

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

**Household Baseline Surveillance Report
Bethlehem Governorate**



Conducted by
Applied Research Institute-Jerusalem (ARIJ)



Funded by
Spanish Cooperation

January 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 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 people's, the poor people's 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 same geographical area.

While conducting the baseline survey in the Bethlehem 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 Bethlehem 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- Bethlehem 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– Bethlehem Governorate, was formed from local decision makers, planners, implementers and donors on national, regional and international levels at Bethlehem Governorate level including related local NGO's such as LRC, UAWC, PARC, ESDC, PHG; international NGO's such as WFP, FAO, UNRWA, CARE; directorates of authority such as MoA, MoH, PWA, 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-Bethlehem Governorate

Food Security Community Committees (FSCCs) were formulated in the 13 targeted communities in Bethlehem 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



Photo 3.3: Community Committee – Nahhalin

activities while conducting field/ baseline and blood test surveys and awareness programs mainly key and community women trainings.



Photo 3.4: Community Committee–Al Ubeidiya

Following the formulation of the national, governorate and locality committees, the project targeted localities and households at Bethlehem Governorate were specified, where 13 most vulnerable villages at Bethlehem Governorate and 874 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 Bethlehem 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 were short listed; second the short list of most vulnerable localities in Bethlehem Governorate were presented for Governorate Stakeholders Committee - Bethlehem Governorate, who justified the selection and agreed on a final list of most needy villages in the governorate.

The 874 baseline households at locality level were selected based on the recommendations of the formulated Food Security Community Committees (FSCCs) in the 13 targeted communities of Bethlehem 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.

The baseline survey was conducted in the 13 targeted localities in Bethlehem Governorate including: Al 'Ubeidiya, Dar Salah, Battir, Husan, Nahhalin, Wadi Fukin, Marah Rabah, Marah Ma'alla, Wadi Rahal, Al Jab'a, Jubbet Ad Dhib, Khallet Sakariya, and Kisan (map 3.1 and table 3.1), where 874 household questionnaires were filled.

Table 3.1: Total targeted localities and households in Bethlehem Governorate

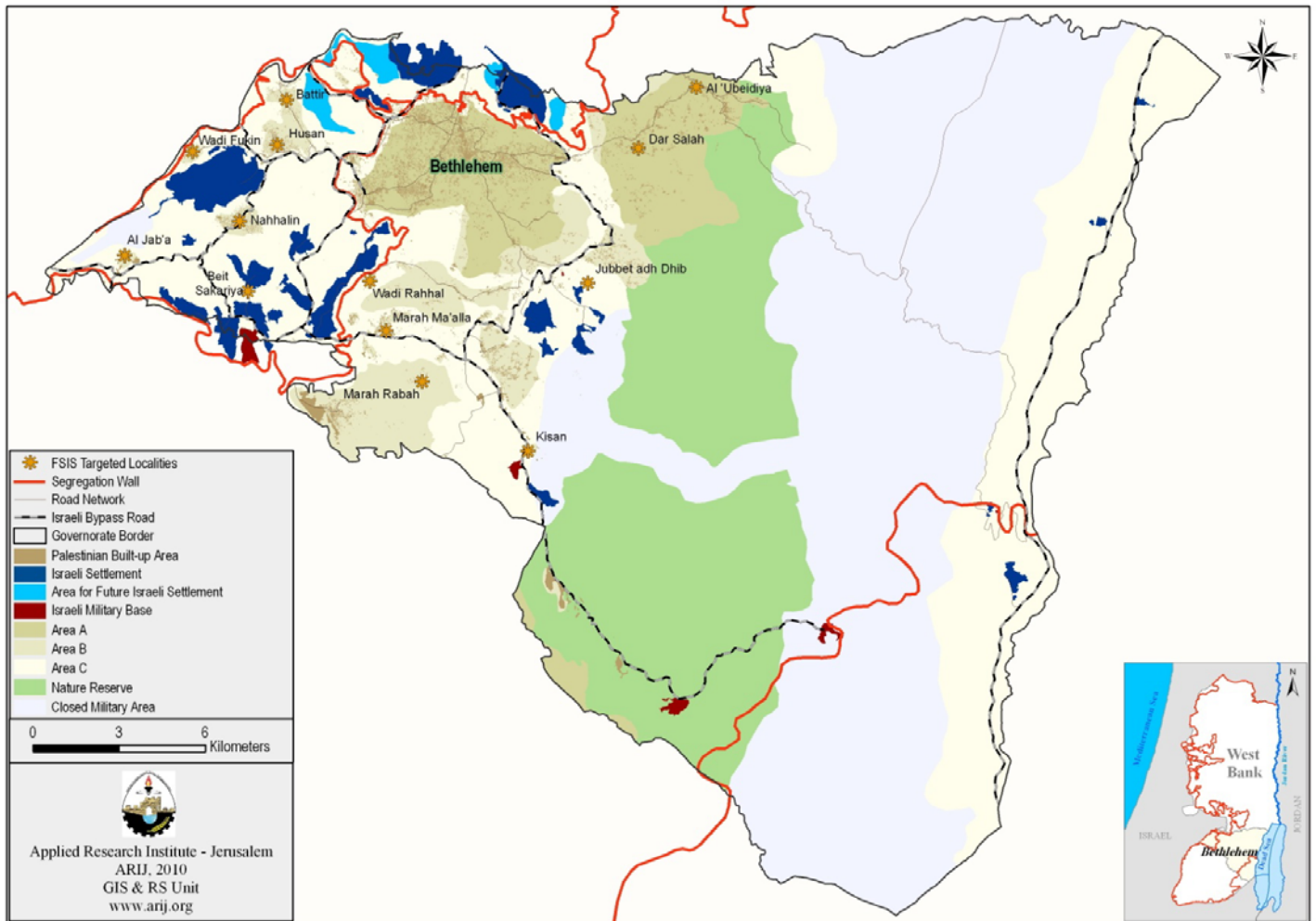
Name of Targeted Locality	Number of Targeted Households
Al 'Ubeidiya	300
Dar Salah	164
Battir	30
Husan	40
Nahhalin	59
Wadi Fukin	56
Marah Rabah	44
Marah Ma'alla	26
Wadi Rahal	72
Al Jab'a	37
Jubbet Ad Dhib	12
Khallet Sakariya	13
Kisan	21
Total	874

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 Bethlehem Governorate was measured using the comparison system of household number at locality level. For example, Al 'Ubeidiya town had the highest number of households (almost 30% of total number of households of the selected villages in the Bethlehem Governorates), and accordingly almost 34% of the questionnaires went to households at Al 'Ubeidiya 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 874 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 facilitates 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: Bethlehem Governorate targeted villages – FSIS project

4. Background about Bethlehem Governorate

The Bethlehem Governorate has a total area of 659,111 dunums (659.1km²) and is located south of the city of Jerusalem, in the southern part of the West Bank. It is bordered by the Hebron Governorate to the south and southwest, the Dead Sea to the east, and the Armistice Line (the Green Line 1949) to the west. The administrated communities are 40 Palestinian localities in the Bethlehem Governorate; 10 of which are run by municipalities, compared with only three municipalities in 1994 (before the Palestinian National Authority). These municipalities are Bethlehem, Beit Jala, Beit Sahour, Ad Doha, Al Khader, Al 'Ubeidiya, Za'tara, Beit Fajjar, Tuqu' and Jannatah. There are also three refugee camps in the governorate, which are: 'Ayda, Al 'Aza, and Ad Duheisha. These are run by refugee camp committees. Other localities are run by

village councils (21 communities) and project committees (6 communities). Palestinian built-up areas comprise 1.47 % of the total area of the Bethlehem Governorate².

The total population of the Bethlehem Governorate in 2007 was 176,235, forming about 7.5% of the total population of the West Bank with 49.1% females of total governorate population³. It is estimated that almost 22% of the population has increased since the year 1997, where the highest population density concentrated in the geopolitical Area "A", reaching up to 1,758 persons/km²/⁴. Bethlehem City alone forms 14.3% of the total population in the governorate.

According to the PCBS classification⁵ for the types of the Palestinian communities and the 2007 census, about 70.2% of the population in the Bethlehem Governorate lives in urban areas, and 22.5% of the population lives in rural areas, while 7.3% lives in refugee camps.

In terms of economy, the Bethlehem Governorate registered the highest unemployment rate among the West Bank Governorates, climbing to 18.3% in 2010 compared with an average of 16.5% for the West Bank. The labor force forms 46.5% of the population. The average daily wage is up to NIS 107.3⁶. However, 8.8% of the Bethlehem population are unpaid family members. It is worth noting that 85.2% of Bethlehem inhabitants work in the Bethlehem Governorate itself, 5.3% work in other governorates of the West Bank, and 9.5% work in Israel and Israeli settlements⁷.

Furthermore, the PCBS census in the year 2007 showed that the Bethlehem Governorate has a large average family size equal to other West Bank governorates with 5.4 persons per household. The average of the West Bank was 5.5 persons per household. Up to 10.1% of the households in Bethlehem Governorate considered poor as one of the wealth quintiles index measured by SEFsec survey in the year 2009³. 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, respectively⁸.

² The Applied Research Institute-Jerusalem (ARIJ). *Locality Profiles and Needs Assessment in the Bethlehem Governorate*. Funded by Spanish Cooperation and Azahar Program. 2010.

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*

The basic causes of food insecurity, on the other hand, translate into underlying and immediate causes of poverty and food insecurity at the household level. These causes include limitations on food availability, negative effects on agricultural production, food trade/market supplies, insufficient economic access to food, artificially high prices but few opportunities to secure employment and higher household incomes. Impaired food utilisation such as poor water, poor sanitation, poor hygiene, a lack of access to health care, and a declining quality of diet also pose problems.

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 Bethlehem Governorate is deteriorating. Approximately 15.3% of households in the Bethlehem Governorate were found food-insecure during the second trimester of 2009⁹, in comparison to 25% in the West Bank. This represents nearly 26,964 food-insecure people, with another 19,738 who are vulnerable to food insecurity (11.2%); 48,993 who are marginally secure (27.8%), and 80,539 who are food secure (45.7%) (Figure 4.1). Food-insecure households in the Bethlehem Governorate are unable to secure sufficient income to meet their essential food and non-food requirements¹⁰ mainly due to the lack of income-earning opportunities. This status is causing families to decrease their intake of food items in terms of quality and quantity, and it is worsened by the impoverishment process that started in the year 2000.

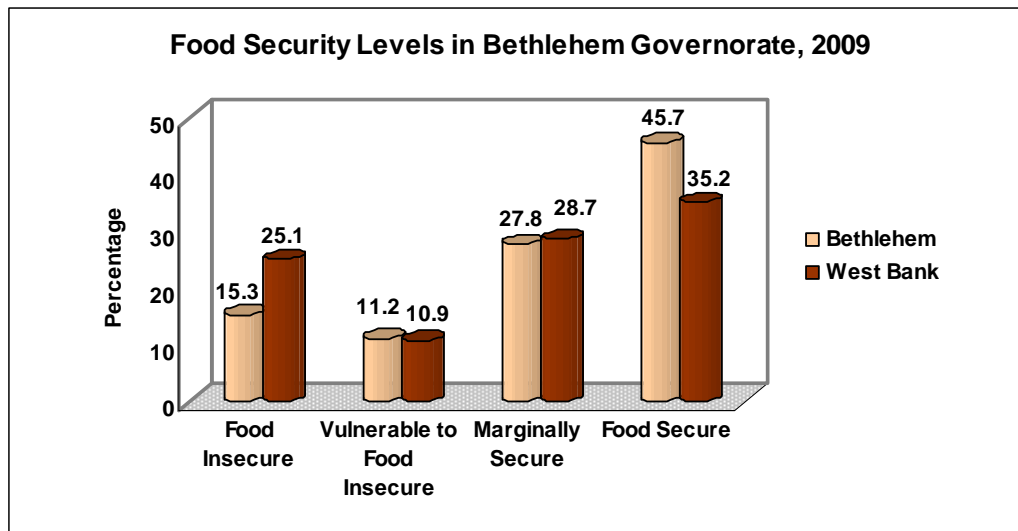


Figure 4.1: Food security levels in the Bethlehem Governorate, 2009

Food-price increases have significantly affected the food-security situation of households in the Bethlehem Governorate, as a high share of household expenditures (46.2%) go towards food. Between 2005 and 2009 the price of several food commodities, mainly rice, flour, lentils, and red meat, increased significantly in the Bethlehem 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.

