

**Integrated Report**

**for**

# **The Palestinian Agro-Production and Marketing System**

**(Case Study of the Northeast Jordan Valley Area)**



**2010**

Prepared by



Applied Research Institute – Jerusalem  
(ARIJ)

In collaboration with



Action Against Hunger

Funded by



Catalan Agency for Development and Cooperation



Integrated Report

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# The Palestinian Agro-Production and Marketing System

(Case Study of the Northeast Jordan Valley Area)

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## Acknowledgement

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ARIJ & ACF are grateful to all the Palestinian organizations for their precious cooperation and distinguished technical support. Special thanks to all the project administrators, specialists, support team and field staff for their durable efforts and notable contribution in developing all the project reports and especially this integrated report.

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## List of Abbreviations

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- ACCD**- Catalan Agency for Cooperation and Development
- ACF** - Action Against Hunger
- ARIJ**- Applied Research Institute – Jerusalem
- BESCO** - Business Excellence Services Company
- COAP**- Palestinian Center for Organic Agriculture
- FAO** - Food and Agriculture Organization
- G.A.P** - good agricultural practice
- GC test** - Gas Chromatography analysis
- GC/LC test** - liquid chromatography analysis
- GI** – Geographical indication
- GMOs** - genetically modified organisms
- HACCP** - hazard analysis and critical control point
- ICP/BU** - Institute for Community Partnership/Bethlehem University
- IFOAM** - International Federation of Organic Agriculture Movements
- MoA** – Ministry of Agriculture
- MRL** - maximum residual level
- PHL** - post harvest losses
- oPt**- occupied Palestinian territory
- NGO** – non governmental organization
- OGS**- Organic Guarantee System
- PA**- Palestinian National Authority
- PARC**- Palestinian Agriculture Relief Committee
- PCBS**: Palestinian Central Bureau of Statistics
- PFU**- Palestinian Farmers Union
- PSI**- Palestinian Standards Institute
- UAWC** - Union of Agriculture Working Committee

## Executive Summary

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Through the project entitled “Strengthening of the Commercial and Marketing capacities of small and medium vulnerable Palestinian farmers from the Tubas Region through trade to the Israeli and International Markets” five agricultural cooperatives located in six villages were targeted in the north-eastern part of the Jordan Valley: Bardala, Kardala, Ain Albayda, Wadi al Far’a and Tammun from Tubas Governorate and Furush Beit Dajan from Nablus Governorate.

Agriculture is a fundamental part of the Palestinian economy, especially in the northern part of the West Bank, and the targeted villages are part of this area. All the households’ surveyed from the targeted villages (75 households by the baseline survey and 67 households by end-line survey) are 100% engaged in agricultural production including crops and/or livestock. In terms of livestock production, 16.4% of the households own livestock (sheep, goats, head cattle, beehives and poultry).

**There are three main marketing systems for the Palestinian fresh agricultural products:**

- 1. Local market:** wholesale markets distributed in all the West Bank Governorates
- 2. Israeli market:** Either through Israeli, Arab-Israeli, or Palestinian merchants, or directly by the farmer.
- 3. Export market:** European, US, Russian or Arab Markets.

In the year 2009, 18.7% of the crops produced by the project farmers were marketed in Tubas market, whereas the majority 53.6% of the marketed produced crops were marketed in the West Bank markets and only 27.7% of the marketed produced crops were marketed in the Israeli markets. There was a sharp decline in the marketed crops in the Israeli markets compared with the year 2008. This is due to the fact that the Jewish fallow year which occurred during the 2008 ended and the offered facilities to the Palestinian agro-commodities during that year ended, therefore marketing conditions returned to usual levels.<sup>1</sup>

Marketing systems and channels are the key elements for marketing the agricultural commodities. Also, they affect all the marketing stakeholders from the farmer to the consumer. Proper marketing systems and marketing channels can insure that the suitable product is available at the proper time.

Crops free from pesticide residue and microbial contamination is an important safety measure for the quality control. The results of the conducted two rounds of chemical residue testing in vegetable fruits showed that a high percentage of samples are contaminated with pesticide residue- even some with banned chemicals.

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*1. Jewish fallow year: it occurs every seven years when religious Jewish people don't eat from Israeli land products, and they keep the land fallow.*

Out of the 101 interviewed producers who have applied to obtain certificates, 55 producers got the certificates till the day of the interview while the remaining 46 still proceeding to get the certification. Out of the 55 certified producers, 45 (81.8%) wanted to renew their certificate after its expiration date. The 10 producers who did not want to renew their certificate stated that they believe that the certificates do not add sufficient value to the market price of crops or open new markets to compensate for the cost of certification.

Although the main objective of the quality certificates is to open new market channels, especially export markets, for the products, unfortunately only 20 producers out of the 55 who obtained certificates managed to export their products (mainly olive oil). However, it is important to note that 50% of the interviewed producers who obtained certificates for their crops revealed that the demand on their production increased after they got their crops certified.

Some of the Palestinian crops that are linked geographically to the production area or location have their own added value, special marketing rate and profitability based on their geographic identification, special taste, shape, color and aroma and heritage value. The analysis has shown high market opportunities available for many Palestinian crops identified as geographically linked to their place of production by the Palestinian consumers.

Ten varieties were investigated as crops with high potential of geographical identity crops. Fakoos Sahooi (Beit Sahour snake cucumber), Bathenjan Bateerri (eggplant), Enab Khalili (Hebron grapes), Jaufaet qlqyleih (Qalqilia guava), Batatet El-Far'a (Wade Alfaraa potato), Mouz Rihawi (Jericho banana), Burtukal Rihawi (Jericho orange), Balah Rihawi (Jericho dates), Zeit Beit Jala (Bait Jala olive oil), and Teen Tell (Tell figs).

As mentioned earlier, the Israeli market is the second market for the Palestinian agriculture crops. The movement of the Palestinian commodities to the Israeli markets or through Israel to markets abroad is often limited and complicated because of an improvement in the Israeli procedures (biological and chemical residues tests, licensing, permitting and inspection) regarding the movement of the Palestinian agro-commodities to Israeli markets or for exportation.

Vegetable products exchanged between Palestine and Israel mainly concentrated in 15 agro-products, namely cucumber, zucchini, eggplant, hot pepper, tomato, cabbage, cauliflower, onion, beans, potato, sweet corn, carrots, groundnut, garlic and chickpeas. Out of a total of 89,690 tons of produce traded during 2009, 66.1% were marketed from the West Bank to Israel, and 33.9% were marketed from Israel to the West Bank. There is a high fluctuation in the selling prices due to many factors such as marketing channel, targeted market (Israeli or Palestinian markets), and according to the season. (ARIJ-ACF, 2010)

The farmers, through their cooperatives should continue to improve their cooperation and planning system to plant proper crops the in proper season

to avoid marketing risks and selling price shocks. Accordingly, the specialized organizations (governmental, social, and private sector) should increase their participation in mitigating the impact of these risks and challenges on the farmers, especially small and medium farmers, and work together to create suitable policies, action plans and support to empower the agro-production system and find ways to increase its production capacity, quality, and competitiveness with similar products produced in other places.

**To improve agro-marketing sector in the West Bank, it is necessary to work on the following points:**

- 1) Farm planning system and farmers' capacity building.
- 2) To build and improve the Palestinian agro-marketing infrastructure and facilities.
- 3) To build and develop the national quality standards and certificates and related infrastructure such as establishing accredited laboratories for microbial and chemical residues analysis, post harvest facilities including packing houses, cold transportation system for fresh products, etc.
- 4) To develop Palestinian rules and standards to enhance the development of the agro-marketing system.
- 5) To mitigate the effects of the occupation and its restrictions to enhance the accessibility of the Palestinian people to the Palestinian natural resources (land and water).
- 6) Strengthening the role of cooperatives which will minimize the effects of merchant and private sector abuse.
- 7) To encourage investment in agriculture by developing agricultural insurance system and reliable finance sources.
- 8) To improve the annual crop production planning calendar quantitatively and qualitatively towards more choices of feasible crops for exportation and more diversified production will improve the production, increase the feasibility, and will reduce the marketing risks for the Palestinian farmers.
- 9) To develop a marketing-oriented extension services program by the Palestinian Ministry of Agriculture.
- 10) To involve the consumers in the marketing process, by establishing active consumers committees is an important issue for developing the consumer awareness of local products and quality issues.



## Introduction:

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Agriculture is one of the major economic sectors in Palestine, especially in the northern part of the West Bank. The northern part of the West Bank contributes significantly in the vegetable and fruit basket of the Palestinian people. The agro-rural areas contain up to 60% of the West Bank population. Agriculture is part of the Palestinian culture, history and identity that keeps the Palestinians linked to their land.

Tubas governorate is located in the north-eastern part of the West Bank and is considered one of the main agricultural Governorates in Palestine, especially in plant production (vegetables and field crops). It is characterized with warm weather, abundance of water and rich natural resources. Tubas Governorate has fertile soil, relatively high annual rainfall range between 300 to 500 mm from east to west, and a suitable climate for agriculture. Tubas governorate produced more than 7.22 % of the total Palestinian production of vegetables, field crops and fruit trees for the 2007/2008 season. Agricultural sector employs 39% of the employed labor force in Tubas Governorate.

The Applied Research Institute – Jerusalem<sup>2</sup> (ARIJ) and Action Against Hunger<sup>3</sup> (ACF) have implemented a project entitled “Strengthening of the commercial and marketing capacities of small and medium vulnerable Palestinian farmers from the Tubas Region through trade to the Israeli and International Markets”.

This project aimed to improve the living conditions of the vulnerable Palestinian rural population in a sustainable way by reinforcing financial and social self-sufficiency and improving their trade potential. This objective was achieved through reinforcing the food security situation of 250 vulnerable small farmers in the north-east of the West Bank by improving productivity and the quality of production in order

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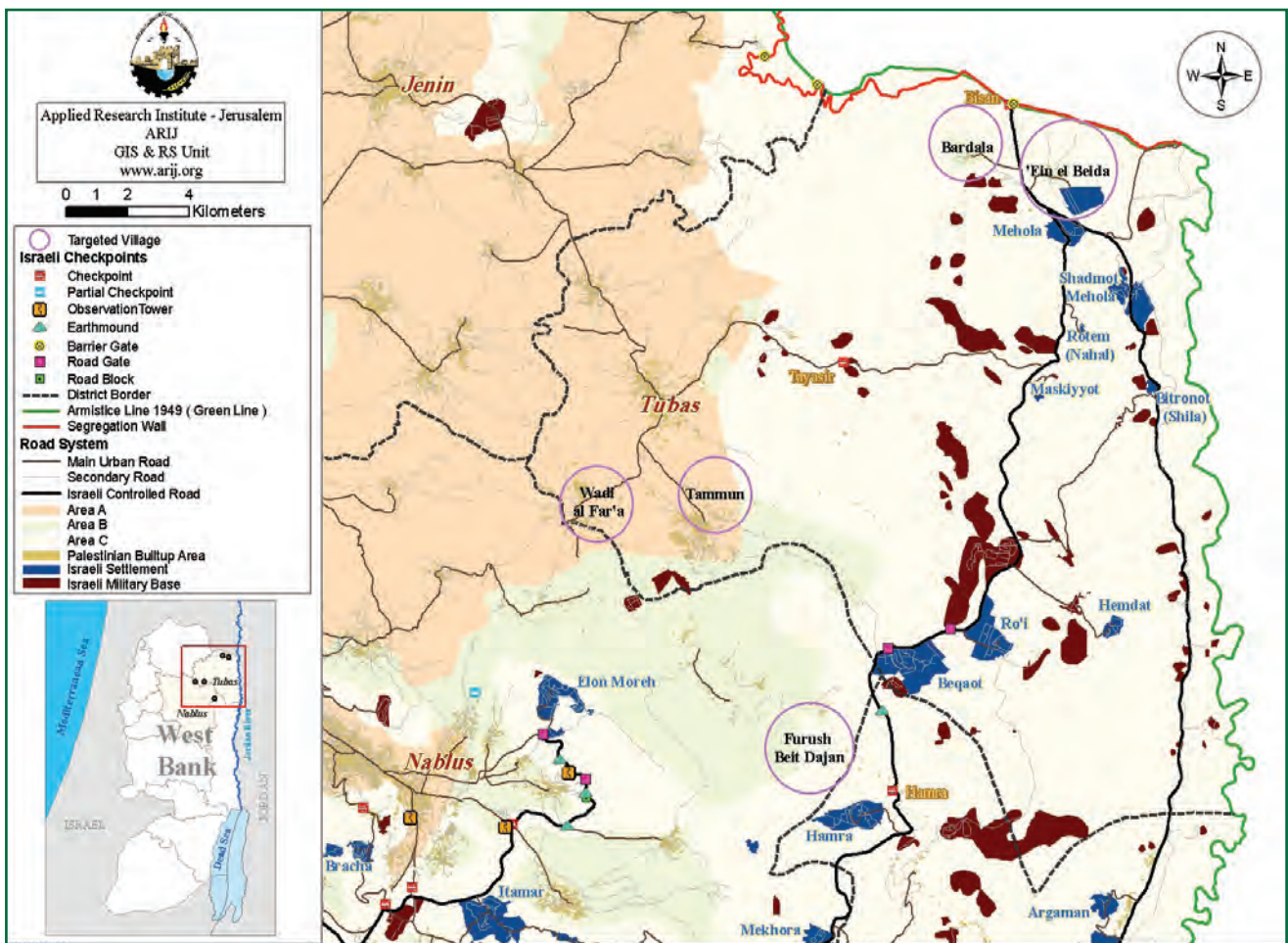
2. The Applied Research Institute – Jerusalem (ARIJ): is a non-profit organisation, founded in 1990, dedicated to promoting sustainable development in the occupied Palestinian territory (oPt) and the self-reliance of the Palestinian people through greater control over their natural resources. ARIJ works specifically to augment the local stock of scientific and technical knowledge and to introduce and devise more efficient methods of resource utilisation and conservation, improved practices, and appropriate technology. Moreover, through its work with donor institutions and regional and international experts, ARIJ promotes an environment conducive to the introduction of new initiatives and ideas and thus serves as a facilitator in the co-ordination of multilateral activities. ARIJ has more than 20 years of combined organizational experience in the oPt in the fields of natural resources management, water management, environmental management, GIS and remote sensing technology, sustainable agriculture and agro biodiversity, socioeconomic, and political dynamics of development in the area. ARIJ plays an active role in the local community as an advocate for greater co-operation among local institutions as well as international and non-governmental organizations. In its capacity as a national research institute, it frequently provides current data and research necessary to the formulation of position papers and policy strategies on issues such as land and water resources.

3. ACF is a non-governmental and non-profit organization Action Against Hunger (ACF) is a neutral and independent humanitarian organization founded in 1979 with the aim of combating malnutrition. Present in the Palestinian Territory since 2002 with operational offices in Jerusalem, Gaza City, Hebron, Nablus and Qalqiliya, ACF has been implementing projects in the field of water and sanitation and food security. In addition, ACF remains alert to any possible deterioration of the nutritional status of children in the Palestinian Territory and is prepared to intervene in an emergency affecting this or any other vulnerable group. Committed to principled humanitarian action, ACF is continually adapting its programs to respond as effectively as possible in meeting the needs of the population while protecting livelihoods, preserving dignity, and promoting self-sufficiency and independence of vulnerable populations.

to increase their commercial capacities, allowing them to export their products, with a special emphasis on the re-establishing of the trade relations, based on trust and equality, with the Israeli buyers.

This project had targeted five cooperatives located in the north-eastern part of the Jordan valley. These cooperatives are mainly located in five localities (Bardala, 'Ein El Beida, Tammun, Furush Beit Dajan and Wadi al Far'a), while Alkhadra cooperative has farmers from both Kardala and Bardala Villages. Therefore, some of the Kardala farmers were targeted by the project activities. The main targeted five villages are divided into two clusters according to their location and agricultural activities, the first cluster is located in the northern part of the Jordan Valley in Tubas Governorate (Bardala, and 'Ein El Beida villages), and the second cluster is located in the mountainous and semi mountainous areas in the middle part of the Jordan Valley - Furush Beit Dajan (in Nablus Governorate), and Wadi al Far'a and Tammun (in Tubas Governorate). (See Map 1)

**Map 1: Distribution of the project targeted villages in Tubas and Nablus Governorates**



The total area of the selected villages is approximately 170,817 dunums, most of it is arable land and suitable for cultivating different crops. In 2008 a total of 42,300 dunums in all targeted villages were cultivated, whereas in 2009 about 45,637 dunums were cultivated, of which 32,427 dunums are in cluster 1 and 13,210 dunums are in cluster 2. This represents an increase of 3,337 dunums in one year. The villages were selected based on their urgent needs for improving their cultivation practices and livelihoods. In addition to the fact that they are affected by occupation practices and they are surrounded by military checkpoints.



