

The main type of assistance received in the targeted areas of Hebron Governorate was food assistance reaching 61.3% of households (figure 5.7.9), followed by cash and health assistance. Yatta and Dura clusters had the highest percentage of households who received food assistance. The main type of food distributed over the targeted households

was wheat, sugar, oil, chickpeas, and salt, with more than 90% of the assisted households received the mentioned type of food. Generally, assistance including clothes, furniture, job and education assistance were not received by any of the targeted households, which also emphasize the importance of better targeting of assistance to those in need in relevance to individual household needs.

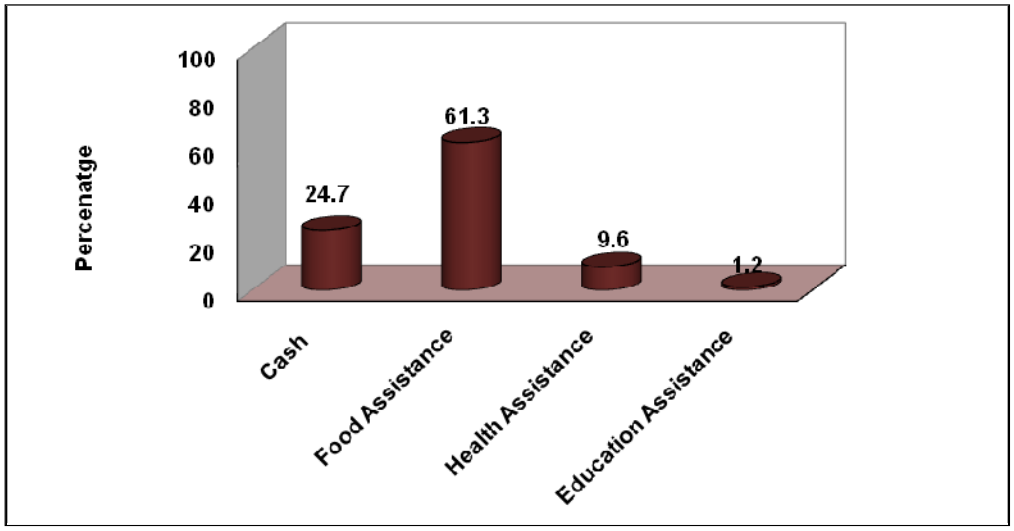


Figure 5.7.9: Percentage of households received assistance by type of assistance in Hebron Governorate

Concerning the satisfaction of assisted households on all types of received assistance, almost 53% of the households were satisfied or very satisfied. Also 69% of the assisted households confirmed their satisfaction on health and food aids.

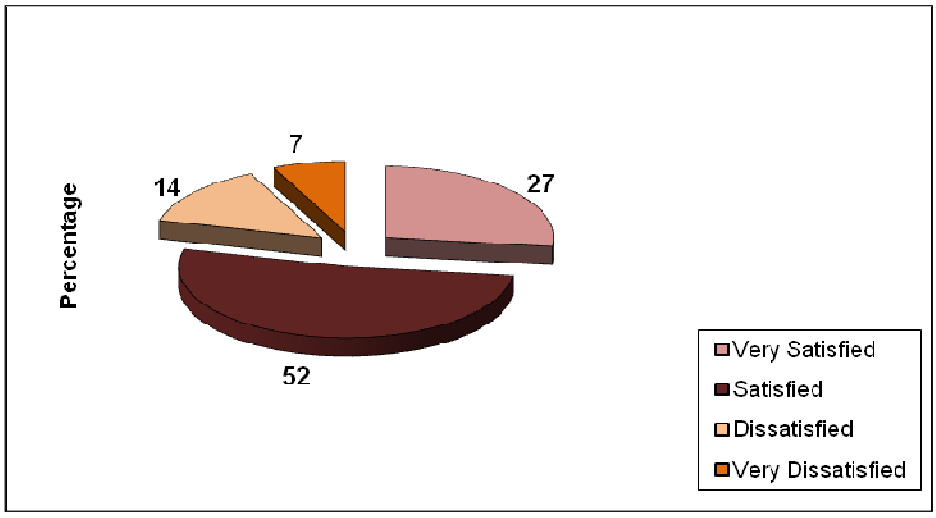


Figure 5.7.10: Level of satisfaction concerning assistance received in Hebron Governorate

International NGOs are the main source of assistance for the targeted households, where more than 57.6% of the households receive their assistance from international NGOs such as WFP, UNICEF, FAO and others, followed by 25.8% of households receiving assistance from the Palestinian Authority (figure 5.7.11).