80.9%, 73%, 55.5% and 45.7% respectively¹¹. Fruits and vegetables are the only groups of food items that experienced only a small rise in price over the same period.

Palestinians are increasingly being forced to rely on negative coping mechanisms. The combination of decreased incomes and increased food prices has forced the poorer households to change their food consumption patterns. Almost 35.5 percent of the Bethlehem Governorate residents reduced 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 reductions mainly on quantity of meat purchased/consumed, reached up to 38.2 percent of the Bethlehem 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), they can have a permanent cost on lives and livelihoods, by negatively affecting the health and nutritional status of those afflicted by poverty.

As a consequence, 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, the poor economic situation, and food insecurity changes in household food consumption patterns, with reduced amounts of animal products, vegetables, and fruits. This contributes to a decrease in the amount of minerals and vitamins ingested. Conversely, the effects of malnutrition on individuals can result in micronutrient deficiencies in young children, which are known to delay growth. Accordingly, Iron deficiency anemia affected approximately 35% of children and 25.8% of pregnant women in the Bethlehem Governorate in mid-year 2009, compared to 45.2% and 27.5%, respectively in the West Bank¹².

The type of agriculture practiced in the Bethlehem 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 Bethlehem Governorate constitutes 8.3% of the value of agricultural production in the West Bank, of which 2.1% is plant production and 6.3% is livestock production¹³. The total area of the Bethlehem Governorate is estimated to be 659,111 dunums, with nearly 621,748 dunums of agricultural land; of which 54,627 dunums are permanent crops, 42,323 dunums are seasonal crops, and 199 dunums are protected agriculture (table 4.1)¹⁴. 13.1% of the labor force in Bethlehem Governorate works in agriculture in the year 2009.

Land use / Land cover Type	Area in Dunum*
Agricultural Land	621,748
Industrial, Commercial and Transport Unit	946,6

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.

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Wall Zone	260
Palestinian Built-up Area	971,5
Israeli Settlements	173,01
Israeli Military Base	536
Mine, Dump and Construction Sites	85
Total Area	659,111

*Dunum = 1,000 m² = 0.1 Hectare

Nonetheless, due to Israeli restrictions, less than 50% of the land in the Bethlehem Governorate is open to Palestinian farmers for utilization. The Israeli Segregation Wall surrounds the Bethlehem Governorate from the northern, western and southern parts with 80.4km length, thus, enclosing an area of about 176,054 dunums of the Bethlehem Governorate, of which 157,864 dunums are arable

Total cultivated area in Palestine is generally categorized into 'Fruit Trees', 'Vegetables', and 'Field Crops and Forages'. The majority of plant production is rain-fed, while irrigation is used in some parts. According to the PCBS, the total area of plant production in the Bethlehem Governorate in the year 2007/2008 reached 55,714 dunums with total plant production of 16,144 tons and a total value of US \$12,565 thousand. Compared to the year 1997/1998, we notice a decrease of approximately 2.95% in the total planted area, a 6.43% decrease in total production, and a 0.69% decrease in the total production value.

Furthermore, rain-fed agriculture formed 96.8% of the cultivated area in the year 2007/2008, with total production reaching 8,475 tons, which is approximately 56.3% of the total agricultural production in the oPt. Although the irrigated areas formed only 3.2%, its production was approximately 6,566 tons, which constituted 43.6% of the total production.

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

Livestock production, on the other hand, during the agricultural year 2007/2008 reached 3,186 tons of meat (red and white), 7,060 tons of milk, 21 million of egg and 10 tons of honey in the Bethlehem Governorate¹⁵. The value of livestock production in the Bethlehem Governorate during the year 2007/2008 registered approximately US \$26,676 thousand with a decrease of 51.88% compared to the year 1997/1998. The contributions of these sectors from the total livestock production value of the Bethlehem Governorate were as follows: 59.4% meat, 31.2% dairy and 7.3% eggs.

It is worth noting that the climate of the Bethlehem Governorate ranges from arid to semi-arid with an increase in aridity towards southern and eastern parts. The mean annual rainfall in the Bethlehem Governorate is 513mm/year. The year 2007/08 witnessed lower rainfall than usual and it was a drought year as only 316.4mm of rainfall was received

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

which formed 61% of the average annual rainfall. The year 2008/2009 witnessed similar rainfall amounts reaching to 324.1 mm forming only 63% of the average annual rainfall. The year 2010 was better in the amount of rainfall reaching 501.9mm¹⁶. It is still lower than the average annual rainfall 2%. These drought years create additional pressures on the levels of family food security and their income as most of the agriculture production in Bethlehem is subsistence. Furthermore, most of the people who lost their work in Israel during and after the Intifada began farming their lands to produce food for their families and generate income. It is worth mentioning that 9.6% of the formal employees of the Bethlehem Governorate in the year 2010 were employed in the agricultural sector compared with 11.6% in the year 2000¹⁷.

The renewable water sources in the Bethlehem Governorate consist primarily of groundwater resources. The governorate is located above the Eastern and Western Basins of the West Bank Aquifer system. There are 15 major springs in the Bethlehem Governorate, which can be divided into 3 systems, namely the Battir spring system, the Artas spring system and the Ein Fashkha spring system. The estimated quantity of discharged water from these springs for the year 2008 reached approximately 0.346 MCM. This water is used primarily for agricultural purposes, and only 0.01 MCM is used for domestic purposes. Drinking water resources in the Bethlehem 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 9.98 MCM for the year 2008. Therefore, the total real deficit in domestic water supply, taking into consideration water losses, reached approximately 4.07 MCM for the whole governorate¹⁸. This deficit is expected to worsen as the population grows.

The percentage of water losses is high in the Bethlehem Governorate. The overall loss and unaccounted for water rate were estimated to be 39% in 2008. Taking water losses into account, it was estimated that the actual average consumption rate didn’t exceed 89 liter per capita per day (l/c/d). In fact, the poor state of infrastructure, coupled with unaccounted for water and the low pressure of water supplied to the Palestinian communities causes many communities in the Bethlehem Governorate to receive no more than 50 l/p/d. In terms of water quality, the water quality analysis conducted by the PWA revealed that the well’s water for domestic use in the Bethlehem Governorate is considered of high quality and within the permitted limits of the Palestinian drinking water standards.

5. Bethlehem Baseline Survey Results

5.1 Households Identification Data

During the baseline survey the project has targeted 13 vulnerable localities in Bethlehem Governorate through which 874 households were surveyed. The targeted localities formed 29% of the total number of localities in the governorate (reaches up

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

to 45 localities) and the targeted population (live and don't live in the same house) of the localities formed 4% of the total population of Bethlehem Governorate (reaches up to 176235 persons) (figure 5.1.1).

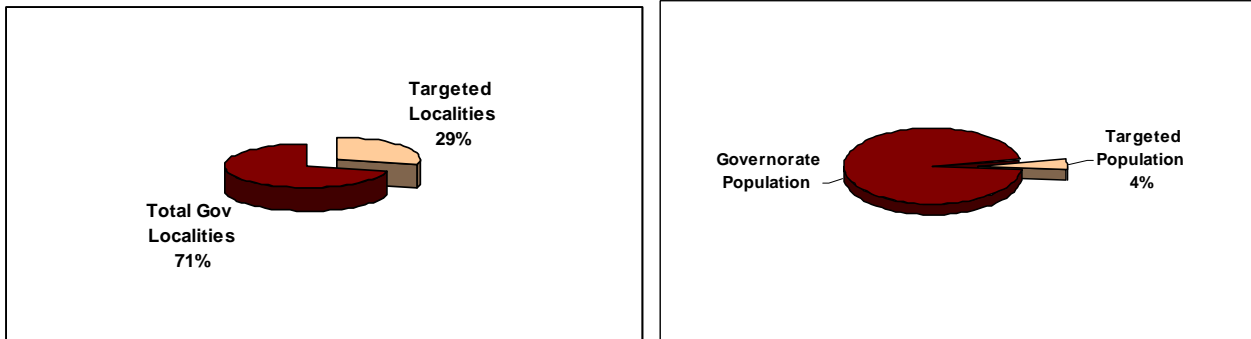


Figure 5.1.1: Total project targeted population and localities of their total in Bethlehem Governorate

The total number of surveyed households' members live in the same house is 6359 persons, 49.7% are males and 50.3% are females. The average number of household members of surveyed sample reached to 7.3 persons compared with 5.4 persons per household as it was reported by the PCBS year 2007. Only 2.3% of the surveyed households are headed by women, and 63.6% are headed by men. Children less than 16 years old formed 31.4% of the total targeted population (figure 5.1.2). Up to 86.5% of targeted household members live in the same targeted house. Up to 2.1% of urban family members and 1.6% of the rural families aren't resident with their families.

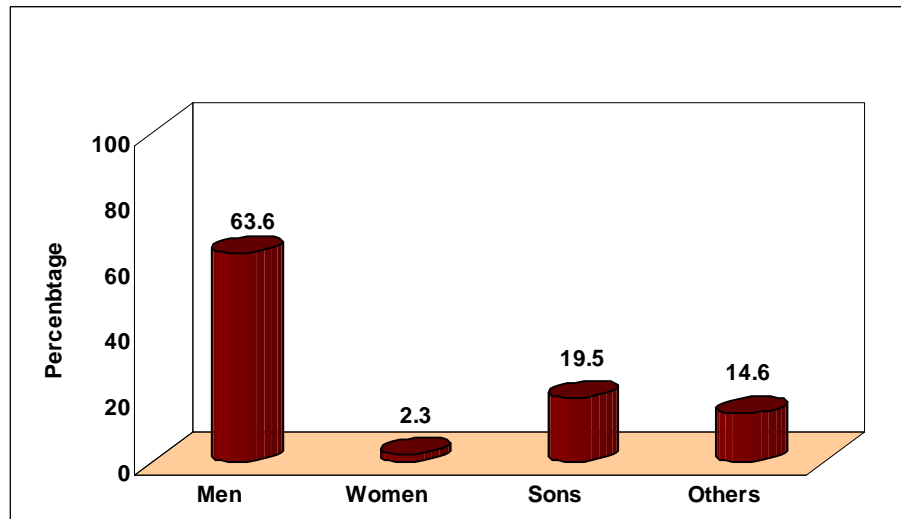


Figure 5.1.2: Percentage of targeted household per type of head at Bethlehem Governorate level

Up to 76.9% of targeted localities are classified as rural areas and 23.1% are urban areas (see classification section 4), where almost 90.6% of localities are served by a municipality or a village council.

Comparing the targeted localities; it appears that Al U'beidiya town had the highest number of population among the targeted villages reaching up to 10.753 people (forming

29% of total targeted population) followed by Nahhalin town reaching up to 6827 people (forming 18.6% of total targeted population). In relevance to the number of population total number of questionnaires was selected by locality and accordingly Al U'beidiya town has the highest percent of targeted households reaching up to 34% (figure 5.1.3).