# Part I: Status of Agricultural Production and Marketing in the North-eastern Jordan Valley Area

## 1. Background of the North-Eastern West Bank:

The project targeted area is located in the north-eastern West Bank which is considered to be one of the main agricultural areas in Palestine and ideal for supporting agriculture as it's characterized by warm weather, fertile soil, abundant water, and rich natural resources. The relatively high annual rainfall in this region ranges between 300 to 500 mm from East to West. These factors have resulted in prosperous rain fed agriculture in this area. Due to the availability of water resources, this region is one of the largest irrigated vegetable producers in the West Bank (See Map 2 on page 10).

The total area of the Tubas Governorate, comprised of 21 villages and one refugee camp, is roughly 366 km<sup>2</sup>. The total cultivated area is up to 102,140 dunums – which makes up 6% of the cultivated lands, 5% of the rain-fed lands and 14% of the irrigated lands in the entire West Bank (PCBS, Agricultural Statistics, 2009).

Based on a demographic survey conducted by the Palestinian Central Bureau of Statistics (PCBS) on 1/12/2007, the total population of the Tubas Governorate was 50,261 and was projected to reach 54,765 in 2010 – this forms 2.1% of the total population of the West Bank.

The Palestinian economy heavily depends on paid employment: most of the employed persons in the Tubas Governorate are wage employed (54.1%) and self-employed (24.6%); also, there is a high percentage of unpaid family members which are mainly working in agriculture (15.4%) (PCBS, 2009/2010). In 2009, the labor force participation rate in Tubas Governorate was 45.2% and the employment rate was 83.9%. There was also a decrease in the unemployment rate from 16.7% to 13.3% in Tubas Governorate from 2008 to 2009 (PCBS, Labor Force, Annual Report, 2010). The agricultural sector employs the highest percentage, 34.5%, of the workforce in the Tubas Governorate (PCBS, Labor Force – Annual Report, 2010).

The agriculture and services sectors are the main employers in Tubas Governorate: agriculture (39%) and services (28.2%) followed by commerce – hotels and restaurants (14.9%), construction and mining (9.6%), quarrying and manufacturing (4.4%), and transportation (3.9%). There has been an increase in the percentage of the employed persons in the agricultural sector: from 32.4% in 2007 to 39% in 2009 (PCBS, Labor Force – Annual Report 2010).

Tubas Governorate is one of the most important agricultural areas of the West Bank – especially in vegetables and field crop production. During the 2007-2008 growing season it produced more than 7.22% of the total Palestinian production of vegetables, field crops and fruit trees.

As with many areas in the occupied Palestinian Territory, the north-eastern West Bank faces many livelihood challenges resulting from occupation practices including: settlement activities and imposed restrictions on movement military bases and large areas identified as closed military areas permanent checkpoints and unpredictable flying checkpoints and restrictions on establishing the necessary infrastructure for roads, electricity and housing. All of these translate to an abnormal set of restrictions placed on the means people use to sustain themselves and their livelihoods. Movement restrictions and prohibition of infrastructure construction in some areas are particularly damaging to agricultural livelihoods.

## **2. Analysis of the Project's Village Profiles: Base and End-line Surveys**

In order to assess the agro-marketing system in the project's targeted villages, two types of questionnaires were developed: the village profile form and the farmer base and end-line surveys. The village profile questionnaire includes information concerning socio- economics, demography, education, health, services, and occupation practices that are particular for that village. The data for the village profile was collected from many sources: official data from PCBS, MoA, the Tubas Chamber of Commerce, Local Village Councils, cooperatives and community based organizations. This questionnaire was completed twice for each of the targeted villages – both at the beginning of the project (2008) and at the end of the project (2010). Based on the collected data, analysis and comparison were conducted at the community level as well as at the cluster level to evaluate the change between 2008 and 2010.

The farmer baseline and end-line surveys were used to investigate and analyze the livelihood and agro-practices of the project beneficiaries. The data from the end-line survey (2010) was analyzed and compared with the baseline survey (2008) in order to measure the project impact on farmers' production, marketing capacity, best practices, profits and income generation, changes in the production calendar, marketing channels, obstacles and potential to improve production as well as the farmers marketing system in different markets – at the level of targeted communities as well as in individual household.

### **2.1. Integrated Profile of the Targeted Villages**

This section focuses on the demographical, socio-economic, services, educational, geopolitical, agricultural activities, and the natural resources status as well as the development needs of the project's main five villages (Furush Beit Dajan, Bardala, 'Ein El Beida, Wadi al Far'a and Tammun). The discussion will include comparisons between socioeconomic and agro-indicators for 2008 and 2009.

### 2.1.1 Land Use and Population

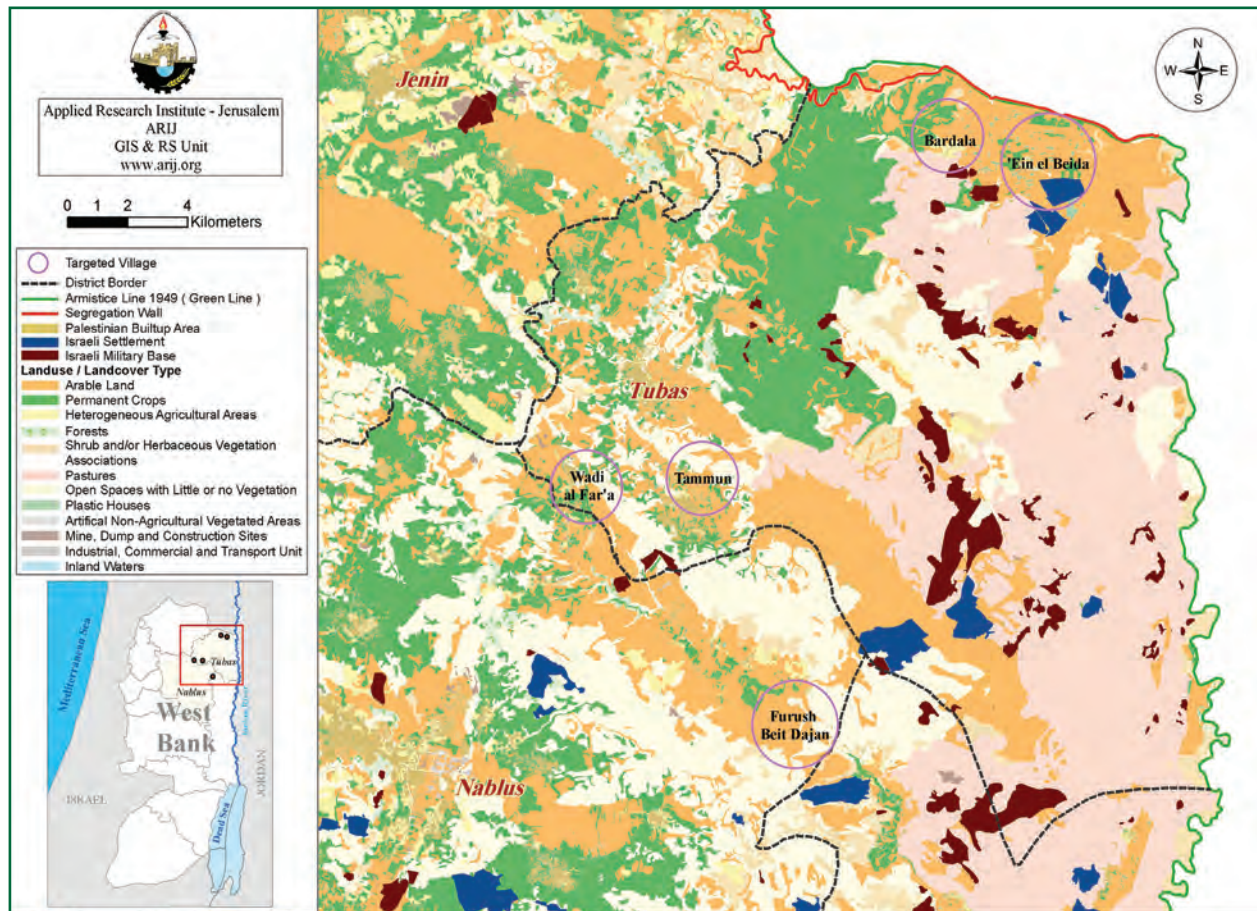
The largest villages by area are Tammun, in cluster 1, with 98,000 dunums, followed by Bardala, in cluster 2, with 26,000 dunums. The smallest village by area is Furush Beit Dajan, in cluster 1, with 11,000 dunums, followed by Wadi al Far'a, in cluster 1, with 12,000 dunums. The Israeli separation wall surrounds the targeted villages in cluster 2 from the east and north, thus creating obstacles for residents to access their lands and farms – preventing them from free mobility and access to the places of their work and basic services (See Map 1, page 5).

The total area of these villages is roughly 172,000 dunums and GIS analysis reveals that their built-up area amounts to 2,101 dunums – of which 1,187 dunums are located in cluster 1 and 1,897 dunums are located in cluster 2. Some of these villages have relatively large total areas, however much of these lands are inaccessible or cannot be utilized because of the occupation practices and land confiscation.

In 2010, the total population of the selected villages reached 18,603 people – 50.56% males and 49.44% females. There are 3,291 households in the selected villages – compared with 2,800 in 2007. The average family size varies from 5.5 persons in Tammun to 6.4 persons in Furush Beit Dajan.

According to the PCBS, the population of the selected villages is an estimated 18,603 persons; 15,552 live in cluster 1 and comprise 28% of the Tubas Governorate population, while 3,051 live in cluster 2 and comprise 5% of the Tubas Governorate. Tammun has the largest population with 11,762 people and Furush Beit Dajan has the lowest population with 769 persons. The land use and land cover analysis using GIS technology shows that Tammun has the largest built-up area with 1,446 dunums followed by Wadi al Far'a (234 dunums), Furush Beit Dajan (163 dunums), Bardala (86 dunums) and 'Ein El Beida (83 dunums) (See Map 2).

**Map 2: Land use/ land cover analysis for Tubas Governorate including the targeted localities**



### 2.1.2. Economic Status

Agriculture is the main economic activity within the selected villages; the results of the end-line surveys conducted by ARIJ & ACF in these villages show that the agricultural sector is the main employer and the main source of income for these people – it employed 58.75% of the communities' labor force in 2009 (very similar to the data from 2008). This is followed by 14.5% of the population working in Israel and 2.6% are employees. Notably, the average percentage of workers in Israel reduced from 20.7% of labor force in 2008 to 14.5% in 2009. This reduction of the working force in Israel was noticed in all the targeted villages due to the increased Israeli procedures and restrictions on issuing working permits for the Palestinian workers except Tammun which maintained 20% of its labor force working in Israel (See Table 1).

The village profile surveys show that Wadi al Far'a, Bardala, Furush Beit Dajan and 'Ein El Beida villages depend on agricultural activities more than Tammun.

Table 1: Percentage distribution of employed persons by economic activity in the selected villages							
Locality	Agriculture	Industry	Commerce	Services	Working in Israel	Employees	Total
<b>Cluster 1</b>							
Tammun	35	5	10	3	20	17	100
Wadi al Far'a	95	2	3	0	0		100
Furush Beit Dajan	95	0	0	0	4	1	100
<b>Cluster 2</b>							
Bardala	80	0	0	0	10	10	100
'Ein El Beida	90	0	0	2	8		100
<i>Sources: the village profile surveys conducted by ARIJ and ACF, 2010.</i>							

### 2.1.3. Education

The village profile survey reveals that there are 15 schools in the selected villages – of which, 4 are located in cluster 2 and 11 are located in cluster 1 (this correlates with the population number from each). There are 4 boys' schools, 5 girls' schools, and 6 mixed schools with 5,181 pupils – an 11% increase from 4,665 pupils in 2008. Despite the fact that two new schools were built in the targeted villages during the last two years, the average number of students per classroom is still high (up to 34 students per classroom); however, this is better than the 41 students per classroom in 2008.

**The main obstacles that face the education sector in the targeted villages are the following:**

- 1) Shortage of schools and classrooms (34 students per classroom).
- 2) Shortage of infrastructure inside the schools (sewage networks, sanitation facilities, and canteens).
- 3) Obstacles to teachers' mobility, especially for those who come from outside the villages – due to the closures and existing military checkpoints.
- 4) Local cooperation with educational institutions is weak.
- 5) Decline in the number of students due to economic situation.

### 2.1.4. Health

The total number of existing health clinics increased from 19 to 20 between 2008 and 2010 (the new clinic was established by the Ministry of Health). Still, the targeted villages face a shortage of the existing healthcare services. Most of the operating clinics in these villages are working only on a part-time basis. Of the 20 health clinics in operation, 16 are in cluster 1 and 4 are in cluster 2. Six of the clinics are supervised by the Ministry of Health and 15 are operated by private



physicians. Most of them open in the evenings because the doctors work full-time in hospitals or other health organizations. Furush Beit Dajan village has no health clinics and residents must get their health services from nearby villages.

The available health services in these villages are insufficient and need development. Most of the clinics are simple and lack primary health services. Of the 5 villages, only Tammun and Wadi al Far'a have pharmacies. Currently, there are only three medical labs; however, ambulances and emergency rooms are still unavailable. The people of the selected villages depend heavily on nearby cities such as Nablus, Jericho and Tubas for their health services.

### **2.1.5. Main Institutions**

Because the selected localities are small, only one of them is administrated by a municipality (Municipality of Tammun), while the other four are administrated by village councils. There are 19 social and agricultural institutions and cooperatives in these villages – 11 in cluster 1 and 8 in cluster 2. Additionally, a new packing house for herbs was established by the Tammun Agricultural cooperative as well as Al-Khezaran agricultural company for producing and exporting herb was established in Wadi al Far'a.

### **2.1.6. Accessibility of Public Services**

Provision of main services (water, electricity and telecommunications) and connection have not improved since 2008 and access to these services is discontinuous. Tammun village (cluster 1) is unconnected to the public water network while the other localities are connected. All of the villages are connected with the electricity network except Furush Beit Dajan. Tammun and Wadi al Far'a are connected with a telecommunications network, while Bardala and 'Ein El Beida are not.

### **2.1.7. Roads Networks and Transportation:**

Despite the poor quality of existing roads in these communities, the last two years have witnessed an increase in good paved roads (5 newly-paved roads) while the number of unpaved roads decreased to 43. Out of 135 km of existing roads in the targeted villages, 38 km are agricultural roads, out of these only 1 km is considered to be well paved, 2 km are baldly paved and 35 km are unpaved.

All villages have indicated that they suffer from Israeli military barriers and roadblocks – a major obstacle to their transportation – and many have reported a scarcity of serviceable vehicles as well as poor roads.

The system of transportation including roads and vehicles is currently weak and there is a lack of an adequate cold-chain transportation mechanism. Accordingly, 20% of the existing agro-commodities transportation vehicles are owned by the farmers, 40% owned by traders and 40% rented vehicles (public transportation).

There are 86 vehicles for agro-commodities transportation with carrying capacity ranging from 1- 15 tons and 50 small vehicles and tractors.

### 2.1.8. Agriculture

On average, more than 58.75% of the villages' residents work in agriculture. The region enjoys warm temperatures and enough water resources for irrigation, which increases the productivity and the number of planted crops in these villages. The crops planted within the studied villages include: fruit trees (such as citrus orchards), field crops (such as wheat, potatoes and dry bulb onions) and vegetables (like cucumbers, tomatoes, peppers, squash, eggplant, beans, cauliflower, okra, etc).