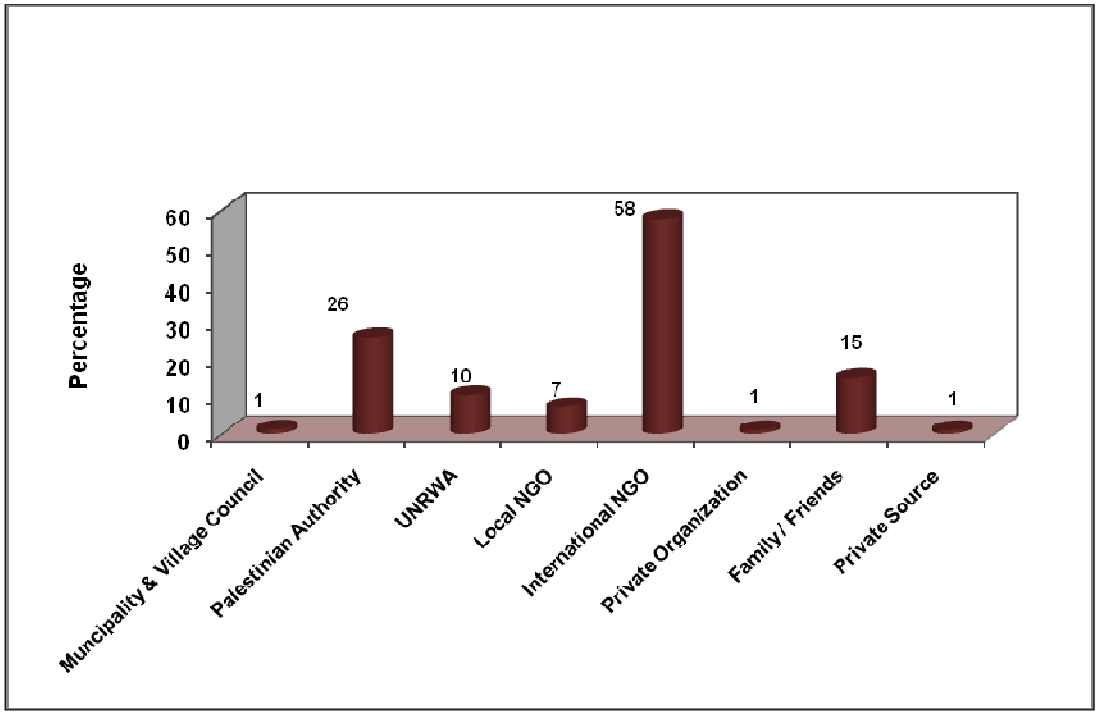


Figure 5.7.11: Source of household assistance in Hebron Governorate

More than 92% of the surveyed households confirmed their absolute need for assistance, with food and cash assistance being the two main types of assistance requested, followed by health and infrastructure figure (5.7.12).