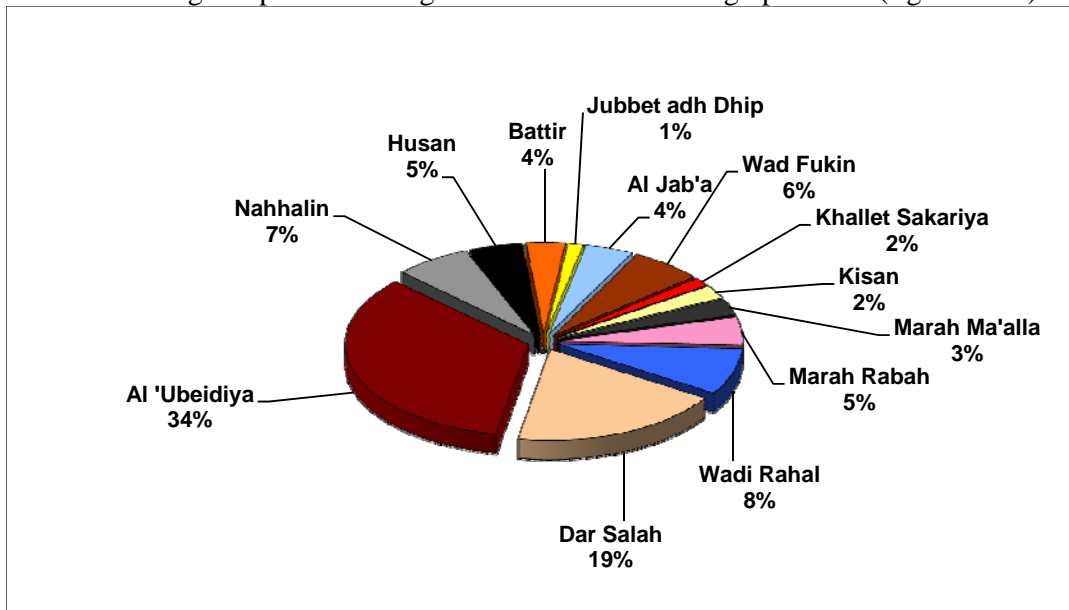


Figure 5.1.3: Percentage of surveyed questionnaires by targeted locality in Bethlehem Governorate

The same results were found concerning pregnant women and children – less than 16 years old, where 70% and 59% of surveyed pregnant women and children were found in Al U'beidiya town of total targeted population, respectively. Such percentages are relevant to the total number of population in Al U'beidiya town, which is the highest among targeted population. Pregnant women and children formed 3% and 46.6% respectively of total Al U'beidiya population (figure 5.1.4). The highest household size, on the other hand, was found in Marah Rabah village reaching up to 7.8 followed by 6.9 in Marah Ma'llah village.

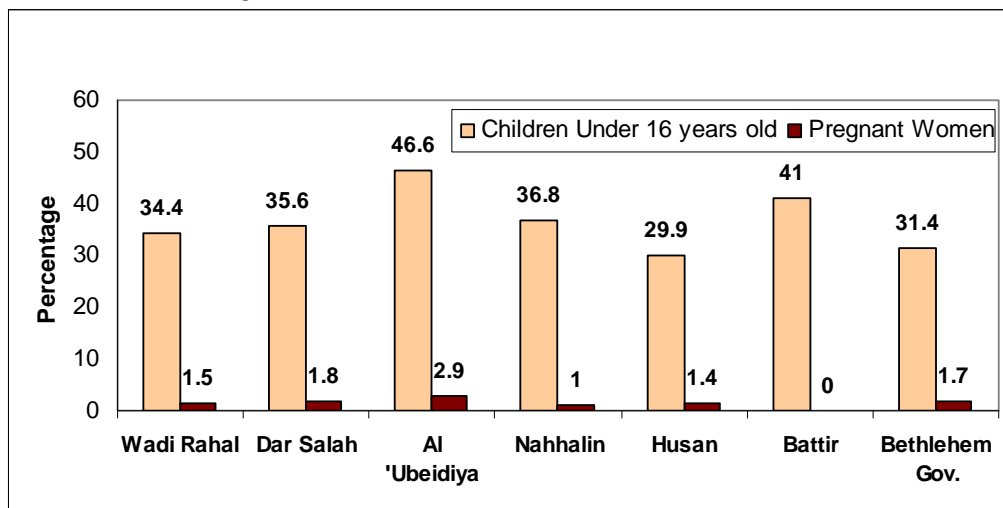


Figure 5.1.4: Percentage of children less than 16 years old and pregnant women in a sample of targeted localities in Bethlehem Governorate

5.2 Education Data

The percentage of targeted family members that attend school (including kindergartens) reached up to 36.6% of the total targeted population, in comparison to 47.5% of population attending school at governorate level in the year 2007¹⁹. Up to 43.3% are family members that attend school in Jubbet Adh Dhip, followed by Wadi Rahal 43% and Marah Rabbah 42.4% (figure 5.2.1). The females and males attending the school were almost evenly distributed, reaching up to 50% of total family members attending school. The highest percentage of females attending school was in Jubbet Adh Dhip and Battir reaching up to 28.4% and 25% respectively, of total family members attending school.

The percentage of family members that attend higher education institution (college, university, etc.) reached to 6.4% of total family members at targeted villages, in comparison to 8.1% at governorate level in the year 2007. Females attending higher education reached up to 6.6% of family members. The females and males attending the higher education institutions were almost evenly distributed reaching up to 51.7% and 48.3% of total family members attending higher education institutions, respectively. It is worth noting that Al Jaba' has the highest percentage of family members attending higher education institutions reaching up to 12%, followed by Nahhalin, Husan, and Wad Fukin reaching up to 9% respectively (figure 5.2.1). The highest percentage of females attending higher education institutions was found in Dar Salah and Al Jaba' reaching up to 10% of total females in the villages and 4.6% of total family members respectively.

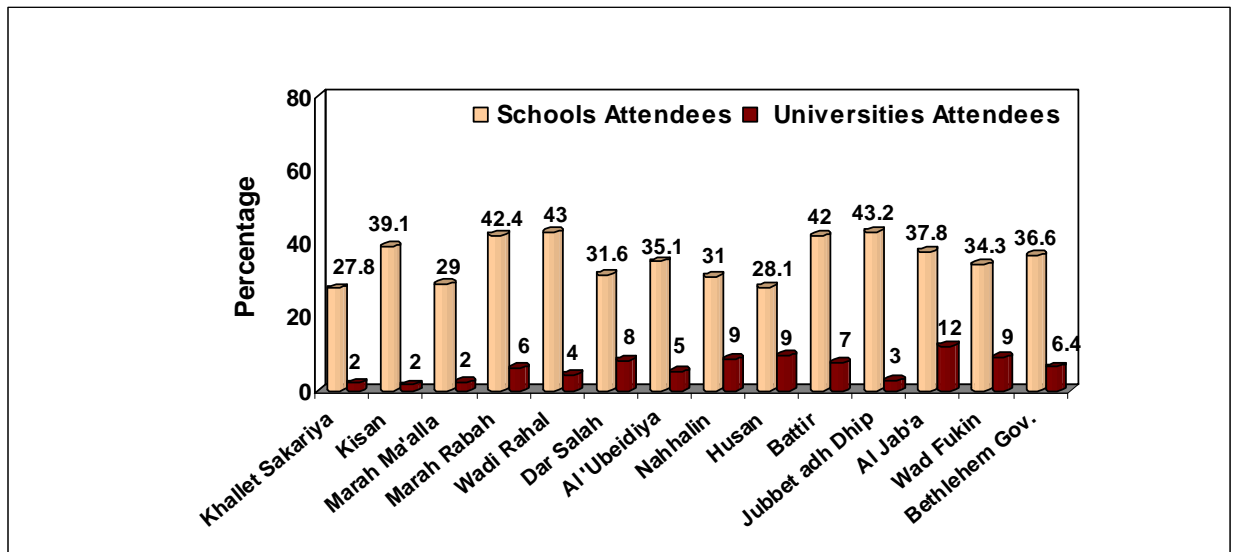


Figure 5.2.1: Percentage of family members that attend school and higher education institutions by locality in Bethlehem Governorate

5.3 Infrastructure and Accessibility to Public Services

Almost 90.6% of localities are served by a municipality or a village council. Up to 91.6% of surveyed families live in a house, which were mainly built of stone (47.7%) and building blocks (32%) (figure 5.3.1). The houses were largely owned, as 93.1% of

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

targeted families owned their houses, followed by 2.6% of targeted families with rented houses. The average number of rooms per house was 2.69, where the highest number of rooms was found in Wadi Fukin, Al U'beidiya, and Husan reaching up to 3.3 rooms. It is worth noting that almost all targeted households owned cooker, followed by 93% owning a TV, and 87% own a refrigerator (figure 5.3.2). Only 7.8% of targeted households have a car mainly in Khallet Sakariya village and 16.9% a computer mainly in Husan.

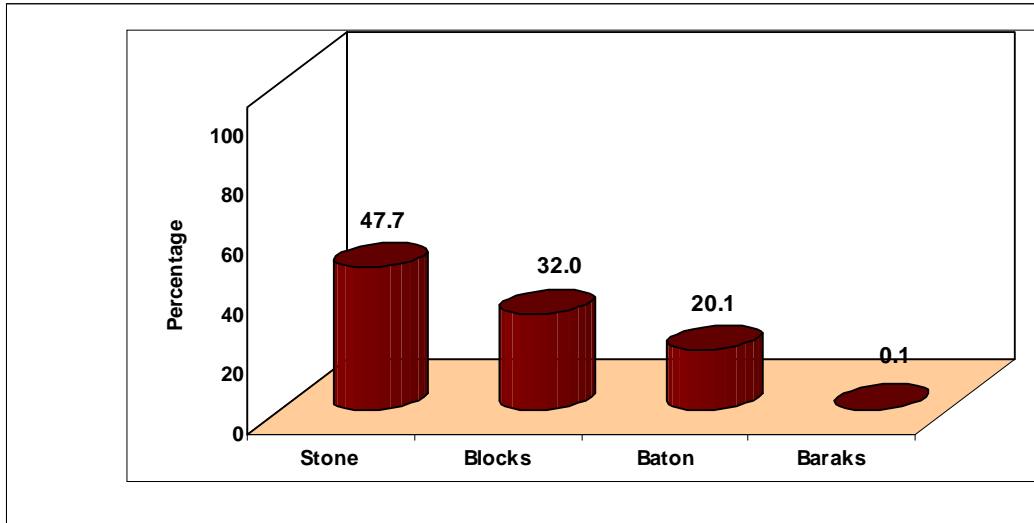


Figure 5.3.1: Type of houses that targeted households live in at Bethlehem Governorate level