The total area of the selected villages is approximately 170,817 dunums, most of it is arable land and suitable for cultivating different crops. In 2008 a total of 42,300 dunums in all targeted villages were cultivated, whereas in 2009 about 45,637 dunums were cultivated, of which 32,427 dunums are in cluster 1 and 13,210 dunums are in cluster 2. This represents an increase of 3,337 dunums from one year to the next. The villages were selected based on their urgent needs for improving their cultivation practices and livelihoods. In addition to the fact that they are affected by occupation practices and they are surrounded by military checkpoints.

Field crops formed the largest cultivated area with 51%; followed by open field with 27%; then fruit trees with 14%; and finally the greenhouses with 4% of total cultivated area in 2009. The main fruit trees in Tammun are olive trees and figs; Wadi al Far'a and Furush Beit Dajan cultivate mainly citrus orchards; and Bardala has citrus and dates plantations (See Figure 1).

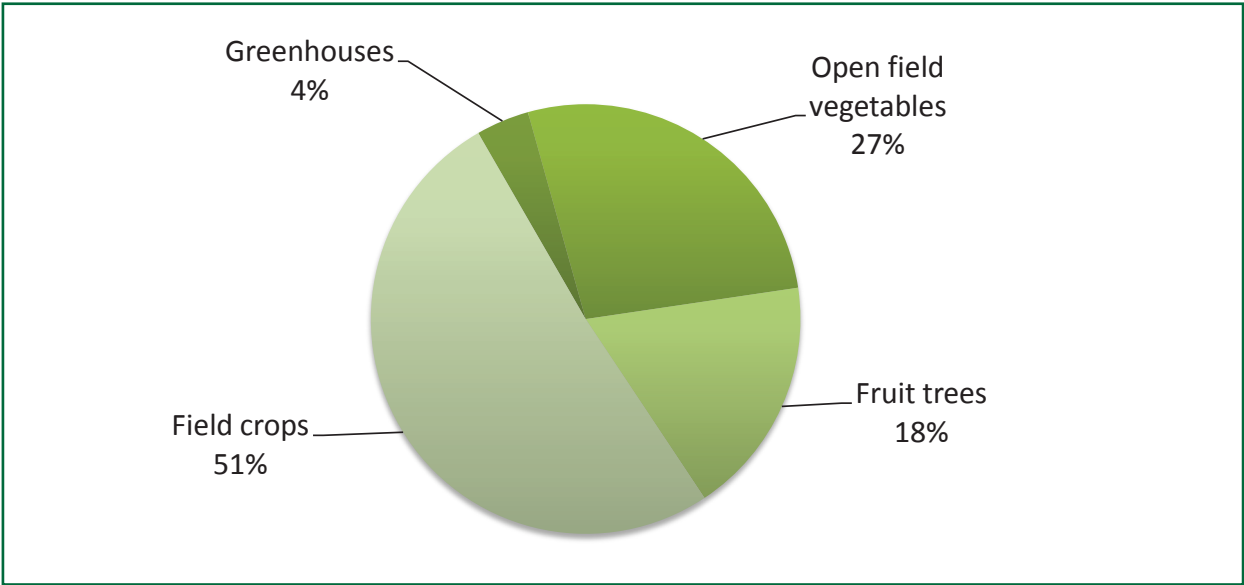


Figure 1: Percentage of cultivated area by crop type in the targeted villages in 2009

Residents of the selected villages also breed livestock – namely sheep, goats, cattle, and poultry. The village profile surveys in 2010 reveal that the villagers own: 25,000 sheep heads, 7,200 goat heads, 1,620 cattle heads, 97,000 chickens, and 3,135 beehives.

There was a noticeable increase in the number of animals (except poultry) compared with 2008. This increase is because of the reduction in the cost of feed, which during 2007 and 2008 was abnormally high. During these years livestock breeders were forced to reduce or sell their livestock due to the high feed prices, but were able to re-establish their flock size in 2009. (Source ARIJ-ACF village profile 2010)

Notably, women participate actively in the agricultural sector. In some villages, women even play a greater role than men. This sector needs more care as well as advanced veterinary services and breed improvement activities.

### **2.1.8. Impact of occupation practices**

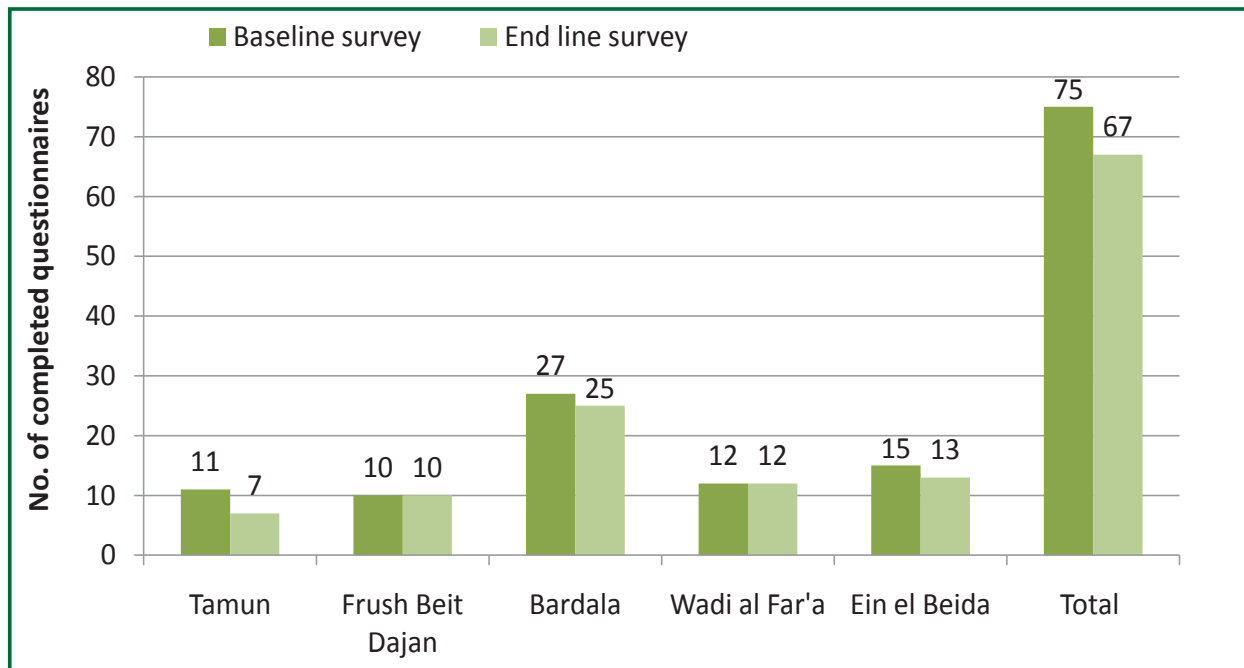
As shown in map 3 on page 53, Israeli settlements and unilateral segregation practices have affected these five villages. The Separation Barrier surrounds and crosses through the land of some villages (Bardala and 'Ein El Beida), isolating roughly 5,000 dunums on the other side of the Barrier. In addition, large areas around the targeted villages are considered closed military zones where Palestinian farmers and shepherds are not permitted to cultivate or graze their animals.

There are three permanent Israeli military checkpoints in the study area: Alhamra checkpoint located on Frush Beit Dajan administrative land, which isolates the lands of the Jordan Valley from Nablus and Tubas, Tayaseer Checkpoint on Bardala land, which isolates the Jordan Valley from the Tubas city, and Bisan checkpoint (agricultural entrance), that isolates the Jordan Valley from Israel.

## **2.2. Analysis of Household Base and End-line Surveys**

### **2.2.1. Base & End-Line Survey Methodology**

One of the main project objectives was to assess the socio-economic conditions in these villages to measure the impact of the project's activities on the agro-production and marketing system in these communities at the household level from the beginning until the end of the project period. ARIJ, with the support of ACF, conducted this survey through 75 baseline questionnaires that were completed in 2008 and 67 end-line questionnaires that were completed – with the same farmers – in March, 2010, in the main villages. Figure 2 presents the distribution of completed questionnaires in terms of type and locality. The total number of the project beneficiaries includes 250 farmers and the baseline and end-line surveys covered 30% and 26% of them, respectively. The difference in the number of completed baseline survey and the end-line survey questionnaires was due to social issues rather than technical problems.



**Figure 2: Distribution of completed Base & End-line questionnaires Survey in Different Targeted Communities**

The completed questionnaires were revised and analysed; then a comparison between the baseline and end-line surveys was conducted. This analysis reviews the difference between the baseline results and the end-line survey based on the beneficiary households' socio-economic situations in these villages.

### 2.2.2. Base & End Line Analysis

In the time between the baseline surveys and the end-line surveys, many external factors affected the farmers' lives and agro-production and agro-marketing activities occurred. The baseline witnessed the Jewish fallow year – where many of the Israeli farmers leave their land fallow for a year. By the beginning of 2009, Israeli farmers started replanting their fields bringing back competition between the Israeli and the Palestinian products – thus reducing the opportunity for marketing Palestinian agro-commodities inside Israel. Also, the surpluses from Israeli produced commodities (whether good or poor quality) impacted Palestinian markets with cheap prices that affected Palestinian product prices. Another factor that affected the situation was the restricted opportunities to export to international markets due to ongoing political conditions. Additionally, frost and wind events caused partial damage to crops and some of the greenhouses.

One of the major factors that directly affected agriculture was the prevailing drought conditions from winter 2008 until 2009 which caused reduction of water resources for irrigation. For example, the Israeli Water Company reduced the water quantities per farmer in Bardala, Kardala and 'Ein El Beida to almost 50% of its usual water quota (Bardala village council) Furthermore, all the rain fed cultivation, especially field crops, was affected significantly by low precipitation during this period. The olive production in 2009 was the lowest in the last decade

(MOA, 2009). Additionally, the agricultural production input prices (fertilizers, seeds, seedlings and pesticides) increased 4-5% during the last two years. (Sharabati agricultural inputs company, 2010)

### 2.2.3. Household Demographic Analysis

Household sizes vary from two to twenty members, with an average of 7.03 members per household. The total number of the interviewed families' members is 471 persons – of which 53% are males and 47% are females.

The Palestinian Central Bureau of Statistics published its 2007 Population, Housing, and Establishment census, which indicates that the average household size in the Tubas District is 5.8 persons per household. This is lower than the calculated average from the base and end-line surveys, which suggests that the rural families are large extended families.

### 2.2.4. Household Labor Force

A total of 136 individuals in the interviewed households are employed which accounts for 29.3% of the total surveyed households' population, and 2.02 persons per household. This shows a slight improvement in the employment rate by household compared with the baseline period (2008) which was 26.4% of the total surveyed persons were employed (1.9 persons/household).

It is worth mentioning that 92.42% of the interviewed beneficiaries (household heads) are plant production farmers and the remaining 7.58% work partially in services sector, transportations or employees (See figure 3).

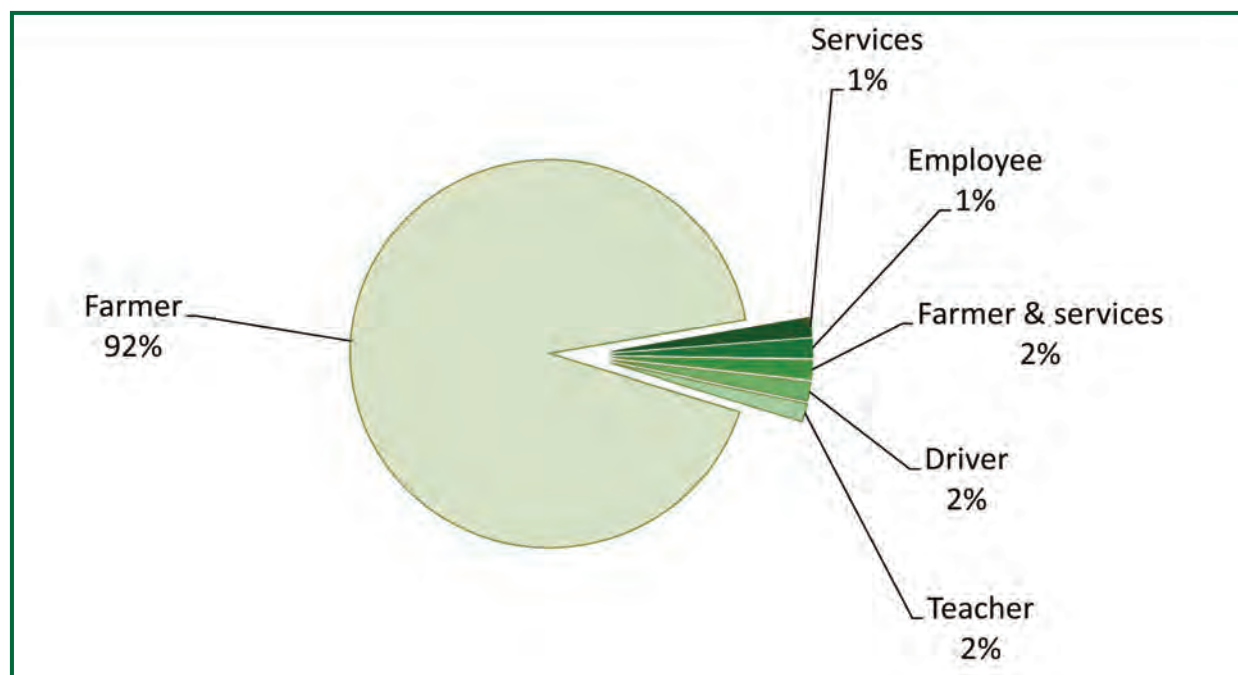


Figure 3: Percentage of households' labor-force by type of work

The analysis showed that 81.6% of the existing labor forces in the surveyed households are working in agriculture, while the rest are divided as follows: 5.1% are employees, 13.3% are workers and services. Comparing with the baseline survey, the percentage of farmers increased 20% in the end-line survey of which 10% came from workers, services, and employees. Thus, there has been a shift in the type of work toward agriculture.

The distribution of those who are actively involved in the labor force can be classified by place of work: 97% of the employed labor forces work inside their communities or in the Tubas Governorate, 2.3% work in the rest of the West Bank and only 0.7% work in Israel. The comparison between the baseline and end-line surveys shows a sharp reduction in the percentage of workers in Israel from 4% in the baseline survey to 0.7% in the end-line survey which affect the income of the project beneficiaries and reduce their employment opportunities.

### 2.2.5. Income Sources

The primary source of income for the interviewed households is from agricultural activities. A total of 64 of the interviewed household mentioned that the agricultural activities are their main source of income. According to the project end-line survey, the average contribution of agricultural sector in the family income is 1936 NIS per targeted household from net income on monthly basis; the average income of other income resources contributes with 488 NIS per household/month.

The survey results show that the average household income from all resources is 2,067 NIS/month. A total of 62.7% of the surveyed households receive a monthly income between 1,000 and 2,000 NIS.

There has been a decline in the average household income in these localities between 2008 and 2010 from 3,486 NIS/month to 2,067 NIS/month. This reduction is large due to the baseline survey being conducted during the Jewish fallow year – where the demand on the Palestinian agricultural products in the Israeli markets was very high and selling prices were also high in both Israeli and Palestinian markets.

To supplement incomes, a number of the sampled households took out loans. According to responses to the end-line survey, 12 households (17.9%) have taken out one or more loans. The minimum loan value was 3,500 NIS, and the maximum was 131,400 NIS, compared with 23% of the surveyed households in the baseline used to get loans. This reflects some economic balances on the level of net income and real expenses.

When the farmers were asked in the end-line survey if they have any agricultural debt and to which stakeholders; 85% of interviewed farmers mentioned that they have debts (21% from the last season and 79% from previous seasons). 85% of these farmers have debts for agricultural shops, 47% have debts for nurseries, 8%

owe merchants, 5% owe middlemen and 22% have debts or loans for other non-related activities, such as for building a house, or paying electricity/water bills.

Additionally, 37% of the surveyed households through the end-line have found that it is necessary to sell one or more asset in order to cope with their families' needs and compensate the shortage in their income. Accordingly, 22% sold their wives' jewellery, 2.6% sold properties and 12.4% sold other assets: sheep, tractor, greenhouse, which are consistent with the baseline survey findings.

Some households have been forced to sell a part of their assets to cover household expenses. The main reason for selling assets is to purchase food (32%), followed by 28% to pay for educational fees, 20% to cover health expenses, and 20% for paying electricity and water bills.