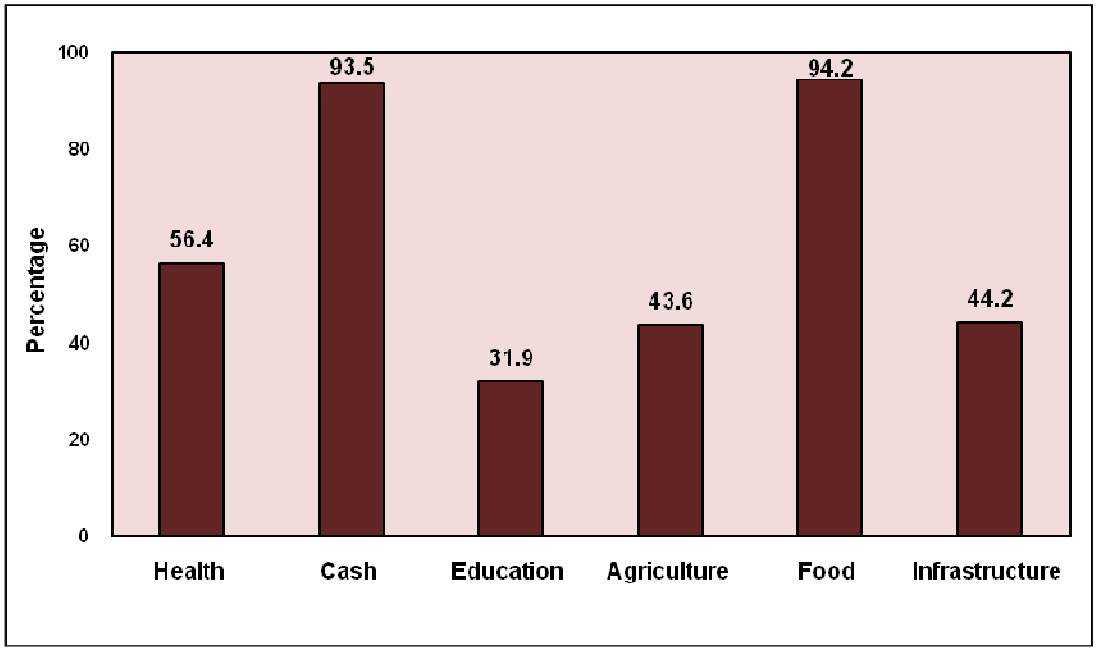


Figure 5.7.12: Type of assistance in need as requested by surveyed households in Hebron Governorate

Food assistance was requested by all targeted communities but mostly in the Yatta, Al Daherya clusters and Ash Shuyukh village (figure 5.7.13).

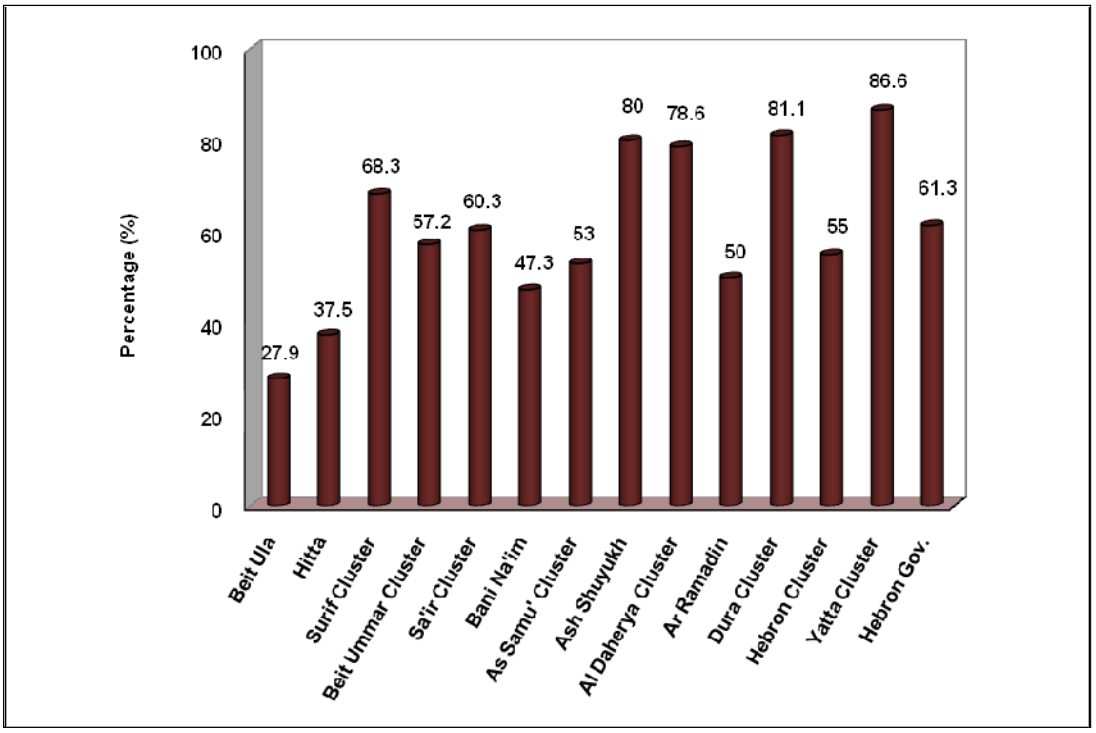


Figure 5.7.13: Percentage of households requested food assistance by locality-cluster in Hebron Governorate

Concerning the distribution of assistance to targeted households, it was assessed that only 19.3% of surveyed households confirm that assistance reached those in need, while 32.8% households confirmed that assistance reach those not in need. This is another issue that needs addressing and further analysis.

In conclusion, the targeted section of households that are considered the poorest of the poor, are unable to secure sufficient income to meet their essential food and non-food requirements. This is a result of several factors mainly lack of employment opportunities, relying on Israel to employ the labor force, a high dependency ratio, minor working in agriculture, and a high percentage of disabilities and diseases at family level. This survey emphasized the importance of such specialized assessment studies to reveal the status and challenges of the most vulnerable areas and communities in need of assistance so as to develop better future planning and focus on alleviating the prevalent poverty condition and improving their health, nutrition and food security statuses.