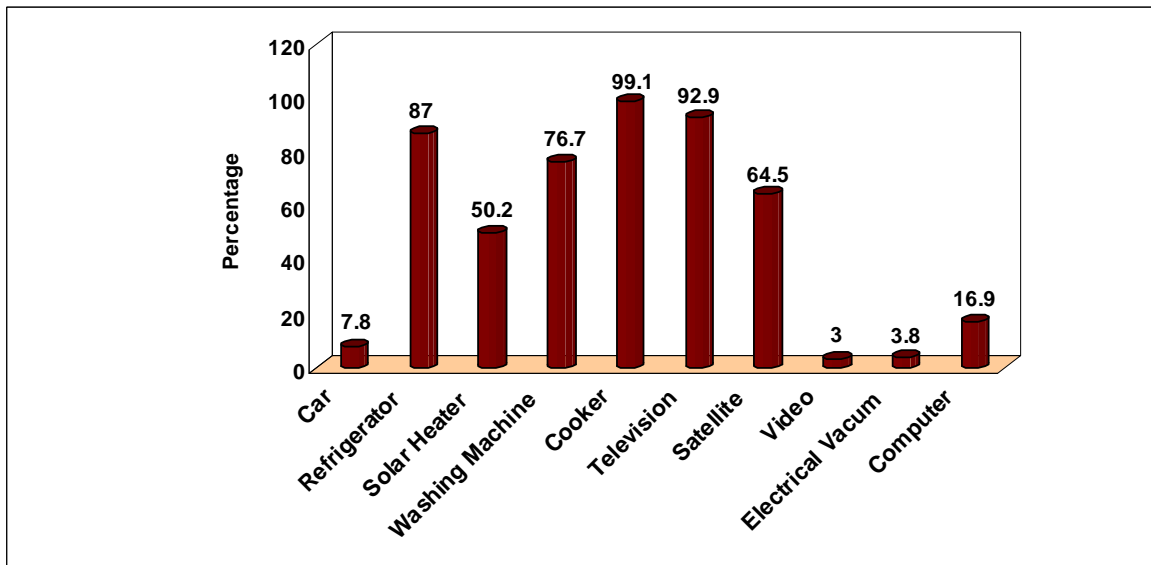


Figure 5.3.2: Percentage of household assets per type at Bethlehem Governorate level

None of the targeted families were connected to a local public wastewater network, and 89% of households get rid of their wastewater through cesspits. Concerning the source of drinking water, it was found that 58.9% of targeted households were connected to Israeli water networks mainly in Wad Fukin, Husan, Battir, and Jubbet adh Dhip, while 39.5% are connected to local water network mainly in Nahhalin, Al Jaba', and Al U'beidiya. It was also found that few households are connected to a cistern, use a spring or buy water tanks (figure 5.3.3). On the other hand, 94.5% of targeted households were found

connected to public electricity network; but 5.5% of households were found with no source of electricity mainly in Jubbet adh Dhip village, which is directly affected by the political situation. The Israeli occupation forbids the village from having an electricity line or even road system, since it is very close to an Israeli military base.

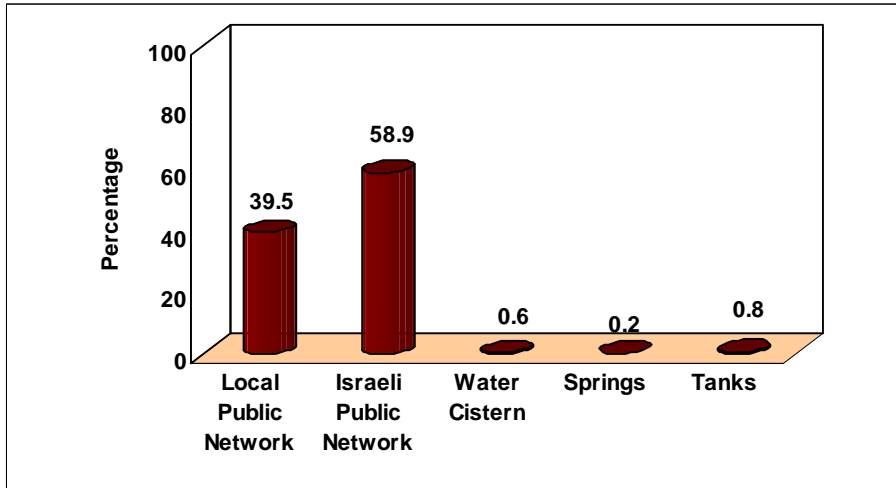


Figure 5.3.3: Percentage of households connected to drinking water sources at Bethlehem Governorate level

5.4 Agriculture Data

Out of the 874 surveyed households, it was found that 39.2% own agricultural lands (343 households), and 20.5% own livestock (179 households). Of those that own lands only 56.6% households (194 households) plant their lands, where total cultivated area is 452.26 dunums. The main type of cultivation adopted by surveyed households was fruit trees forming 77% of total cultivated area, followed by field crops forming 12.6% of total cultivated area and vegetables forming 10% of total cultivated area. More than 80% of households in Jubbet adh Dhip, Al Jaba' and Khallet Skariya planted their lands (figure 5.4.1).

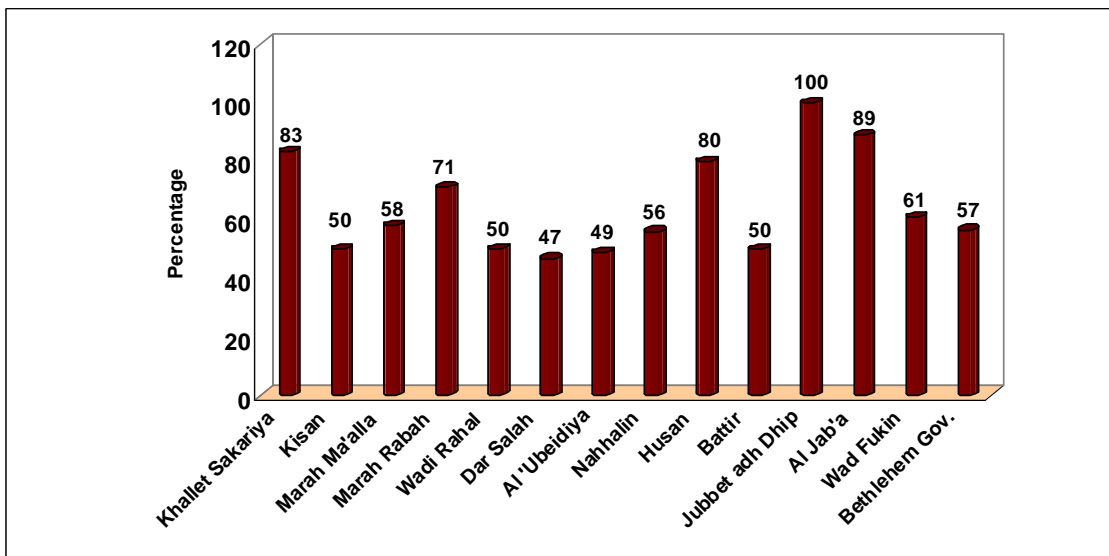


Figure 5.4.1: Percentage of surveyed households who planted their lands of total households who own lands in Bethlehem Governorate

The largest cultivated areas were found in KHALLET SAKARIYA, AL JABA'A, DAR SALAH, and WADI RAHAL, where 78.5, 78, 74.7, and 60.5 dunums were cultivated respectively (figure 5.4.2).

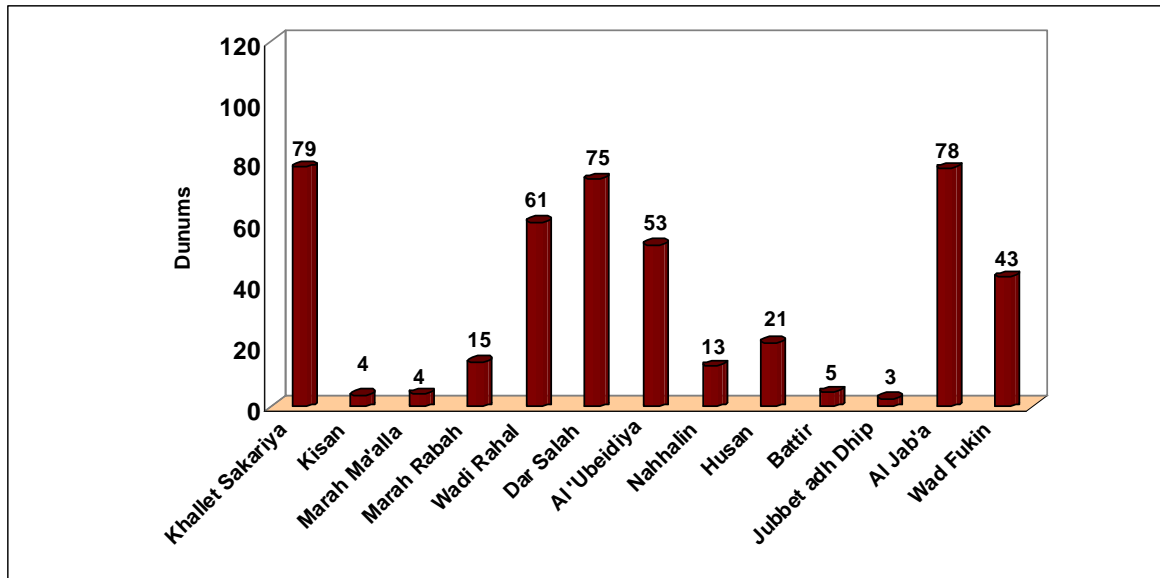


Figure 5.4.2: Cultivated area in dunums by surveyed locality in Bethlehem Governorate

Almost all surveyed localities are cultivated mainly with fruit trees except in Dar Salah, Al U'beidiya, Kisan, and Wad Fukin, where they cultivate fruit trees, field crops, and vegetables, while Jubbet adh Dhip is cultivated with vegetables only (figure 5.4.3).

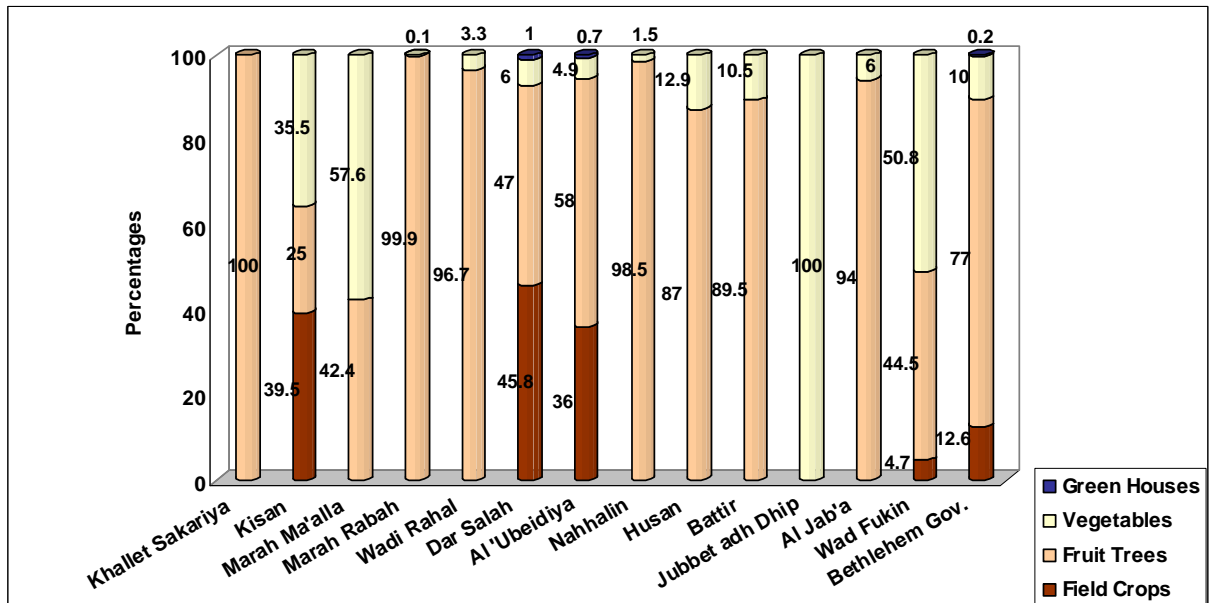


Figure 5.4.3: Percentage of cultivated area by type of cultivation by locality in Bethlehem Governorate

It was also found that the main source of water used for irrigation was rainfall water, where almost 67.4% of the surveyed households rely on rainfall for irrigation as rainfed cultivations, followed by 14.7% used local water network (figure 5.4.3). It is worth

noting that it was found that one household in Dar Salah used treated gray water for irrigation.