### **2.2.6. Land Ownership**

Many of the interviewed households cultivate their own lands while the other farmers cultivate the land by others and share the profits. The average land ownership varies from 1 to 150 dunums with an exceptional farmer who owns 500 dunums. The current land ownership is similar to the baseline findings: 30.3% of the land owners own between 1-10 dunums, 20% own land between 11-20 dunums, 48% reported owning land areas between 21-150 dunums and only one farmer (1.7%) said he owns 500 dunums. Generally, there is no significant change in land ownership between the baseline and the end-line surveys.

### **2.2.7. Household Agricultural Production**

Of all the households are engaged in crop production and 16.4% (11 households) own livestock including 313 heads of sheep, 187 heads of goats, 1 head of cattle, and 125 beehives. Compared with the baseline survey, the number of households who own livestock has increased by 5 households and the number of sheep and goats increased significantly since the baseline period. the number of sheep increased by 7,328 heads, goats increased by 4,972, cattle by 860 heads, while There was a sharp decrease in the number of beehives from 3000 to 125 beehives, mainly because of seasonality, diseases, and drought. The annual production average of the targeted households from livestock products is as following: 11,210 litres of milk (from sheep, goats and cattle), 1000 kg honey, and 700 new born heads of sheep and goats. The volume of dairy produced by the surveyed households is adequate to both meet the household consumption needs and provide some for surplus sales in the communities.

Vegetables are the main cultivated crops (both open and greenhouses) with total cultivated area of 1323.5 dunums; this is followed by fruit trees with 361 dunums, olive trees with 215 dunums, field crops and fodder with 200 dunums and 24 dunums of herbs. However, up to 242.5 dunums are left uncultivated because of lacking water, financial resources and limited land inaccessibility primarily due to the effects of the occupation restrictions. Between the baseline survey and the

end-line survey, there was an increase in the cultivated areas of olive trees and other fruit trees as well as the introduction of herb production in greenhouses as well as with open irrigation. Also, we noticed a reduction in cultivated areas of vegetables due to water shortage, drought, marketing challenges and seasonality. Notably, the area of greenhouses was 197.5 dunums (an average of 5 dunums per household – which is the same as in the baseline). There is potential to increase the cultivated area by 242.5 dunums as these lands are currently not cultivated (See Table 2).

<b>Crop type</b>	<b>Base line (A)</b>	<b>End-line (B)</b>	<b>Balance (B-A)</b>
Olive trees	118	215	97
Other fruit trees	51	361	310
Vegetables	1881	1323.5	-557.5
Herbs	0	24	24
Field crops & forages	459	200	-259
Uncultivated agricultural lands	335	242.5	-92.5

The most common plant production system is greenhouse vegetable and herbs production with 3,048 tons produced by 45 farmers. This is followed by open-field vegetable production with 2506.9 tons produced by 47 farmers, 69 tons of other fruit trees are produced by 6 farmers, olive trees with 21.2 tons produced by 7 farmers and, field crops where 2 farmers produced 2 tons.

Between the baseline and the end-line survey, there was a decrease in the total amount of vegetables produced by households. This is due to the prevalent drought conditions as well as the reduction of areas with planted vegetable in 2009. The last two years were the lowest production years for olives within the last decade due to the low precipitation, warm temperatures, drought conditions, and water rationing (See Table 3).

<b>Crops</b>	<b>Average produced - baseline (tons/farmer)</b>	<b>Average produced - end-line (tons/farmer)</b>
Vegetables (open and greenhouse)	115	82.7
Olive	1.36	0.316
Other fruit trees	13.7	8.6
field crops	0.28	0.029



However, the most interesting figures are those reflecting the percentage of this production that each household consumes. According to the baseline survey, the families consumed:

- 76.7% of their produced field crops (cereals and pulses)
- 57.6% of the produced olives
- 3% of the produced fruits and vegetables.

While in the end-line survey, the families reported that they consume the following:

- 100% of the field crops they grow
- 50% of the olives they produce
- 0.97% of their greenhouse produced vegetables
- 1.1% of the open field produced vegetables
- 1% of their produced herbs.

## **2.2.5. Farmer production calendar**

### **2.2.5.1. Open Field Irrigated Agriculture:**

From the 67 households that were surveyed, we found that farmers are cultivating 14 vegetable crops under open field irrigated conditions. The main open field irrigated vegetable is squash, which constitutes the highest produced quantity from the irrigated open field crops (33%) followed by cucumber (28%), eggplant (25%), and potato (12%). The remaining 1.8% of production is distributed among the following vegetable crops: broad beans, beans, corn, radishes, cauliflower, spinach, parsley and coriander.

For the open field irrigated vegetables there are two peaks of production: the first peak, February through May, is the largest consisting of 64% of the annual production of open field irrigated vegetable crops. The second peak of production is during October through December and provides 19.1% of the annual production; the remaining 16.7% of production is distributed among January, June, July, August, and September (the remaining months) (See figure 4).

The production distribution of vegetables in the end-line survey is consistent of the baseline developed production distribution of vegetables under open irrigated conditions.



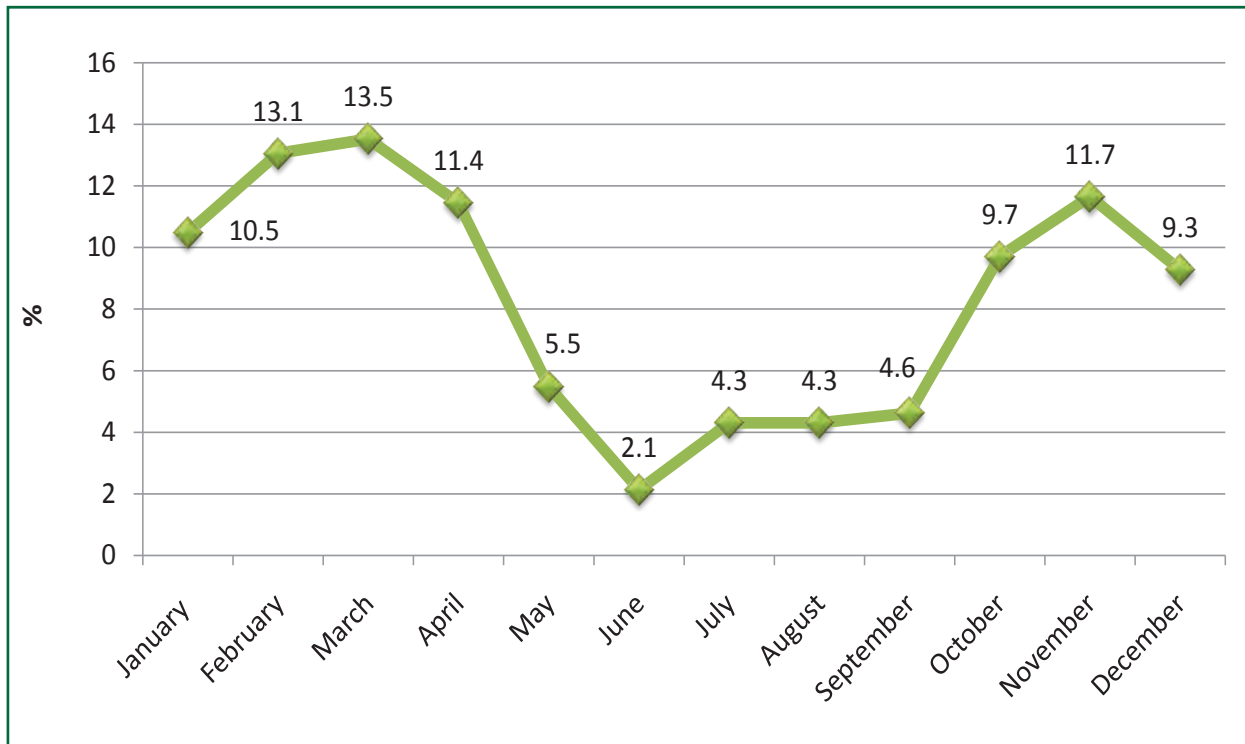
**Figure 4: Open field irrigated vegetable crops production distribution in percentage with time calendar during the year 2009** (Source: End-line survey, 2010)

#### 2.2.5.2. Greenhouse Production

According to the production quantities by crops for greenhouses, there is a total annual production of 3,048 tons for the year 2009. The highest quantity of production is cucumber with 1,676 tons (55%) followed by tomato with 881 tons (28.9%); the remaining production (16.1%) distributed between beans, pepper, eggplant, and a limited area of Jew's mallow (Mulukhiyah).

The production distribution under greenhouses for these major commodities has two peaks of production. The first peak interval is concentrated in January, February, March and April and contributes with 47.6% of the total production; the second interval of peak production is concentrated during October, November and December with 30.7% of the total greenhouse production (See Figure 5).

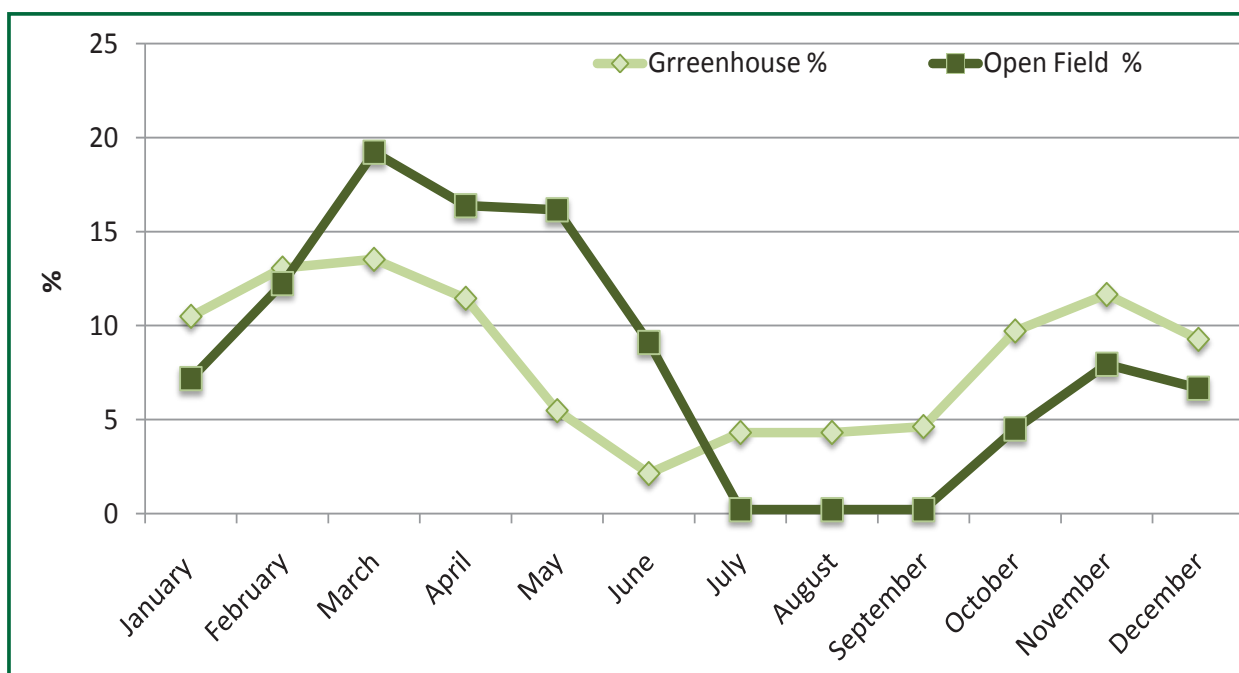




**Figure 5: Greenhouse crops production distribution with time calendar for the targeted communities during the year 2009.**

Comparing the production of both greenhouses and open field irrigated crops, we noticed that both cropping systems operate in parallel; this means that during the peaks of production marketing crises might occur. We found that both production systems have the highest production interval during the months of February, March, and April and during October, November and December they have the second interval. Notably, the production calendar of the end-line survey for open field and greenhouse irrigated crops coincides with the baseline survey (See Figure 6).





**Figure 6: The production of both green houses crops and open field irrigated crops during the year 2009** (source: ARIJ End-line Survey, 2010)

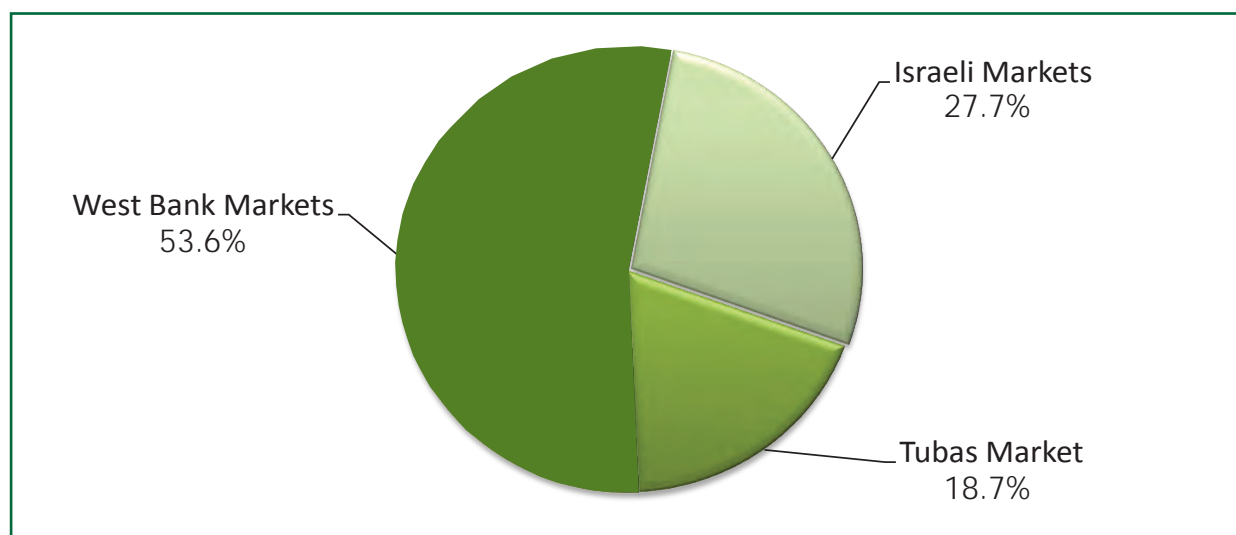
## 2.2.6. Marketing Farm Products

### 2.2.6.1. Crop Marketing Channels

This analysis shows that there are two main marketing channels. The first, the West Bank channels, covers marketed commodities to the Tubas main market and other main markets in the West Bank while the second main marketing channel is the Israeli markets.

The 18.7% of the marketed crops are sold in the Tubas market, whereas the majority (53.6%) of the produced crops are marketed elsewhere in the West Bank; only 27.7% of the produced crops are marketed in the Israeli markets (See Figure 7).





**Figure 7: main marketing channels for produced main crops**

Table 4 shows the sharp decline in the quantities of marketed crops to Israel between the baseline and end-line surveys. This is due to the fact that the Jewish fallow year occurred during the baseline survey and then ended – returning Palestinian marketing opportunities to the normal level.

**Table 4: A comparison between the marketed agro-products to Israel and West Bank markets during the baseline and end-line survey.**

Market	% Baseline survey	% End-line survey
West Bank markets	33.2	72.34
Israel markets	66.8	27.66

*(Source: ARIJ –ACF, 2008-2010)*

#### 2.2.6.2. Crop Diversification:

Of the 67 farmers interviewed, 6 farmers (8.9%) said that they introduced new crops; two farmers introduced strawberries, three farmers introduced herbs and one farmer introduced both. The other farmers who are interested in introducing new crops said that there are problems that face introducing new crops for the reasons listed in the table below:

The main challenges for diversifying production	# of farmers
Diseases and insects	1
Lack of experience	4
The absence of agricultural insurance	1
Marketing problems	21
Shortage of land and water	1
Lack or weak infrastructure and markets for these new crops	1

Marketing is the main problem that farmers face when trying new crops. Thus, the demand-supply chain for each commodity should be analyzed as well as the cropping calendar for each of the planted crops. Crop diversification is an important issue to sustain this sector and improve its products. Figure 8 presents the percentage of marketed agro-commodities to Israel from the total production of each crop during the baseline (2008) and end-line periods (2009). It shows a diversification in marketed agro-commodities and changes in marketing trends.

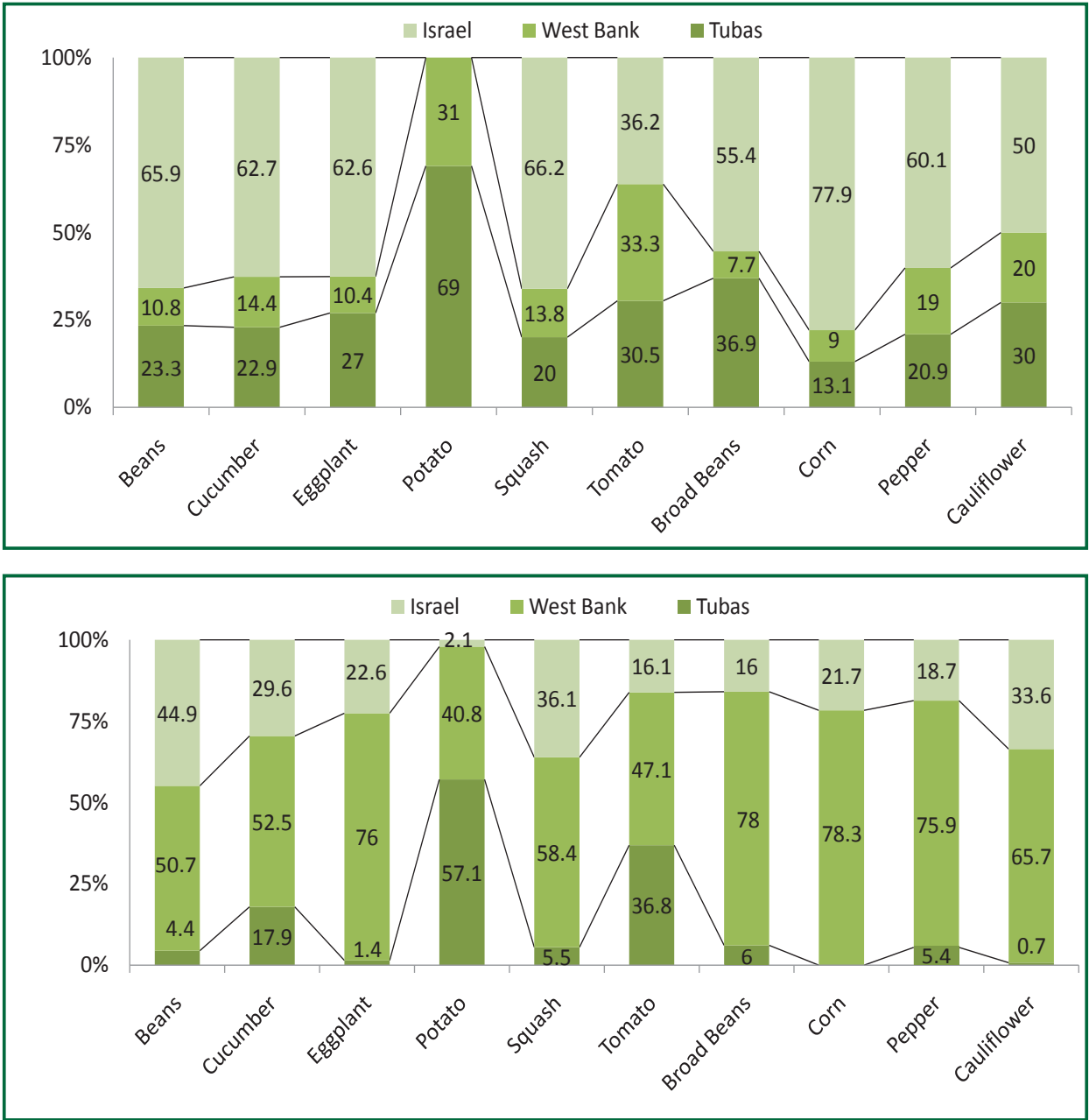


Figure 8: Distribution of produced main crops marketed in Tubas main market, West Bank and Israeli main markets by the surveyed farmers' based on the baseline survey in 2008 (top) and end-line survey in 2009 (bottom).

### 2.2.6.3. Marketing Obstacles:

According to the questionnaire responses, the most commonly cited obstacles have been categorized in three main categories:

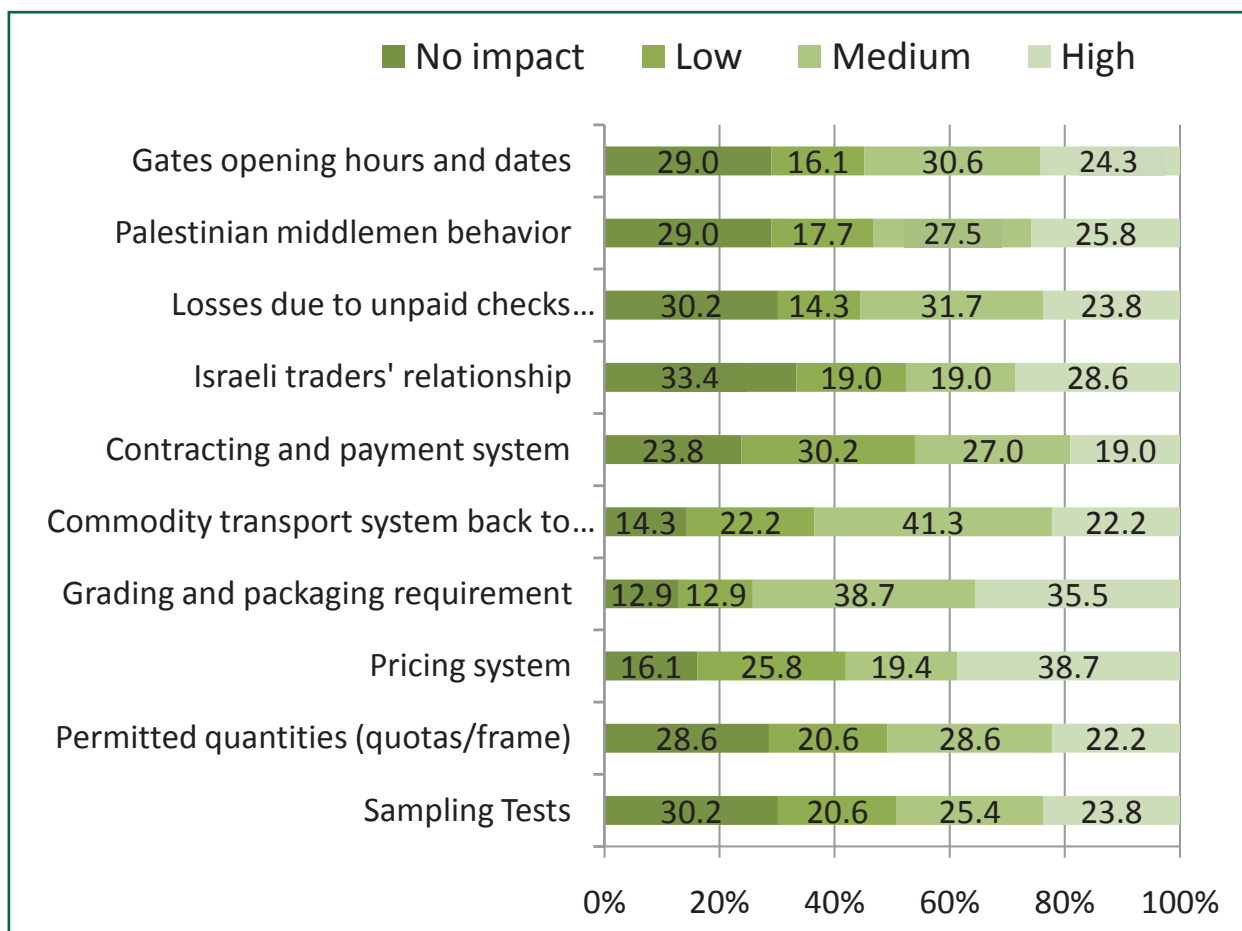
#### *1) Obstacles in marketing the agricultural products to Israel*

Farmers have expressed their concerns regarding their difficulties meeting the required grading and packing standards to market their products in Israel or abroad. They are also concerned about the unfair pricing system which makes them unable to be competitive with Israeli and settlement products. The link to Israeli traders is mainly controlled by strong Palestinian middlemen and/or indirect contacts due to the closed borders and inability of farmers to directly meet Israeli traders. This translates to a weakened bargaining position of Palestinian farmers as they are a captive seller and forced to accept low prices for their goods.

Additionally, agricultural gates are controlled by the Israeli army; the back to back transportation system<sup>4</sup> causes losses to the transported commodities due to rough handling of the products from one vehicle to another and by keeping fresh produce exposed to the sun and hot weather for a long period at the crossing. Finally, limited permitted quantities per farm is allowed to pass through the Israeli agricultural gates by the Israeli civil administration and the Israeli Ministry of Agriculture (See Figure 9).

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<sup>4</sup> The back to back transportation system is where the produce is transferred from one truck to another because of the prohibition of Palestinian vehicles of traveling in Israel. Palestinian vehicles transport the produce to the crossing and after inspection of the commodities by Israeli soldiers and customs' officers; the goods are then transferred to an Israeli vehicle which will then transport the goods to the next destination in Israel.



**Figure 9: Obstacles in facing marketing agricultural products to Israel**

### 2- Obstacles in exporting agricultural products abroad

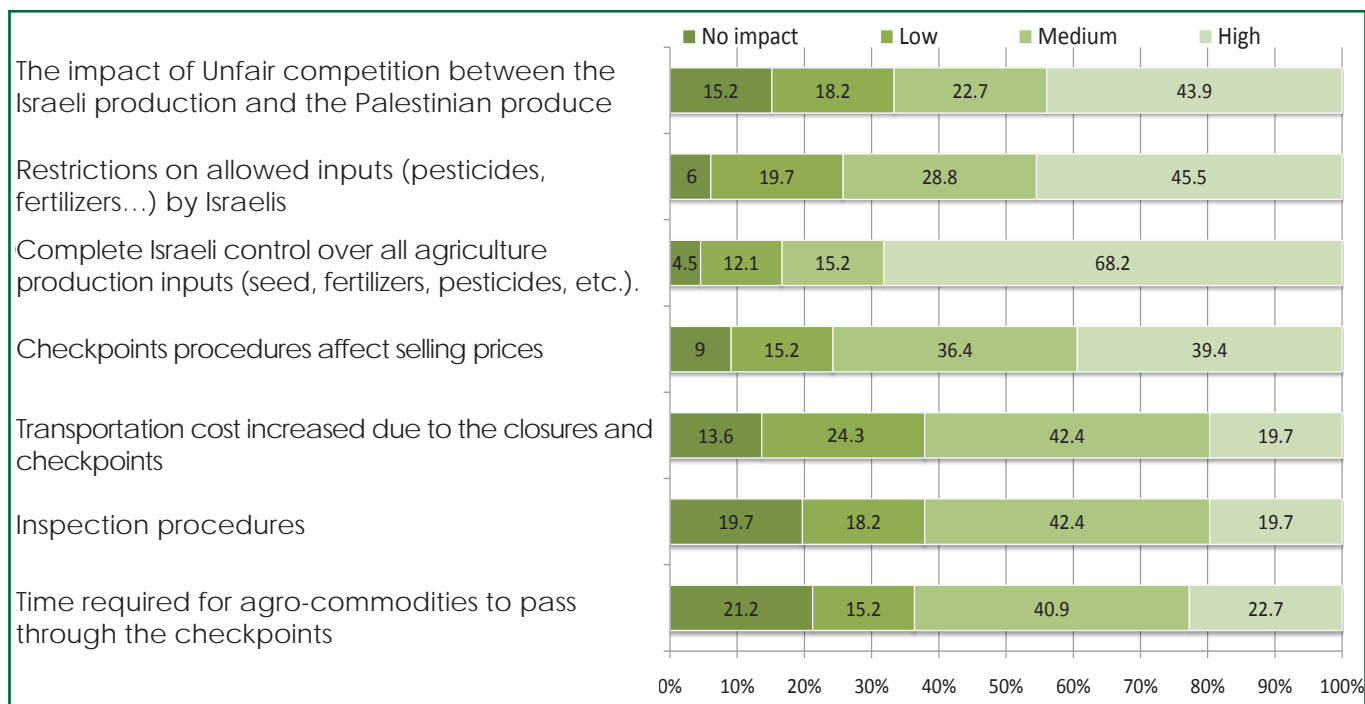
Based on the farmers answers, the major obstacle that faces the exportation of agriculture products abroad is the lack of trust in existing export companies: out of the 65 interviewed farmers , 30 farmers mentioned that this factor as a high risk; 27 farmers mentioned the high cost of grading, packaging, and labelling costs as main obstacles that face the exportation; and 17 farmers believe that the inspection procedures of the Israeli authorities has high impact on the Palestinian export.

### 3- Obstacles in agricultural production and marketing activities inside the West Bank

The obstacle that farmers face during the production and marketing process inside the West Bank is under the near complete control of the Israeli government with regards to the entry of all agricultural production inputs (seeds, fertilizers, pesticides, etc) which affects the availability of these inputs, the prices and even quality to a certain extent. This is considered as a high risk by 68.2% of the interviewed farmers; also, there are restrictions applied by the Israeli Authority on the allowed inputs such as fertilizers and chemicals. On the other hand, 43.9% of the farmers are deeply concerned about unfair competition between the Israeli



and the Palestinian production<sup>5</sup> especially inside the West Bank. 39.4% said that the checkpoints procedures affect selling prices (See Figure 10).



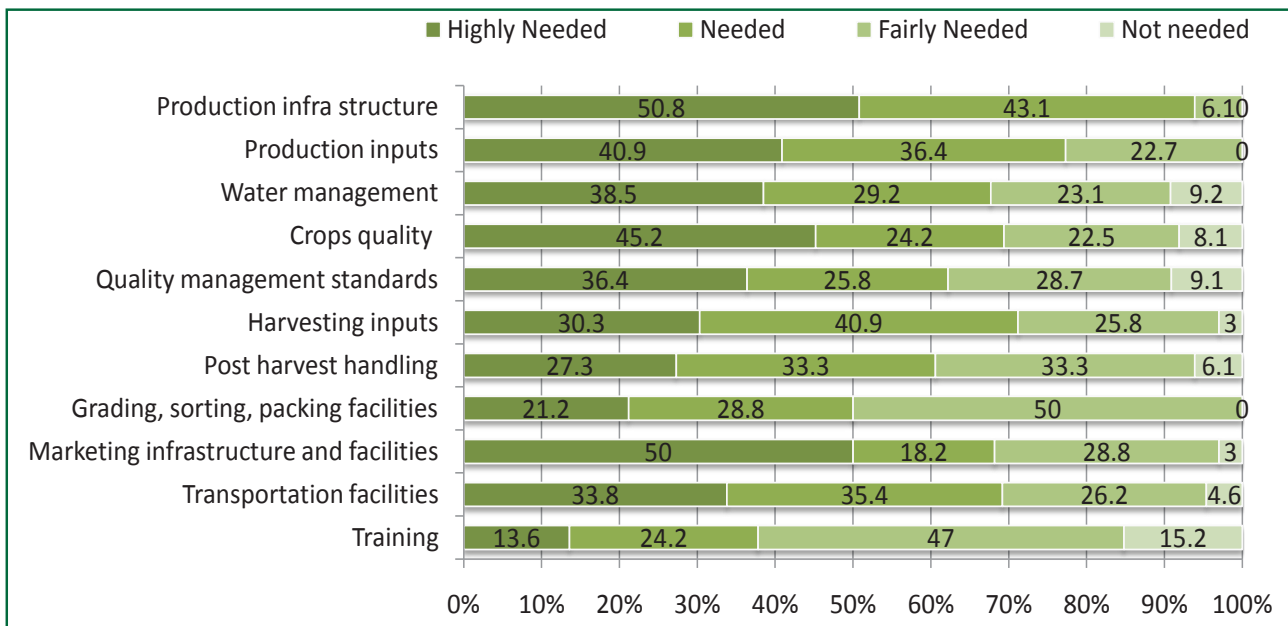
**Figure 10: Obstacles in obtaining a fair price for agriculture products**

### 2.2.7. Farmers Priorities for Agribusiness Improvement and Marketing Enhancement

The surveyed farmers were asked to prioritize their needs in order to develop their agribusinesses. The farmers' priorities (highly needed to needed) focus on the availability of production infrastructure (93.9% of the interviewed farmers) as well as production inputs (77.3%), harvesting inputs (71.2%), improving crop quality (69.4%), transportation facilities (69.2%), and marketing infrastructure and facilities (68.2%), respectively.