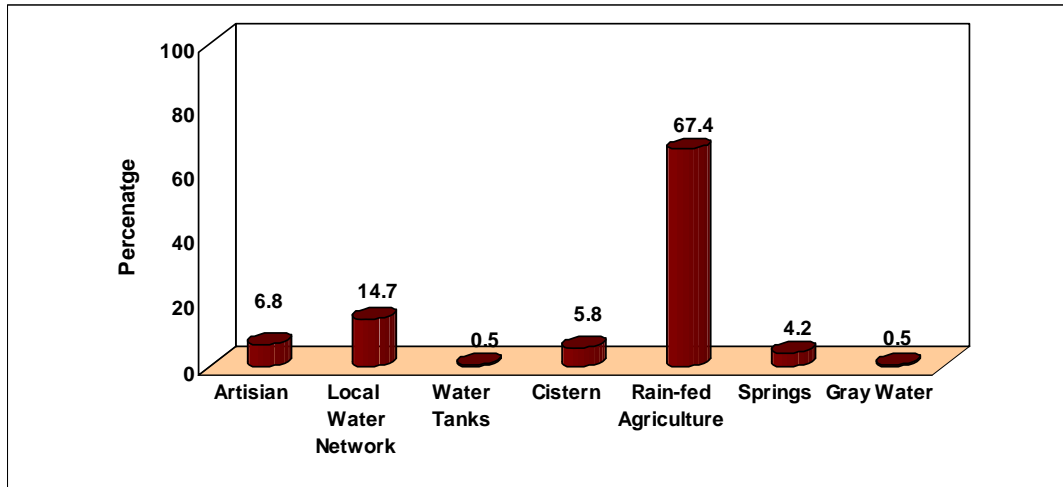


Figure 5.4.3: Percentage of surveyed households using different water sources for irrigation in Bethlehem Governorate

In general, out of the surveyed households that own livestock (20.5% of total surveyed households), poultry was the main type of livestock raised. The total number of raised heads for both layers and broilers is 4647 heads, while the rest were 860 heads of sheep, 260 heads of goats and 27 of beehives. Cattles were not found among the livestock raised in the targeted localities. Most of the surveyed localities considered raising sheep and goats; however, Dar Salah and Al U'beidiya raised mainly poultry, while Wad Fukin and Wadi Rahal raised beehives (figure 5.4.4). The variable ecosystems where each surveyed locality is located play a major role in raising the appropriate type of livestock; for example Wadi Fukin and Wadi Rahal are western villages with appropriate climate for raising beehives, while Dar Salah and Al U'beidiya are eastern located villages and towns with suitable environment for raising poultry, sheep and goats.

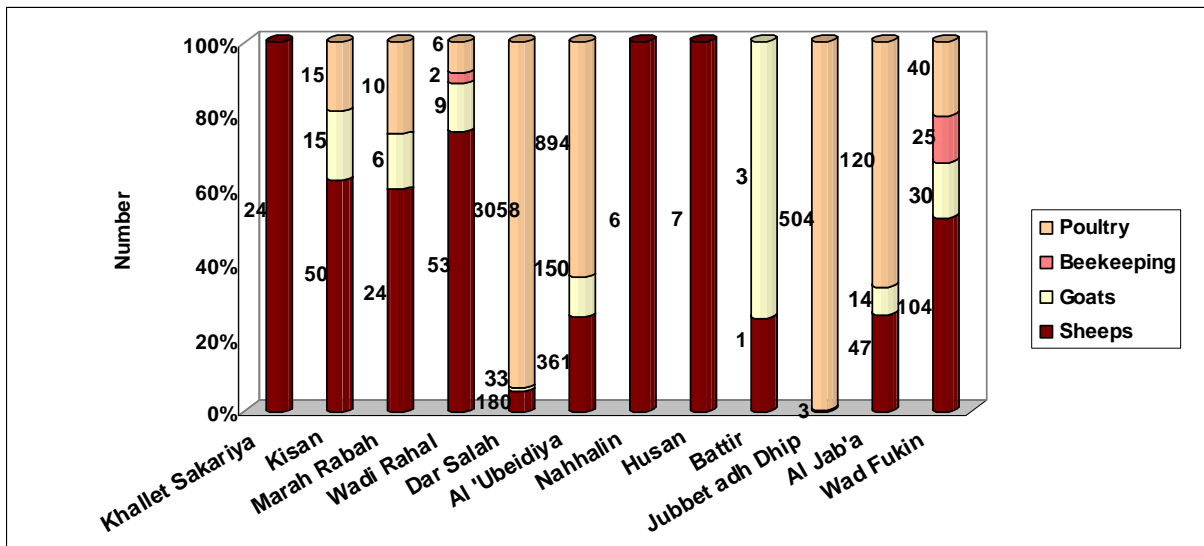


Figure 5.4.4: Number of livestock heads by type by locality in Bethlehem Governorate

5.5 Health Data

Disabilities and /or difficulties appeared clearly in the surveyed households, where 24% 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 295 persons, which were almost equally distributed among males and females and mainly concentrated in Nahhalin and Husan (figure 5.5.1). Concerning number of case it was the highest in Al U'beidiya (with 135 cases), Dar Salah (with 36 cases), and Nahhalin (with 30 cases) villages.

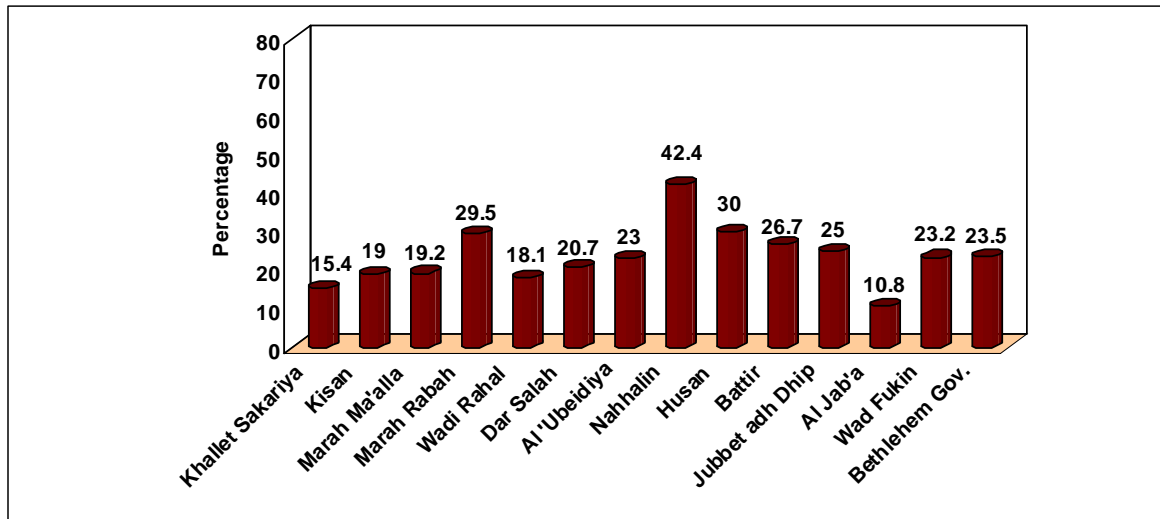


Figure 5.5.1: Percentage of surveyed households with disabilities and / or difficulty by locality in Bethlehem Governorate

Households with members suffering from diseases reach up to 51% of total surveyed households (548 persons), where 63.5% of surveyed family members suffering from diseases were males. The highest percentage of households with disease was found in Marah Ma'alla, Nahhalin, Husan, Kisan, and KHALLET SAKARIYA. Several reasons could be attributed to such a status but the overriding ones being vulnerability, poverty and lack of health awareness.

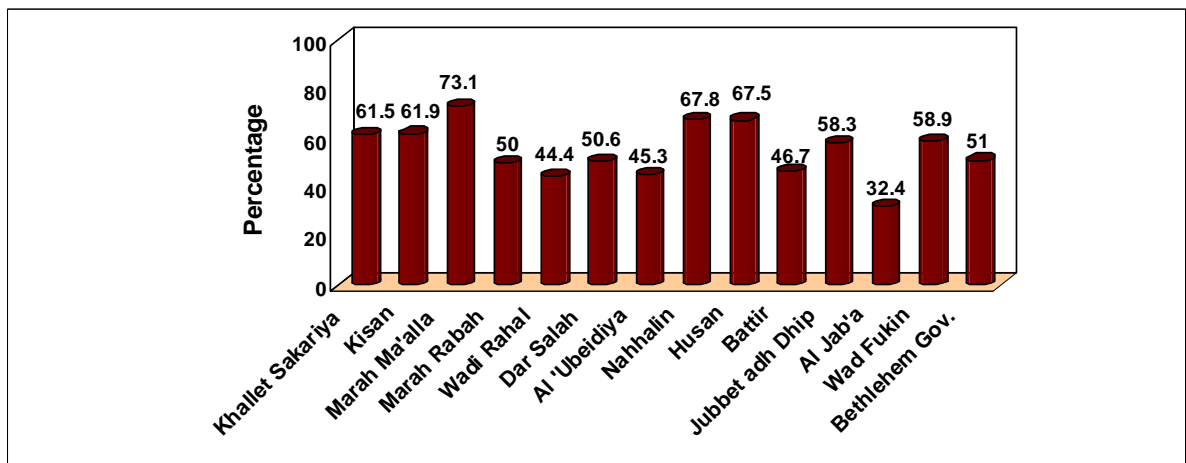


Figure 5.5.2: Percentage of households with diseases by locality in Bethlehem Governorate

The relationship between deteriorating economic status and a 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 16% 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 Bethlehem Governorate, most of the beneficiaries confirmed that they never did blood test analysis which also indicates that most of them do not know what 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 52% of the surveyed households' own health insurance is equally distributed among males and females. Jubbet adh Dhip (75%), Battir (65%) and Dar Sallah (65%) 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 Bethlehem Governorate, the average income of surveyed households was 1009 NIS per month, which is considered under deep poverty line in comparison to PCBS poverty line standards 2009, which reaches to 1870 NIS per month²¹. 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 governorate level, on the other hand, appear higher than average income reaching up to 1490 NIS per month, which also reveals a shortage in income to cover the needs at the household level. It is worth noting that the expenses were measured in the survey on the basic needs including food, educating, 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)*

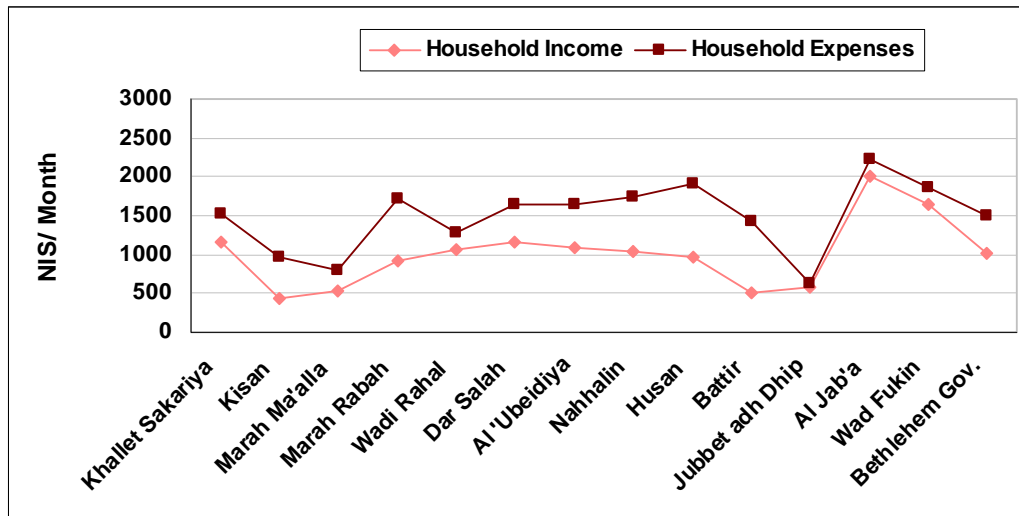


Figure 5.6.1: Household income in comparison with household expenses by locality in Bethlehem Governorate

All targeted localities suffer from 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 affect 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 400 NIS/ month, where Husan, Battir and Marah Rabah villages suffer the most and the shortage reached an average up to 950 NIS/month, 921 NIS/month, and 779 NIS/month, respectively. The average income among the targeted localities was the least in Kisan and Battir villages, which reached in average to only 443 and 507 NIS/month respectively, while expenditures were the highest in Al Jaba' and Wad Fukin villages, which reached in average up to 2217 and 1867 NIS/month respectively.

The findings reveals that only 832 persons of family members are economically active forming 13% of total surveyed family members, of which 10% are working part time and 3% are females. Wad Fukin, Wadi Rahal and Dar Salah had the highest percentages of households with economically active members reaching up to 18.4%, 16.6%, and 15% respectively.

Household heads in labor could be fathers, mothers, sons or others. The fathers in labor formed 65% of the total households in labor, mothers formed only 3% and sons formed 31%. The mothers work mainly in employment, and handicrafts, 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 57% of households, followed by employment reaching up to 24%, followed by handicraft reaching to 13%, followed by agriculture (both plant and livestock) reaching to 5% (figure 5.6.2).

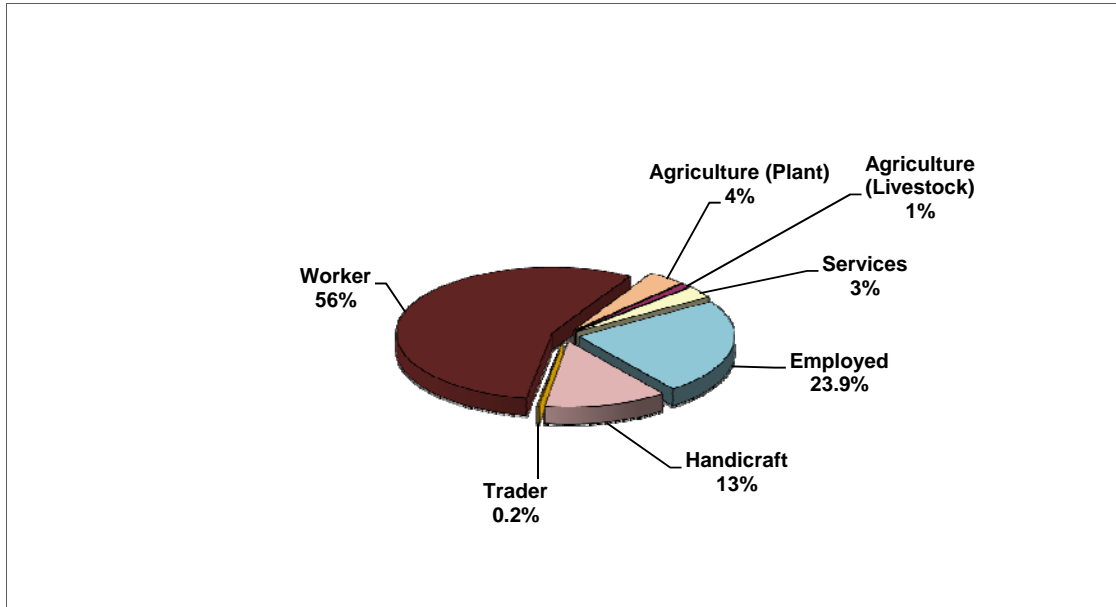


Figure 5.6.2: Type of work at household level in Bethlehem Governorate

It appears from the findings that more than 85% 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 cause extra expenses for health care.

5.7 Food Security Data

Investigating in depth the type of expenses at household level, it appears that 63% of the family expenses go to food, followed by 9.6% for education and 9.5% towards bills. Health care expenses takes only 7% of the total household expenditures. Comparing the results with the World Food Program, numbers concerning household expenditures as a result of 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 targeted surveyed 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 46% at Bethlehem Governorate level (figure 5.7.1).

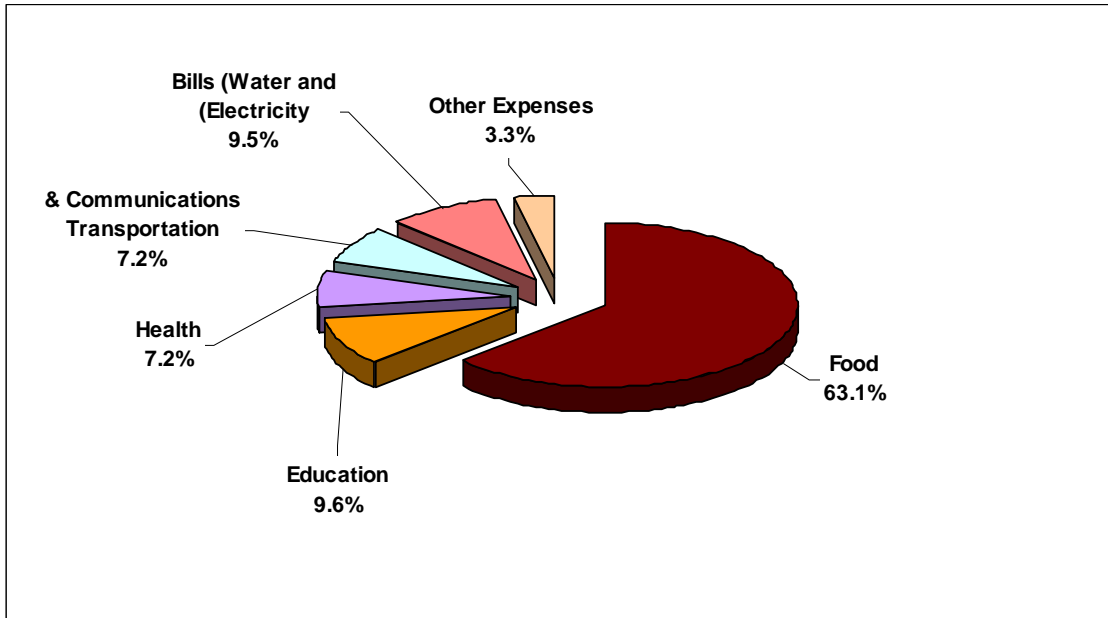


Figure 5.7.1: Percentage of households' expenditures in Bethlehem Governorate

Almost 42% of the households reduced their family expenditures during the last six months of the survey time (figure 5.7.2), out of which 98.6% of the households reduced their expenditures on food, followed by cloths, health and bills, where 79%, 48%, and 46% of households reduced their expenditures, respectively (figure 5.7.3). The reduction on food goes mainly on the reduction on quality of food where 96% of surveyed households reduced their food quality during the last six months of the survey time, followed by a 93%, 87%, 82% and 80% households reduction consumption their quantity of food, vegetables and fruit intake, quantity of meat, and milk respectively.

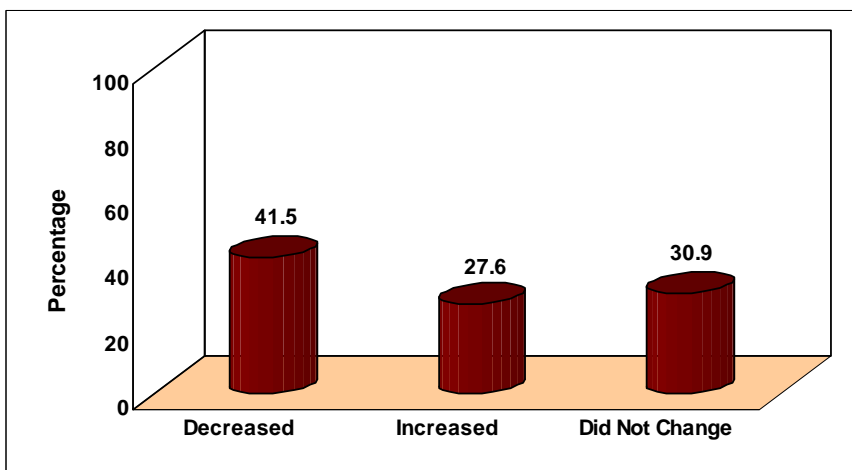


Figure 5.7.2: Percentage of households that made changes on their expenditures during the last six months of the survey time in Bethlehem Governorate

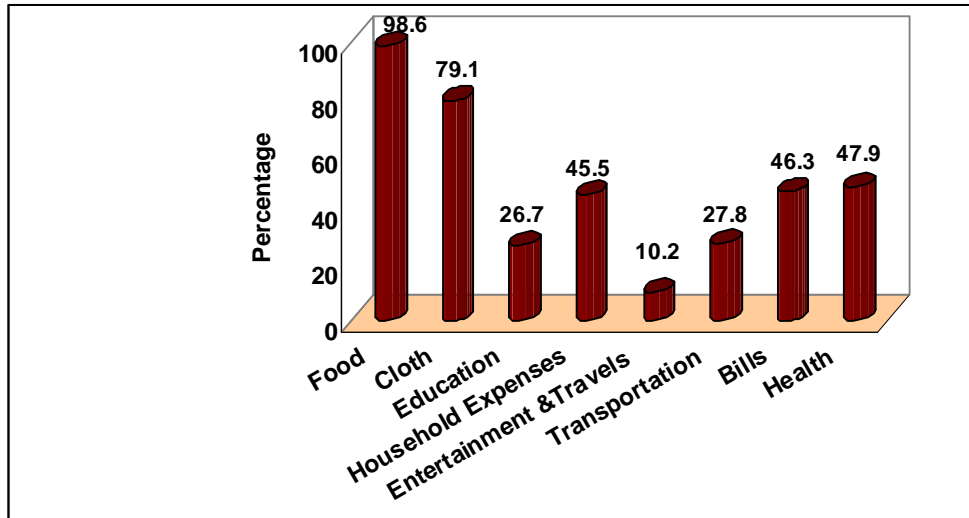


Figure 5.7.3: Percentage of households reduced their expenditures by type of sector in Bethlehem Governorate

Jubbet adh Dhip, Al Jaba'a and Wadi Rahal villages showed the highest percentage of reduction in expenditures at households' level (figure 5.7.4). The conclusion is that 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.