The priorities of the surveyed households to improve their marketing process showed that water management, improving quality management standards, produce harvesting techniques and facilities, improving post harvest handling procedure, providing grading, sorting and packing facilities and provide specialized and professional training for the farmers are at a lower percentage as presented in Figure 11.

<sup>5</sup> For instance, farmers in Israel and in the settlements have a much more consistent supply of water even in the dry season and water is supplied at a lower cost in some areas. Settlement farmers also have access to a wider range of agricultural inputs, and inputs subsidy. This translates to a higher quality of produce at a lower production cost thereby giving the products grown in the settlements and Israel a disproportionate marketing advantage over the Palestinian products.



**Figure 11: Farmers' priorities to improve their agro-marketing activities**

### 3. Marketing System and Channels in the Northern Jordan Valley

#### 3.1. Background

Marketing systems and channels are the key elements for marketing the agricultural commodities. Also, they are affecting all the marketing stakeholders starting from the farmers, cooperatives, middlemen, traders, exporting companies, food processing factories and finally to the consumer. Accordingly, proper marketing systems and marketing channels can ensure that a suitable product is available at the proper time with suitable selling prices.

Marketing channels are the systems which transfer the goods from the producer to the final consumer, through a chain of intermediates. There are many tasks for these marketing channels:

- 1- Lower the costs of goods distribution;
- 2- Act as communication channels – the mediators act as centers of information for the product(s);
- 3- Mediators promote the goods they are dealing with;
- 4- Help in determining the proper price for the goods which is acceptable by the consumer.

## 3.2. Agro-marketing destinations

There are three main markets for the Palestinian fresh agriculture products:

**3.2.1. Local market:** wholesale markets throughout all the West Bank Governorates.

**3.2.2. Israeli market:** either through Israeli, Arab-Israeli, or Palestinian merchants, or directly by the farmer.

**3.2.3. Export market:** European markets, US markets, Russian markets and Arab markets.

### 3.2.1. Local markets

55.8% of the farmers' products are sold to the local markets, through different ways:

**A) Farm gate:** occurs through merchants who come to the farm and buy the products from the farmer directly and pay him in cash. The farm gate prices are usually lower than the main wholesale market selling prices but it is preferable to the farmer because there are no market fees (paid to the municipality and the middlemen) and no transportation costs. This method has declined in the last years due to restrictions imposed by the occupation on the movement of the people including merchants.

**B) Wholesale Markets:** there are many wholesale fruit and vegetable markets in the West Bank Governorates (Jericho, Tubas, Nablus, Beta, Qabatia, Hebron, Halhul, Bethlehem, Ramallah, Jenin, Jalama, Tammun, Tulkarm and Qalqiliya).

The farmer has to transport his products to the market and middlemen in the wholesale market sell the farmers' products to merchants in the market and received a certain percentage of the total selling price in addition to the municipality fees. This way, the farmer can sell all of his products and can get some money from the middleman to cover the costs of lands preparation for the coming season.

**C) Through merchants:** Some merchants buy and collect the farmers' products in a certain place close to the farms. This method saves some of transportation costs, commission, and save time for marketing. But it is marketing certain quantities and certain crops (not all farmers' products). In some cases the merchant pays the farmer in advance to cover his family and farm expenses.

**D) Direct selling to the consumers:** some small-scale farmers in the West Bank sell their products directly to the consumers whether onsite at their farms or at the corners of main markets (this is only suitable for small quantities of crops and mainly local varieties). It requires time for selling, but it has good return for the farmer.

**E) Contractual marketing:** This marketing mechanism fits with certain crops (processing crops: cucumber for pickling, tomato for tomato paste, eggplant for pickling, etc.). In this approach a contract is signed between the farmer and the factory to produce a certain quantity of product with certain specifications on certain dates for a certain price. The farmer may get an advance payment to cover part of the production cost.

### 3.2.2. Israeli Markets

The selling prices for farmers in the Israeli markets are better or equal to the local market prices, but they have difficult standards that must be met and other complex restrictions and limitations. The marketed products must be analyzed for pesticide residues and microbial contamination. The farmer of the approved agro-commodities samples can market this product to Israeli market, but only with a limited number of boxes according to the area he planted with that crop per day. For example, a farmer can market to Israel between 40-60 boxes of tomato/dunum/day, 40-60 boxes of cucumber/dunum/day and 10 boxes of squash/dunum/day during the production season and based on the approval of the custom inspectors at the crossing points.

**There are several systems of marketing to Israel:**

- A) Through a Palestinian middleman;
- B) Through Israeli Merchants who can buy from farmers who have their own names on the entrance.

### 3.2.3. Export markets

To export through Israeli companies to Europe, the USA, and Russia, certain procedures are required and constraints are imposed by the Israeli authorities which limit the marketing opportunities. Palestinian export companies were established recently and they have practiced direct exportation especially to Arab countries through Jordan.

## 3.3. Marketing chains at the local level

There are a variety of marketing chains that exist between the farmer and the consumer with varying lengths and actors, such as the following:

- Farmer – consumer
- Farmer –middleman or merchant – consumer
- Farmer – middleman – merchant – consumer
- Farmer – middleman – merchant – factory – merchant – merchant – consumer

It is preferable to shorten the marketing chain as much as possible in order to reduce the transaction costs associated with each step thereby leading to

a greater profit for the farmer. Shorter marketing chains ensure that the commodity reaches the market more quickly preserving its freshness and quality. Furthermore, the shorter the marketing chain the lower opportunity for crop losses.

To better understand the existing marketing systems and channels at the locality level in the targeted villages, five workshops were conducted with the participation of the farmers through which farmers working groups were formulated to discuss the marketing systems and channels in their areas on collective and individual basis. A total of 67 farmers participated in the workshops and in a special survey about the marketing systems and channels individually. Each farmer had the opportunity to present his marketing channels and discusses the benefits and disadvantages of each channel and gives their recommendations through the conducted workshops and the completion of the provided forms. The collected results, based on the conducted analysis and discussions by all participants are presented in the following table. The cooperative farmers are mainly marketing large percentages of marketed commodities in wholesale markets (50% for Wadi al Far'a, 70% Tammun) and through Palestinian wholesalers to Israeli merchants (75% of Bardala, 55% of 'Ein El Beida and 30% of Furush Beit Dajan products). See table 5

<b>Table 5: Different marketing channels at the locality level</b>					
<b>Existing marketing channels</b>	<b>Wadi al Far'a %</b>	<b>Tammun %</b>	<b>Bardala %</b>	<b>'Ein El Beida %</b>	<b>Furush Beit Dajan %</b>
Farmer - consumer	0	0	0	0	0
Farmer - wholesale market - consumer	50	70	10	12	10
Farmer - middleman - wholesale market		25	10	13	
Farmer - retailer - consumer	10				
Farms- wholesaler - retailer - consumer	40			5	50
Farmer - Palestinian merchant - consumer				2	
Farmer - Palestinian wholesaler-Israeli wholesaler		5	75	55	30
Farmer - Israeli merchants			5	15	
Farmer - Israel Central Market					9
Farmer - middleman - export company					1
<b>Total (100%)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## 4. Microbial and Chemical Residues Test

One of the project's activities was to conduct microbial and chemical residue tests for the farmers' agro-products, organic fertilizer and irrigation water through analyzing the level of the chemical residues and biological contamination in these three important components in the agro-production system.

Therefore, a total of 296 samples from 49 farms were collected from agro-products, irrigation water and the organic fertilizers and analysed. Half of the tests were conducted in November 2008 and other half in November 2009 in order to measure the impact of the project on farmers' awareness and capacity in terms of improving the quality of their products.

### 4.1. Sample collection:

The first round of microbial and chemical residue analysis for the collected samples was conducted by BACTOCHEM Laboratory (Israeli accredited laboratory). The project engineers were trained by the laboratory specialist how to collect the samples (vegetables, organic fertilizer, and irrigation water) from the beneficiaries' fields in all project locations. The second round of quality analysis was analysed by another accredited Israeli laboratory named Amino Laboratories as there is no accredited laboratories in the West Bank. The second round of sampling was conducted by the project team based on the provided training and improved practices. Table 6 presents the distribution of the first and second rounds of collected samples by type.

Type of test	First Round	Second Round
	No. of collected samples	
Vegetable Microbiology	49	49
Vegetable Pesticide Residue	57	57
Organic Fertilizer	26	26
Water Microbiology Examination	16	16
Total number of Samples	148	148

### 4.2. Chemical and Biological Analyses and Results

Several types of analysis were conducted for the collected vegetables, organic fertilizers and irrigation water samples. The following section presents these performed tests and analyses.

The following tests were carried out:

- **Vegetable microbiology** – total coli form count, fecal coli form count and E. coli count
- **Organic fertilizer** – E. coli count
- **Vegetable pesticide residue** – 57 GC/MS pesticide residues tests and 6 LC/MS pesticide residues tests
- **Water microbiology** – aerobic colony count (ACC), total coli form count, total fecal coli form count, and Salmonella

#### 4.2.2. Results of the analyses

The results from the conducted biological and chemical tests are presented in table 7 for the two rounds. The results from microbial tests were acceptable for the tested vegetables, organic fertilizers and irrigation water. While the pesticide residue analysis for vegetable fruits showed almost no difference between the two rounds, the percentage of failed samples increased from 49.2% to 54.4% for the pesticide residues in vegetable samples and from 30.0% to 46.2% for organic fertilizer microbial test for the first testing round and the second testing round, respectively. See table 7

The increased microbial contamination of organic manure was due to the fact that the Israeli government restricts the movement of manure from Israeli to Palestinian farms. This makes the Palestinian farmers use lower quality manure as organic fertilizer which has a higher tendency to be poorly processed and hence contaminated. Regarding the chemical contamination by pesticides residues, as we see in the table 8 in the section below that Bromopropylate (Acaricide) was the main detected pesticide, and in spite of training and raising this issue with the farmers and cooperatives, they continue to use it due to its availability, efficiency and low price. Furthermore, farmers lack viable and accessible pesticide alternatives. Many pesticides are not permitted entry into the West Bank or are prohibitively expensive therefore farmers continue to use chemicals which are banned despite the risk of not being able to market their produce in Israel.

Type of test	First round analysis (BACTOCHEM Laboratory)		Second round analysis (Amino Lab)	
	Passed		Passed	
	No. of Samples	%	No. of Samples	%
Vegetable Microbiology	44	89.5	48	98
Vegetables pesticide residue	29	50.8	26	45.6
Organic fertilizer	18	69.2	14	53.8
Water microbiology	9	56.2	16	100

The main pesticides residues detected in the vegetable fruits were analyzed and their trade names and classes of use with the special notes provided by BACTOCHEM Laboratory and Amino Laboratory are presented in table 8.

<b>Table 8: The pesticide residues in the analyzed vegetables</b>				
<b>Crop</b>	<b>Active Ingredient</b>	<b>Trade Name</b>	<b>Class</b>	<b>Notes (According to both Laboratories)</b>
	<b>Methoxyfenozide</b>	<b>Intrepid</b>	<b>Insecticide</b>	<b>Molting hormone agonist</b>
<b>Cucumber</b>	Bromopropylate (P)	Neron250	Acaricide	not registered for use for cucumber in Europe and Israel
	Kresoxim-methy	Strobin, Sovram	fungicide	
	Bromopropylate	Neron250	Acaricide	not registered for use for pepper in Europe and Israel
<b>Pepper</b>		Bogard,	Fungicide, Bactericide	not registered for use for pepper in Europe and Israel
			Difenoconazole(P)	Score
	Metominostrobin	Strobin, Sovram	Fungicide	
	Chlorpyrifos-Ethyl	Dorsban	Insecticide	
<b>Bean</b>	Carbofuran	Carbamate	Insecticide	
<b>Tomato</b>	Bromopropylate ((P	Neron250	Acaricide	not registered for use for tomato in Europe and Israel
	(Fenazaquin(P	Magister	Insecticide	not registered for use for tomato in Europe
	Kresoxim-methyl	Strobin, Sovram	Fungicide	
	Propargite	Omite	Insecticide, Acaricide	
	Dicofol	Acarin, Cekudifol, Decofol, Dicaron, Dicomite, Difol, Hilfol, Kelthane, and Mitigan.	Insecticide, Acaricide	
	(Cypermethrin(P	Cymbush, Cmshofr, Siperin, titan , tarsip, sherbaz	Insecticide	
	Fenarimol(P)	Rubigan	Fungicide	not registered for use for tomato in Europe and Israel
Triadimenol(P)	Shavit	Fungicide		



## Part II: Studies on Agro-Marketing Systems in the West Bank

### 1. Marketing Standards and Certification System for the Palestinian Agricultural Products

#### 1.1. Background

In the last decade many certification systems were developed for fresh agricultural products, some of them have been introduced to Palestine recently. Accordingly, this study aims to survey and analyse the main components of the quality certification system for agriculture products existing in Palestine. It also aims to evaluate the functionality and efficiency of these systems, their advantages and challenges facing Palestinians, producers and/or institutions, which deal with certified Palestinian products.

Marketing standards were developed based on agreed procedures and based on the needs of each stakeholder; thus it arranges the production and marketing process from the production point to the consumer as an end user. Therefore, the following items highlight the importance of marketing standards:

#### **A-Benefits of standards:**

- 1- Assure quality.
- 2- Build trust between producers, traders, and consumers.
- 3- Increase profitability.
- 4- Decrease PHL (post harvest losses).

#### **B-Main Marketing Standards:**

- Quality Standards Include:
  - Obtaining the quality certificates. Thus shows the quality requirements which are followed in the production process
  - Crops must be fresh.
  - Physical quality characteristics (color, maturity level, cleans, etc.).
  - Size and weight.
  - Uniformity.
- Health Standards Include:
  - Crop health (free from pests and damage)
  - Free from any hazardous materials which might affect human or animal health (chemicals, microbes, etc.)
- Environmental Standards

- Grading, Packaging, and Labelling Standards
- Transportation and Storage Standards
- Pricing Standards

## 1.2. Survey of the main certification systems

### 1.2.1. Survey Methodology:

Two types of questionnaires were developed by the ARIJ staff to collect the required information for this study. The first questionnaire was directed towards the producers who applied for quality certification systems. The second was directed towards the institutions working in marketing promotion, capacity building, inspection and certification systems. Accordingly ARIJ's field surveyors completed 101 questionnaires from the first type (95 farmers, 2 companies and 4 cooperatives) and 6 questionnaires from the second type (1 governmental body and 5 companies), from 21 different localities in the West Bank. The analysis of the completed questionnaires and the conducted interviews revealed that several types of quality assurance and marketing standard certification systems for fresh products that exist in the occupied Palestinian territory (oPt).