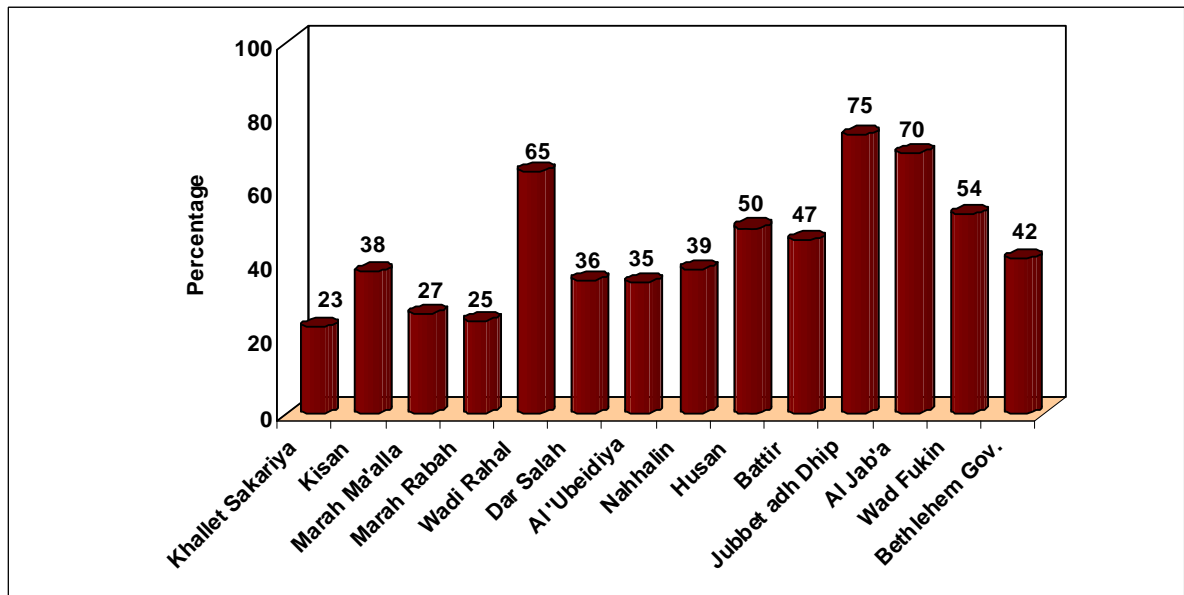


Figure 5.7.4: Percentage of households that reduced their expenditures during the last six months of the survey time by locality in Bethlehem Governorate

More than 85% of the surveyed households purchase their food on credit forming 50.5% of their food purchases. Households of Kisan village had the highest percentage of food purchases on credit (figure 5.7.5).

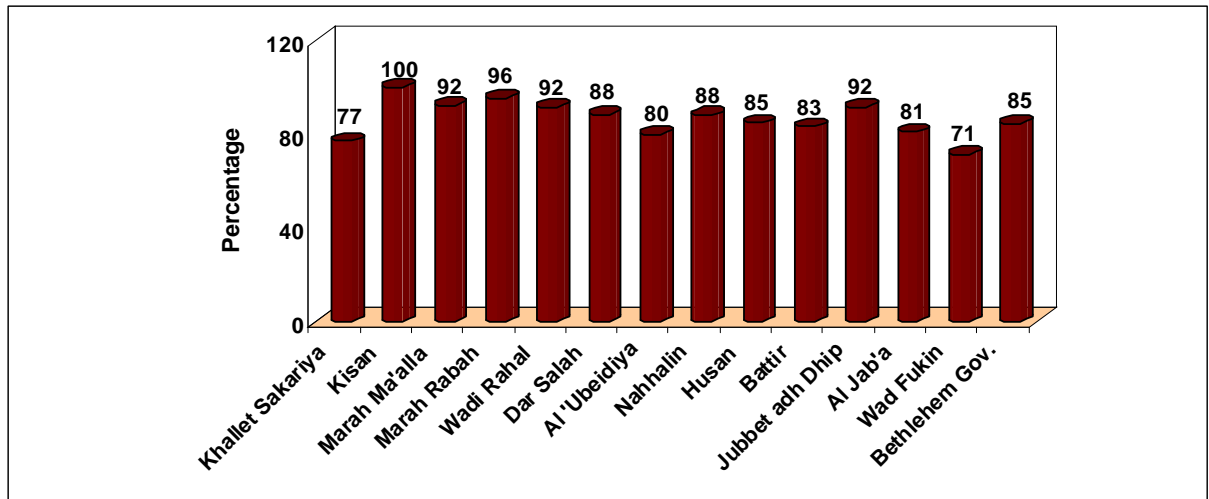


Figure 5.7.5: Percentage of households purchase food on credit by locality in Bethlehem Governorate

Looking in depth on the weekly consumption of food to further assess the food security issue at household level, the survey reveals that the main staple consumed per week by the surveyed households is bread and thyme, while meat and dairy products were consumed only once per week (figure 5.7.6). More than 98% of the households confirmed their worries of not having enough food in the last month (of the survey time), 94% of households confirmed eating less preferable food in the last month (of the survey time), 62% confirmed eating less meals per day as a results of not having enough food during the last month (of survey time), 39% of households confirmed sleeping at night without food as a result of not having enough food during the last month (of survey time). Such cases indicates the continuous degradation of the food security situation particularly in the targeted community section, which can be attributed to a significant extent to the ineffectiveness of the targeted households coping mechanisms. Food intake and practices are directly affected by the reduction of food expenditures especially on the quality issue highlighting carbohydrates intakes more than proteins and vitamins as a coping strategy to reduce food expenses which results in serious deterioration in heath and nutritional status.

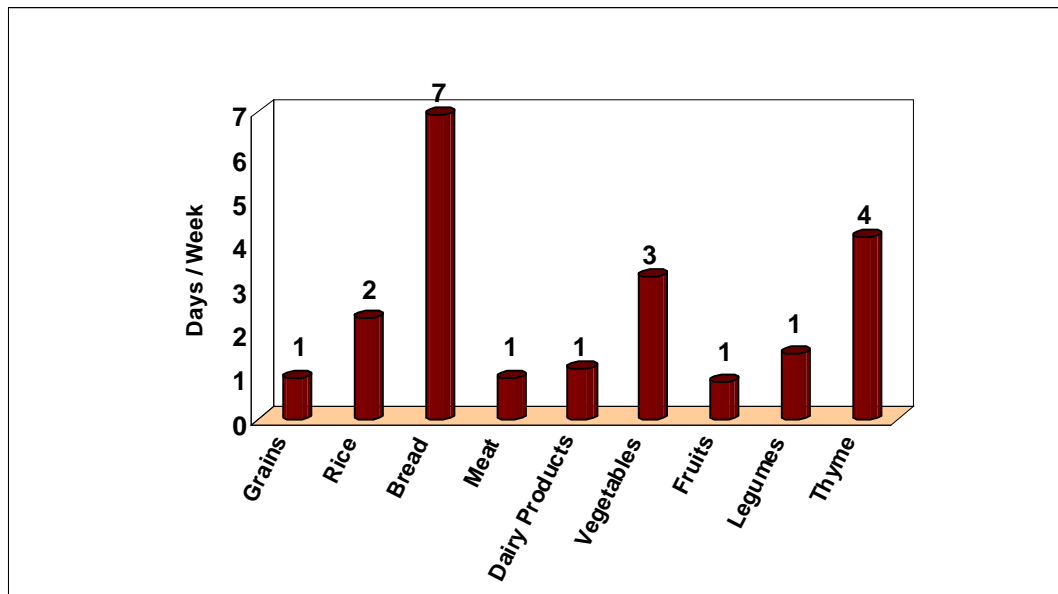


Figure 5.7.6: Weekly Consumption of Food by Type of Food Consumed in Bethlehem Governorate

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 94.2% 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 6, low household average income reaching only 1000 NIS /month and inability to cover basic food needs. The highest household income that was registered during the survey was only 1641 NIS/month in Wad Fukin village, 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 5.8% 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 Al Jaba' and wad Fukin villages, which showed lower gap between the income and their expenses than other localities (figure 5.6.1), more than 60% of their households cultivated their lands (figure 5.4.1) and almost 64.7% of the surveyed households in Wad Fukin village work in agriculture.

The results are emphasized when comparing the FSIS baseline survey results with the SEFsec report 2009 results, which reveal that about 15.3% of households in Bethlehem 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 from a worse situation. For example, percent of expenditure on food is higher in the FSIS targeted households by at least 17% than the SEFsec targeted households, the percentage of households that reduced their expenditure on food is higher in the FSIS targeted households by at least 65% than SEFsec targeted households, where percent of households reduced their expenditure on food in Bethlehem Governorate reach up to 33% in comparison to 98% in the FSIS targeted localities in Bethlehem Governorate. 47% and 29% of SEFsec surveyed households reduced expenditures on quality and quantity of food in comparison to 96% and 93% of FSIS surveyed households respectively in Bethlehem Governorate. Food on credit is practiced by 47% of SEFsec survey households, while almost 85% of FSIS households and other indicators reveal declining situations of the selected section by FSIS project suggesting new vision for plans targeting such section of communities with a focus on small scale agro-developmental activities on either the community or household level.

Despite the deteriorating conditions of the targeted households, only 48.5% of targeted households received assistance during the last 6 months of the survey time, while more than 50% households are in need of assistance and did not receive any (figure 5.7.7). Kisan and Jubbet adh Dhip villages had the highest number of households, which received assistance up to 81% and 100% of surveyed households respectively (figure 5.7.8). The lowest number of households, which received assistance was in Husan village and Al U'beidiya town, where only 30% and 32% of the households received assistance, respectively. It is worth noting that Husan and Al U'beidiya town had the largest number of households, who confirmed their need to assistance, where 65% and 68% of the households did not receive assistance and need it.

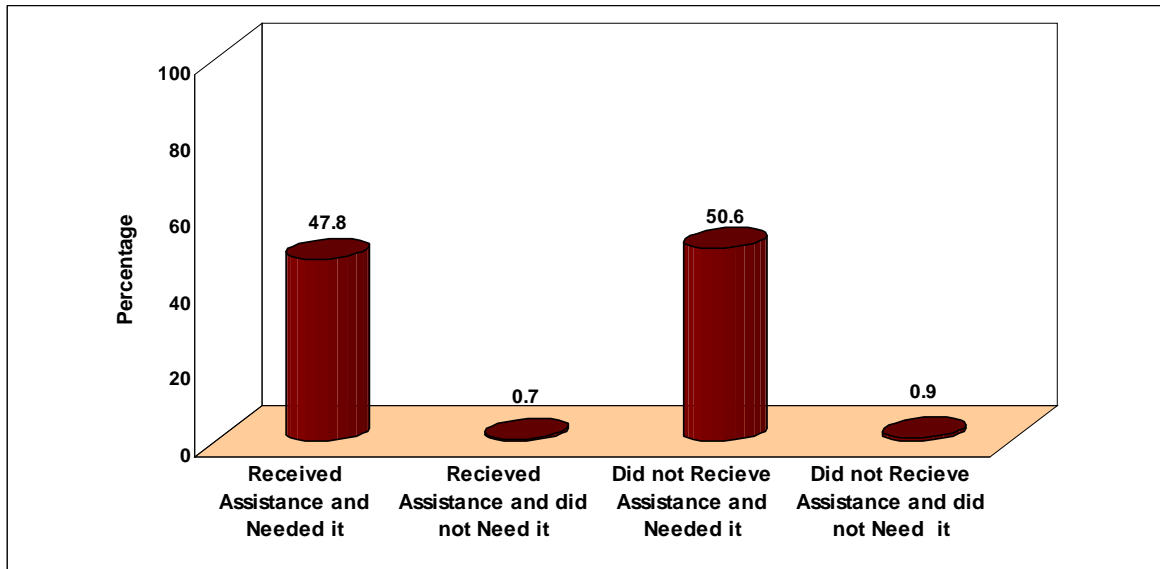


Figure 5.7.7: Percentage of households received and did not receive assistance in Bethlehem Governorate

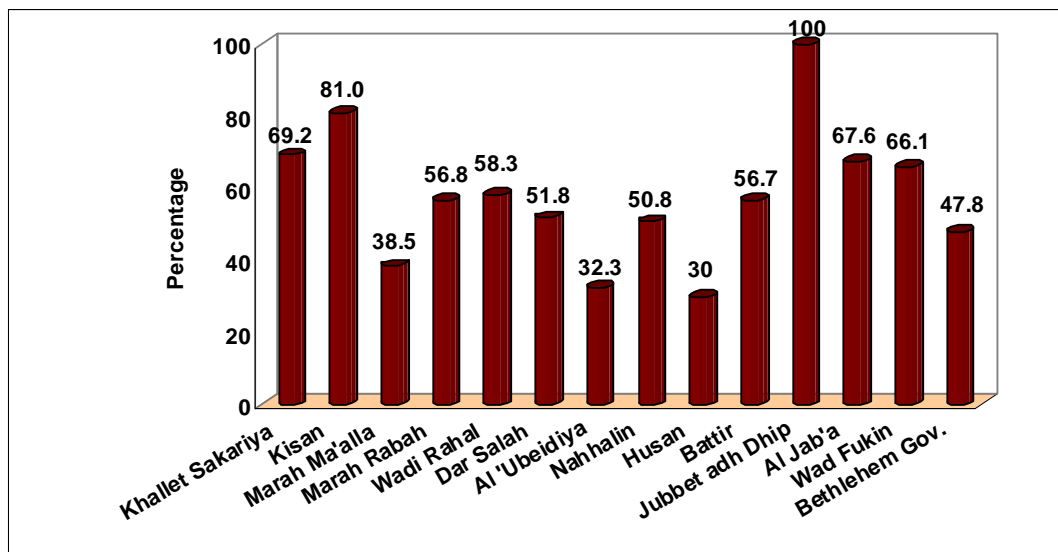


Figure 5.7.7: Percentage of households received assistance by locality in Bethlehem Governorate.

The main type of assistance received in the targeted areas of Bethlehem Governorate was food assistance reaching up to 67% of households who received assistance (figure 5.7.9), followed by cash and health assistance. Al Jaba' and Wadi Rahal villages had the highest percentage of households who received food assistance. The main type of food distributed over the targeted households is wheat, oil, sugar, chickpeas, and salt, where more than 90% of the assisted households received such assistance. Generally assistance including cloths, furniture, job, and education were not received by any of the targeted households. This highlights the importance of better types of distribution of assistance in relevance to individual household needs.

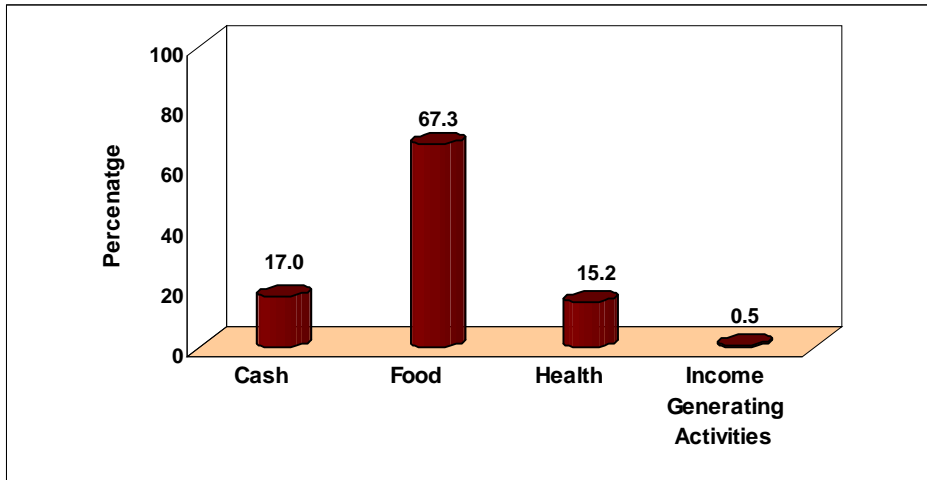


Figure 5.7.9: Percentage of households received assistance by type of assistance in Bethlehem Governorate

According to SEFsec survey only 31% of surveyed households in Bethlehem Governorate received assistance in the year 2009, and food assistance reached up to 72.7% of total households assistance, which are other indicators for comparison addressing the needs of the FSIS surveyed area highlighting the communities' vulnerability.

Concerning the satisfaction of assisted households on all types of received assistance, almost 76% of the households were satisfied or very satisfied. Also almost 75% of the assisted households confirmed their satisfaction on food and health aids respectively.

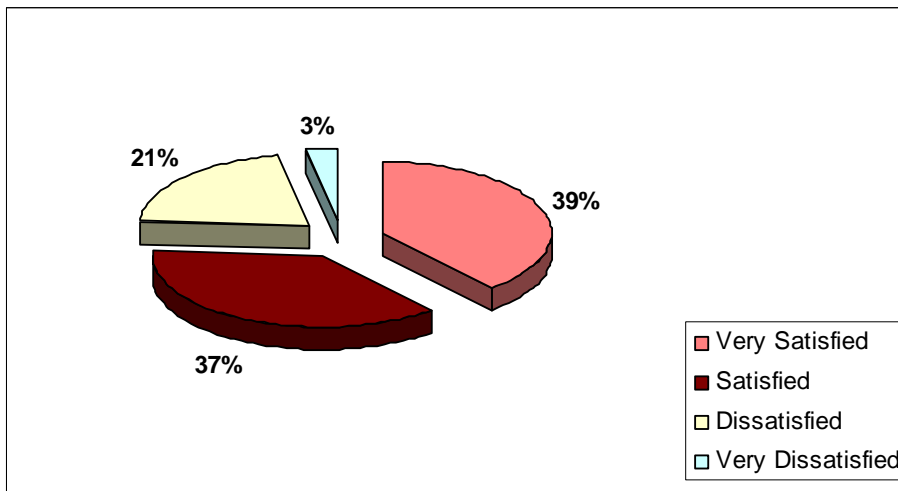


Figure 5.7.10: Level of satisfaction concerning assistance received in Bethlehem Governorate

It was also found that the international NGOs are the main source of assistance for the targeted households, where more than 59% of the households receive their assistance from international NGOs such as WFP, UNICEF, FAO and others, followed by 28% of the households receiving assistance from the Palestinian Authority (figure 5.7.11).

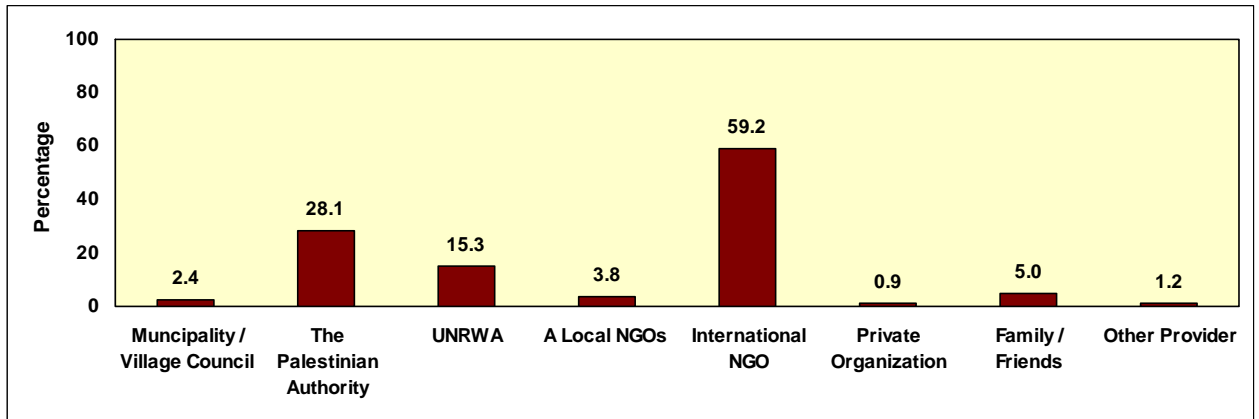


Figure 5.7.11: Source of household assistance in Bethlehem Governorate

More than 92% of the surveyed households confirmed their absolute need for assistance, where food and cash assistance were the main two types of assistance requested by the surveyed households, followed by agriculture and health as indicated in figure 5.7.12.

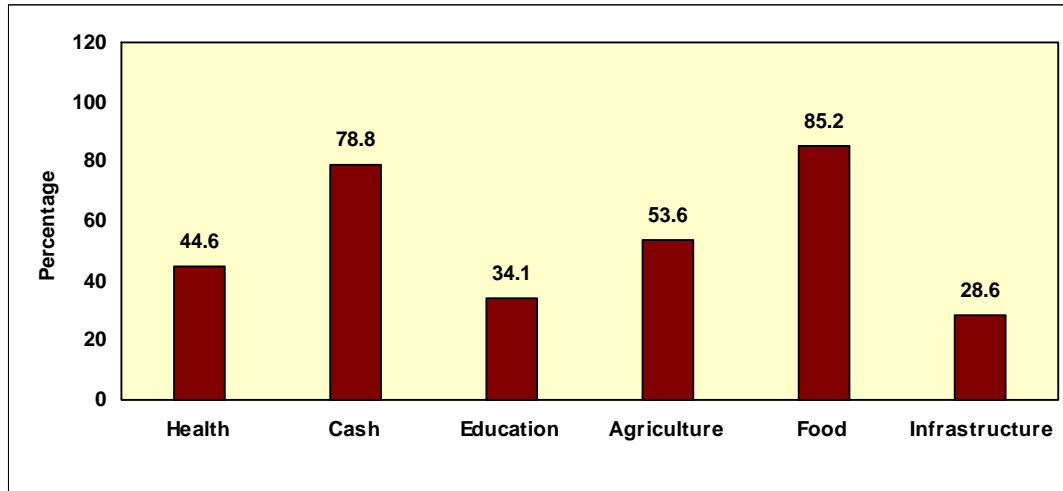


Figure 5.7.12: Type of assistance in need as requested by surveyed households in Bethlehem Governorate

Food assistance was requested by all targeted communities including mainly Khallet Sakariya, and Marah Mallah (figure 5.7.13).

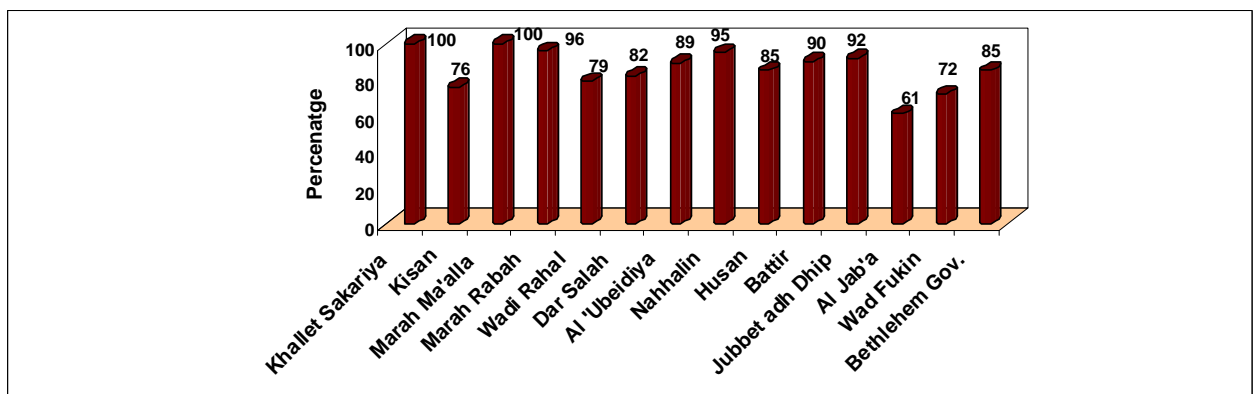


Figure 5.7.13: Percentage of households requested food assistance by locality in Bethlehem Governorate

Concerning the distribution of assistance to targeted households, it was assessed that only 44% of surveyed households confirm that assistance reached those in need, while 36.4% 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 conditions and improving their health, nutrition and food security statuses.