### 1.2.2. Analysis and results

There are five certification systems for agriculture and food products in the occupied Palestinian territory. The most common certificate held by Palestinian farmers is the GLOBALG.A.P, followed by organic certificate, FLO certificate, HACCP certificate and the least common certificate held by farmers is the Halal certificate. The main certified crops and commodities are tomatoes, olive oil, pepper, peas, onion, mint, and guava. (See figure 12)

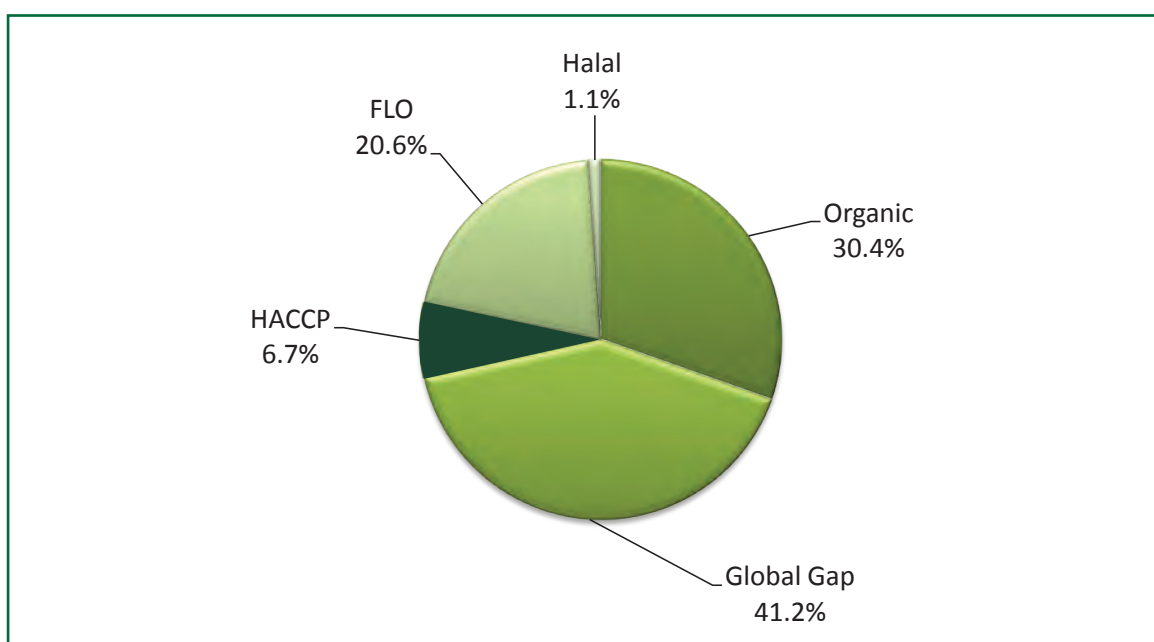


Figure 12: Distribution of certification systems in West Bank by type in percentages (ARIJ-ACF study-2010)

**The characteristics and specifications of existing agro-marketing certification systems are described briefly below:**

### **1. Organic Agriculture**

Organic farming is the process of producing food naturally without the use of synthetic chemical fertilizers and genetically modified organisms to influence the growth of crops. More than 15 traditional local crops were surveyed as organically produced crops and commodities in the occupied Palestinian territory. This list includes olive oil, almond, medicinal herbs (sage, thyme), grapes, and cactus.

### **2. GLOBALG.A.P**

GLOBALG.A.P is a certification system based on assuring consumers of the standards in production used to minimize detrimental environmental impacts of farming operations, reduce the use of chemical inputs and ensure a responsible approach to worker health and safety as well as animal welfare. It is a program that aims to establish one internationally recognized standard for good agricultural practice anywhere in the world. In year 2005, EUROPEG.A.P certificates were given to strawberry and cherry tomato farmers in Gaza Strip to export their fresh products to Europe. Following that, several projects were implemented to export different vegetable crops including cherry tomatoes, bell peppers and herbs through introducing and obtaining GLOBALG.A.P certificates in the occupied Palestinian territory.

### **3. Fair Trade Labelling Organizations International (FLO)**

FLO is defined as, "A trading partnership, based on dialogue, transparency and respect that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South."

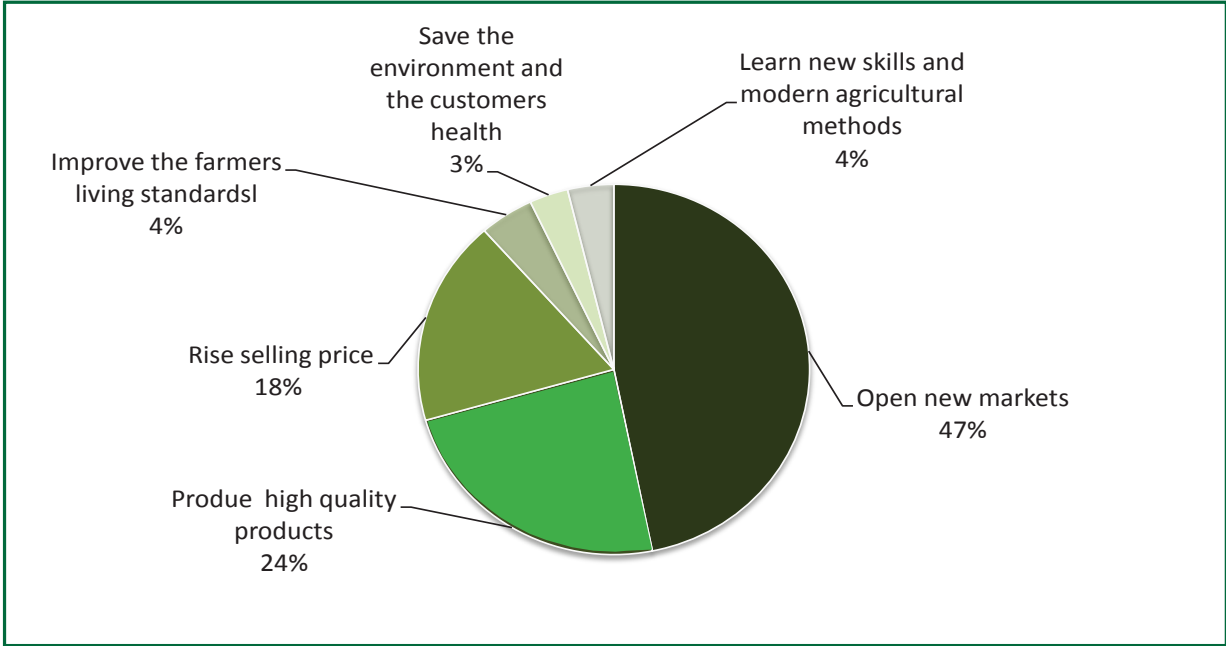
### **4. Halal Certificate:**

Halal is an Arabic word meaning lawful or permitted. When this term is applied to commodities related to food, meat products, and ingredients it signifies that the item was produced using only religiously approved means of processing and certification ensures that the products have been processed using only these approved means.

### **5. Hazard Analysis and Critical Control Point (HACCP):**

HACCP system is a science based on identifying specific hazards and measures for their control to ensure the safety of food. HACCP is a tool to assess hazards and establish control systems that focus on prevention rather than relying mainly on final product testing.

Most of the agricultural producers and farmers who have applied for the GLOBALG.A.P certificates did so with the aim to open new potential markets for their products to increase their revenue and to reduce the effects of fluctuating market demand due to seasonality and limitations imposed on the movement of commodities by the Israeli Authorities. Accordingly, 46% of questioned farmers said that the reason for applying for such certification was to open new market channels. The next most commonly cited reason was to improve the quality of the products (24%), to increase the selling prices, with 18%; improving farmers' net profit and living standards with (5%); and finally to save the environment and consumer health (3%). (See Figure 13)



**Figure 13: producers' reasons for certification**

A total of 34 farmers of the project beneficiaries have obtained GLOBALG.A.P certificates – 17 from Tammun and 17 from Furush Beit Dajan and mainly was for tomato crop. The surveyed farmers have applied to certify several crops. Under the awarded GLOBALG.A.P certificates, tomato was the most popular (47.6%), followed by olives (25.8%), peppers (16.9%), peas (6.5%), onions (0.8%), mint (0.8%), and guavas (0.8%). (See figure 14)

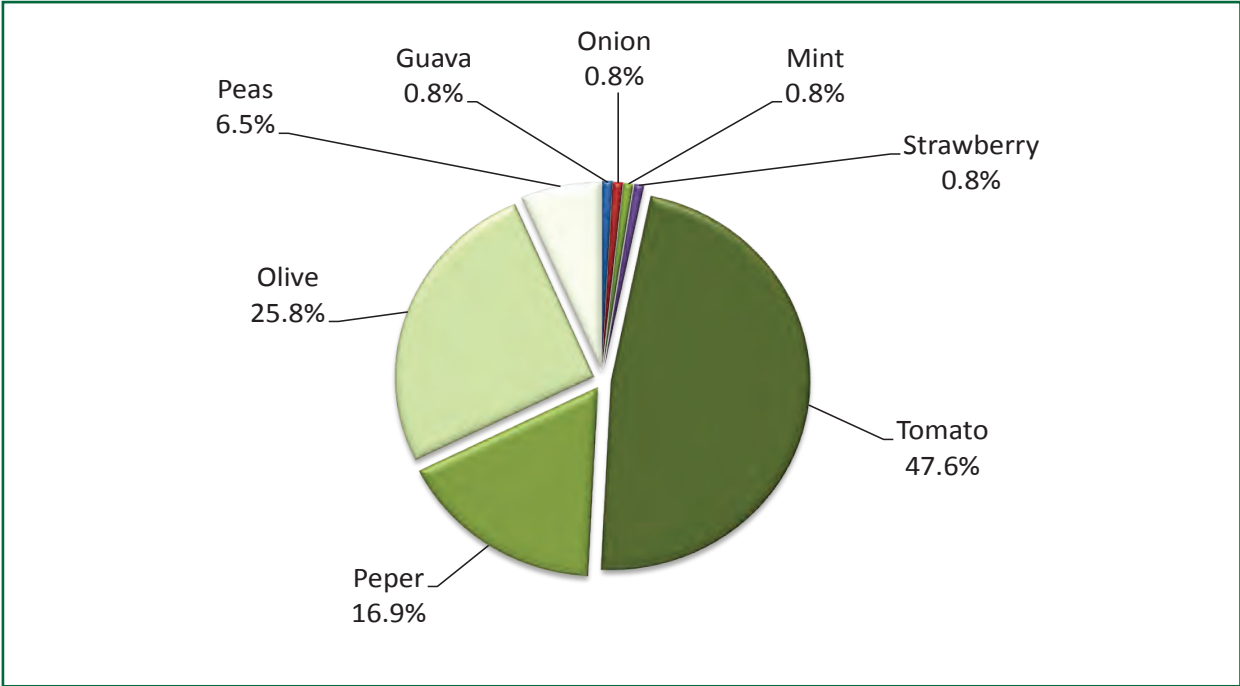


Figure 14: Distribution of certificated crops by GLOBALG.A.P in the West Bank



Many local and international NGOs and other bodies are supporting the certification of the Palestinian crops. The primary local organizations include the Palestinian Agriculture Relief Committee (PARC), Union of Working Agriculture Committee (UWAC), and Institute for Community Partnership/Bethlehem University (ICP/BU) and international bodies. The main international funding bodies are United States Agency for International Development (USAID), the Dutch government, Development Alternatives Inc. (DAI), and the Food and Agriculture Organization (FAO).

Several national and international certification bodies are involved in providing technical support including training and/or certifying the Palestinian agricultural products. Table 9 presents these different organizations and bodies.

Based on the conducted survey, it was revealed that PARC is the main supporter for the certification requirements and inputs (63.3%), followed by PFU (12.0%), ICP/BU (10.3%), and USAID (9.4%).

<b>Table 9: Certification bodies with their specialties and type of provided services</b>		
<b>Organization/ Company</b>	<b>Spatiality</b>	<b>Type of Certificates</b>
SKAL	Training and Certification	ISO 92000, HACCAP, GLOBAL G.A.P
Arab Agronomist Association (AAA)	Training	GLOBALG.A.P, Organic
Egyptian Center for Organic Agriculture	Certification	Organic
Fair Trade Labeling Organizations nternational (FLO)	Certification	Fair Trade
UWAC	Training	Fair Trade
Institute for Community Partnership/Bethlehem University (ICP/BU)	Training	Fair Trade
Business Excellence Services (BESCO )	Training & Need Assessment	ISO 92000, HACCAP, GLOBAL G.A.P
Lloyd’s Insurance	Certification	insurance market providing specialist insurance services to businesses

Out of the 101 interviewed producers who have applied to obtain certificates, 55 producers got the certificates by the day of the interview. Out of the 55 certified producers, 45 (81.8%) wanted to renew their certificate after its expiration date. The 10 producers who did not want to renew their certificate stated that they believe that the certificates do not add sufficient value to the market price of crops or open new markets to compensate for the cost of certification.

Although the main objective of the quality certificates is to open new market channels, especially export markets, for the products, unfortunately only 20 producers out of the 55 who obtained certificates managed to export their products to international markets (mainly olive oil). Thirteen out of the 20 producers exported olive oil, while the remaining 7 producers exported peas and/or tomatoes. This is due to many reasons, such as low experience, the high cost of implementing the system and the access to the markets.

A total of 50% of the interviewed producers who got certificates for their crops revealed that the demand on their production increased after they obtained certification, as a result of producing higher quality products, producing pesticide free products and cultivating new crops.

In spite of the fact that joining the certification system has some additional costs due to the required inputs and management procedures, certification and inspection fees and some other additional costs, there is an overall reduction in the cost of inputs through improved practices and better quality of inputs and a greater potential for higher market prices for the produce and an increase in productivity in terms of quantity and quality.

Figure 15 below shows the opinion of producers on the economic changes on crop production of using the practices as regulated by certification systems.

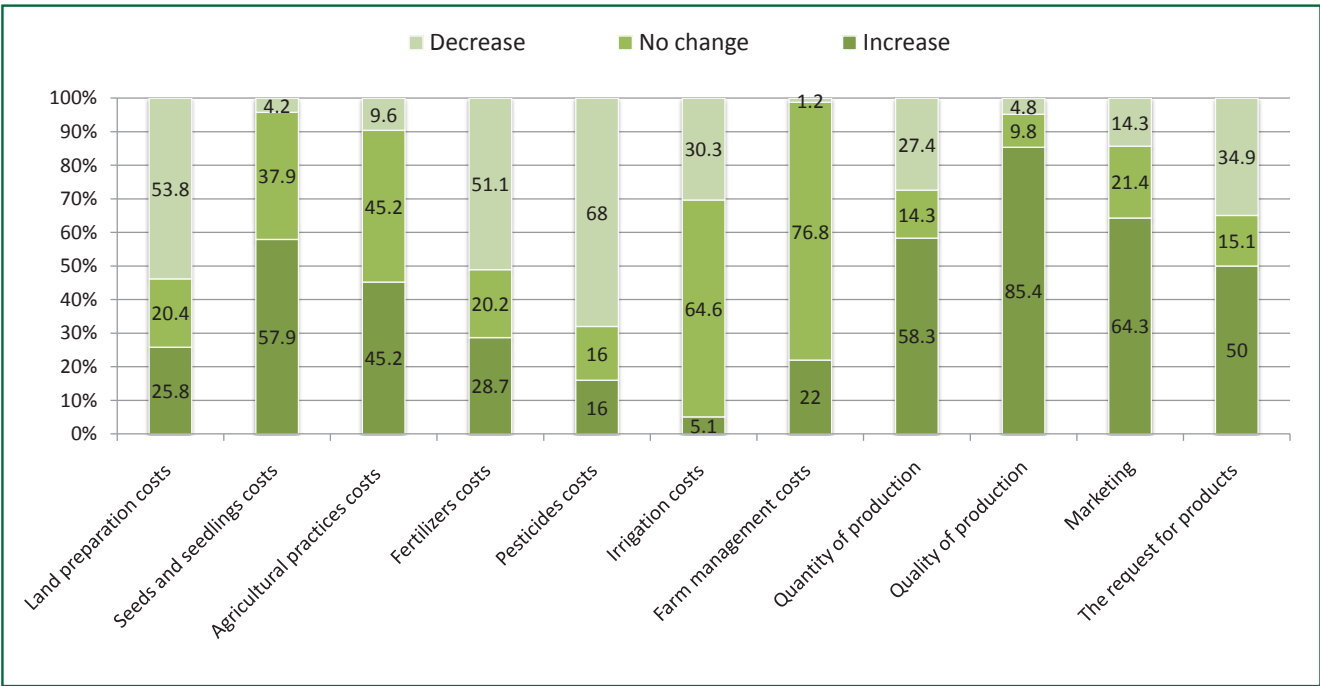
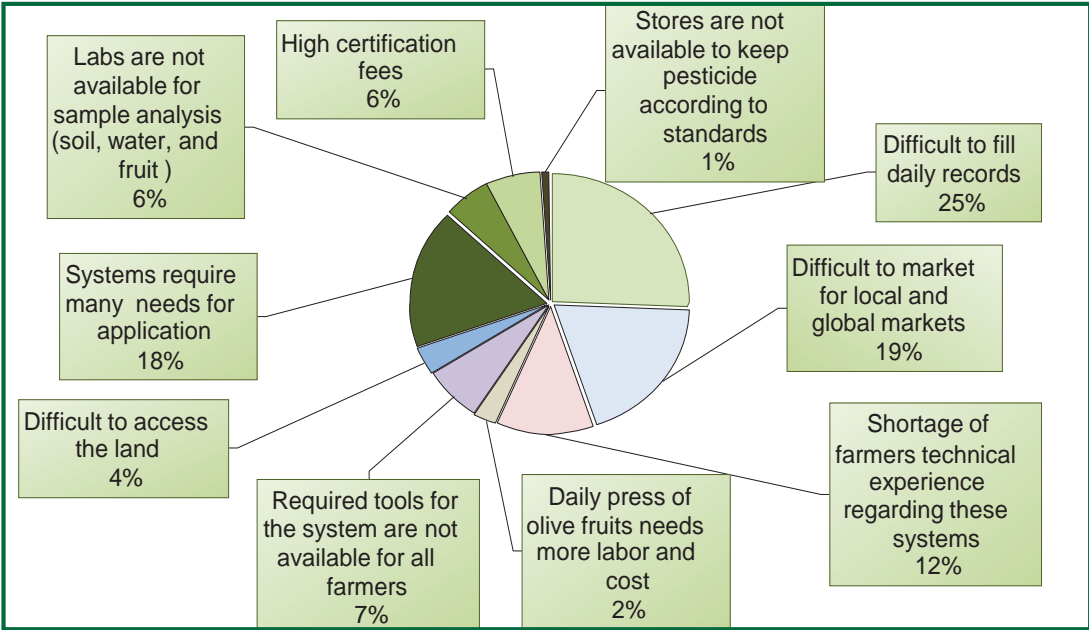


Figure 15: the economic effects of using certification systems

The interviewed producers' opinion regarding the existing certification systems that they are involved in was gathered and is summarized in the following evaluation matrix, table 10.

<b>Producers observations/ evaluation</b>	<b>frequency (# of interviewed producers)</b>	<b>% of the interviewed producers</b>
Good and easy system	25	24.8
Application beginning is difficult	22	21.8
Increase income of producers	13	12.9
Produce crops with high quality	20	19.8
Needs intensive follow up	13	12.9
Difficulties in recording	15	14.9
Open new markets for products	7	6.9
Save environment and customers health	7	6.9
High costs	4	4.0
Economically unfeasible	8	7.9

The farmers face many obstacles in acquiring the certificates as shown in figure 16. The main obstacle is record keeping because 25% of the farmers facing difficulties in filling the records <sup>6</sup>, followed by marketing the commodities to local and other markets and the needs of certification systems and the lack of farmers experiences in these systems.



**Figure 16: Difficulties which farmers face to meet the standards of quality certification systems**

<sup>6</sup> Nearly a quarter of the interviewed project farmers in the baseline and end line surveys are illiterate



The survey had covered additional six companies, NGOs and governmental bodies, which are involved in certification system and marketing through which their roles were analyzed. (See table 11)

<b>Name of the body</b>	<b>Work area</b>	<b>Establishment year</b>	<b>Company type</b>
PSI (Governmental)	certification , training and admin	1997	Governmental
COAP (Company)	marketing , inspection and certification with Egyptian Center for Organic Agriculture	1983 2006	Private company
BESCO (Company)	consulting services and training	2005	Consulting company
New Farm Company (Company)	marketing, food processing of agricultural products, and training	2000	Private company (based on socially based shareholders)
AL REEF (PARC) (Company)	packaging, marketing and training	1983	Private company
MAK (Company)	Training and inspection on global certificates	2006	Service company

Three companies (MAK, PSI and QOAP) are accredited for inspection and providing certificates, in addition to training and needs assessment. Three companies (BESCO, New Farm and AL REEF) are providing consultancy and/or training in addition to marketing activities for New Farm and AL REEF. In terms of educational qualifications, these companies have 31 experienced staff members with different levels of degrees.

In Palestine, certain crops must have specific certifications in order to reach the international market. For example, Palestinian organic olive oil needs fair trade certification. Vegetables, herbs, dates and almonds need GLOBAL G.A.P and fair trade certification.

Table 12 below summarizes the obstacles farmers face and suggested solutions from the perspective of the interviewed certification bodies.

<b>Table 12: Obstacles and suggested solutions for applying certification of Palestinian agriculture crops</b>		
<b>Obstacles</b>	<b>%</b>	<b>Suggested solutions</b>
high certification costs	66	The farmers should be convinced about the feasibility of the certification system and how it reduces the production costs and increasing the net profits. Soft-lawns or financial support could help small to medium farmers.
Markets for certified crops are not available	66	Create specialized marketing channels on local and abroad levels
Experts and trained staff are not enough	66	Increase the number of experts and institutions
Farmers resist new techniques and systems	66	Increase farmers awareness the importance of having such certificate and applying these techniques
Lack of laboratories for sample analysis and infrastructure for marketing	33	The establishment of accredited labs will reduce the testing costs and will provide liable information. The marketing infrastructure is an estimation part to benefit the certification system
The absence of national body accredited for certification	33	Create Palestinian national body for certification and follow up
Farmers and cooperatives depends on aid support for introducing these systems	33	Create export channels for the certified crops
Farmer weaknesses and low capacity to implement the system	16	Strengthening farmers capabilities and better practices

### 1.2.3. Procedures for getting GLOBAL-G.A.P certificate:

The following figure presents the procedures fro getting the GLOBAL-G.A.P certificate.

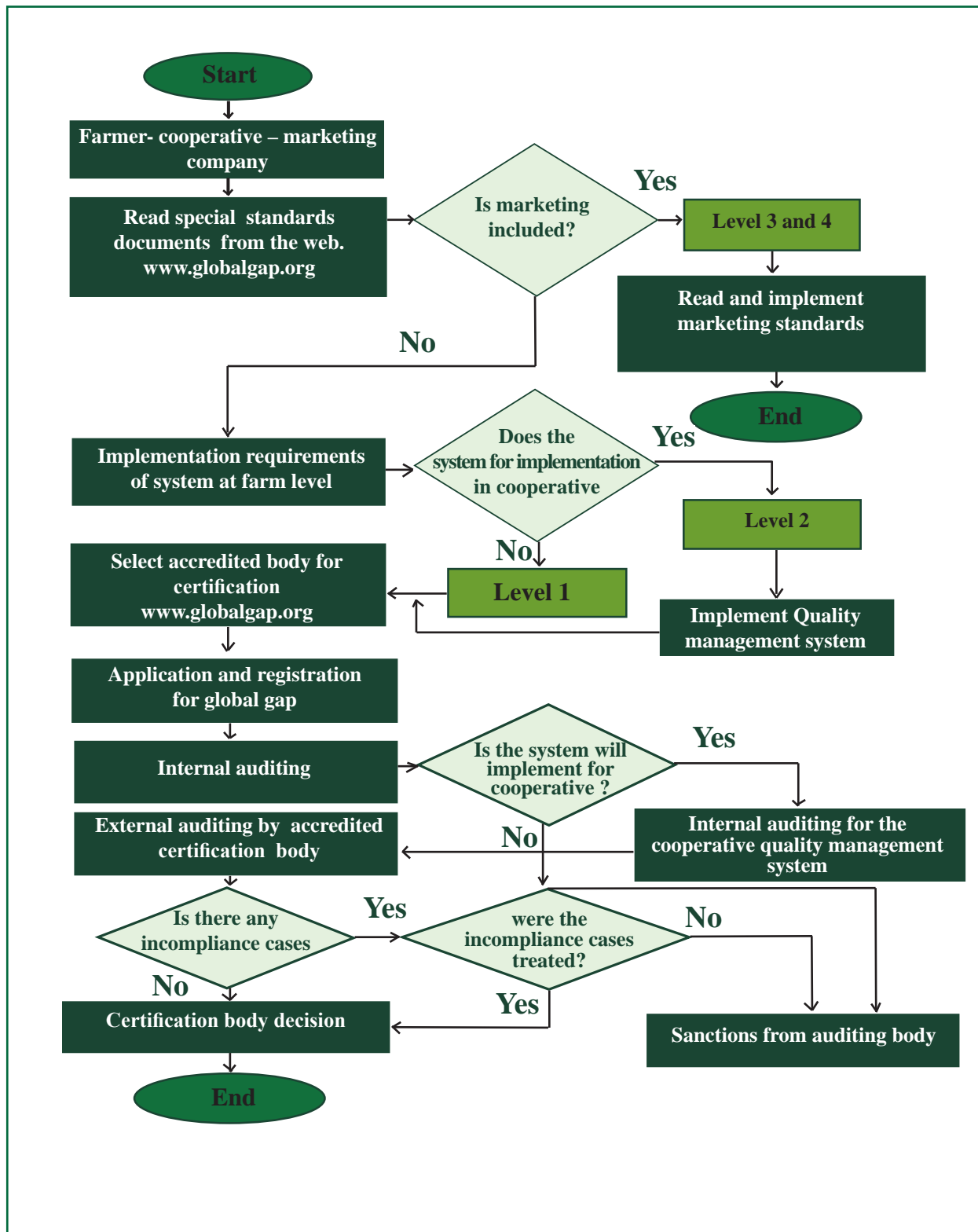


Figure 17: Procedures for getting GLOBAL-G.A.P certificate

## 2. Palestinian Agricultural Products According to Specialized Geographical Indications

### 2.1. Introduction:

The Palestinian agricultural system has its cultural and historical characteristics. Palestine used to be identified as “the land of milk and honey” which indicates that Palestine is an agricultural country and the Palestinian people have had developed their agricultural calendar where they have linked the agricultural activities with the religious events and the changes in the climate (rain, wind, clouds, sun, bird movements, etc). Therefore, we can find all the traditional sayings, poems, and songs are talking about land, agriculture and production.

Additionally, Palestinians have linked certain well known and locally appreciated agro-products with their location of production and that appears in the common local names of those products, for example: Fakoos Sahooori (snake cucumber from Beit Sahour city), Mishmish Bajali (apricot from Beit Jala), Bathenj Batteerri (eggplant from Battir village), Qalqiliya guava, Jericho banana, citrus and dates, etc. Many of these links have become part of the Palestinian culture, and localities are using this cultural identity to promote their products and selling them at higher prices as the consumer demand is high.

#### Geographical Indications (GI):

Geographical Identifications are distinctive signs that are associated with the quality of the products and the reputation of their place of production and thereby help to identify and distinguish such products on the market

### 2.2. The added value of the geographically identified commodities

A necessary condition for any value creation is the geographic link that provides buyers with specific information about one or more attributes of the product. This means that the link must differentiate between the product and similar competing products. The information conveyed can be about physical attribute of the product, or about the climatologically conditions of the production area, or the way of production. The key feature is that the geographical link must create some difference in the product. GI generates potential value for certain geographical areas products of certain crops. Using certain GI crops will become a famous geo-named commodity characterized with certain added values. This could form the basis of a successful marketing effort; then if the buyers prefer certain GI product, they may base their purchase decisions on this preference.

Locally produced products are one form of GI products at national level. Buying local products implies that the production has been identified as originating from nearby areas, often a local connection implies that the buyer knows who is the seller and perhaps something about the production process.

Relying on being identified as a distinguished local product can generate additional value. The local consumers are willing to pay more for these locally

produced fruits and vegetables and food commodities if they value the characteristics of the GI product above that of similar products available in the market.

In response to the growing demand, an expanding number of farmers use this opportunity to create new products. When a sufficient number of farmers in a region become experts in producing a particular type of food, then the region will develop a reputation as a good place to obtain that type of food. This can be translated to a positive regional reputation. Farmers from that region can then, in turn, use the name of the region as a marketing signal for quality.

A geographical indicator can naturally increase the buyers' knowledge and awareness about the quality of the produced food items in a region. Using GI as a signal that indicates the region where a product comes from and its reputation of producing a distinct food is very different from using a region's name in an advertising slogan to market many products. A good reputation of these crops can be used to differentiate region's products from those of its competition. Also, the consumer can distinguish the original GI products from other products and become ready to pay more for better quality.

### **2.3. Survey Methodology**

The aim of the study was to survey all Palestinian products which are originally linked to special geographical areas in Palestine. The survey process contained two levels of investigation: the first one was a general survey to identify potential crops and varieties, while the second one focused on studying the characteristics of the most famous and distinguished crops and varieties.

The first survey covered the cultivated crops in several localities in the West Bank Governorates (Jenin, Tulkarm, Qalqiliya, Nablus, Tubas, Jericho, Ramallah, Bethlehem and Hebron). Accordingly, 30 crops were identified with potential GI crops.

The second survey included in-depth study for the main and most famous crops and varieties characterized by high added value and a link to GI required crops was conducted. Accordingly, 10 GI crops were identified.

### **2.4. Geographically Linked Palestinian Crops**




The conducted survey has revealed that up to thirty crops are considered as GI-potential crops. The in-depth survey showed that ten crops have their unique characteristics and have already identified by the Palestinian specialists, producers and consumers as well. Consequently, the report will discuss the most important crops based on the conducted field survey.








Some of the Palestinian crops that are linked geographically to the production area or locations have their own added value, special marketing rate and profitability based on their geographic identification. The analysis has showed high market opportunities available for many Palestinian crops identified as geographically linked to their place of production by the Palestinian consumers.

The following list presents the short listed investigated crops by the conducted surveys based on their characteristics, demand, uniqueness, taste, and nutritional value which are geographically identified and labeled:

- 1- Fakoos Sahoori (Beit Sahour snake cucumber)
- 2- Bathenj Batteerri (Batteerri eggplant)
- 3- Enab Khalili (Hebron grapes)
- 4- Jaufaet qlqyleih (Qalqiliya guava)
- 5- Batatet El-Far'a (Wadi al Far'a potato)
- 6-Mouz Rihawi (Jericho banana)
- 7- Burtukal Rihawi (Jericho orange)
- 8- Balah Rihawi (Jordan Valley dates)
- 9- Zeit Beit Jala (Bait Jala olive oil)
- 10- Teen Tell (Tell figs)

To present the characteristics of the identified geographically crops by local consumers and producers, the following table shows the main characteristics of the selected most important ten GI crops on a national a level.

<b>Crop/ Variety</b>	<b>Photo</b>	<b>Origin</b>	<b>Main characters</b>
Snake cucumber/ Fakoos Sahoori		Beit Sahour – Bethlehem	Attractive green colour with lengthwise light coloured rows; average length is 10-15 cm; special desirable taste
Eggplant/ Bathenj Batteerri		Battir – Bethlehem	Attractive shiny light pink colour with some thorns on the cap of the fruit; average length is 20-30cm and diameter is 3-4 cm; special desirable taste
Grapes/ Enab Khalili (Hebron Grapes)		Hebron area	Large fruit with high sugar and juice content

Guava/ Jaufaet qlqylieh		Qalqilia city	Large fruit size with shiny yellow white color with smooth skin; firm and long shelf life, good aroma, very tasty with high sugar content.
Potato/ Bataetet El-Far'a		Wadi al Far'a -Tubas	Good quality and taste, with smooth, thin and an easily peel skin; fast cooking; crunchy when fried and tasty when boiled
Banana/ Mouz Rihawi		Jericho	Strong aroma, good taste and high sugar content, in addition to production during winter.
Orange/ Burtukal Rihawi		Jericho	High quality, taste, size; easy removal of the skin; early ripening
Dates/ Balah Rihawi		Jericho (Jordan Valley)	High quality dates with high sugar content; long shelf life due to the fact that the fruit skin is attached to the fruit.
Olives/ Zeit Beit Jala		Beit Jala -Bethlehem	Unique color, taste and aroma.
Tel Figs		Tel- Nablus	Sweet, attractive color and even consistency

## 2.5. The registration process of GI products

Any producer located in the area and respecting the conditions of production specified in the product specification is entitled to use the registered name to market its product. The application for the registration of a GI product name must include the product specification providing information for each required element with supporting documents. The following are required in order to complete the application:

- a) Main elements of the specification: name and description (physical, chemical, etc)
- b) Geographical area
- c) Proof of origin
- d) Method of production
- e) Inspection body
- f) Labeling

## 3. Monitoring the demand of Palestinian agricultural commodities in the local Palestinian markets and Israel

### 3.1. Introduction

The agro-production calendar in the oPt is diverse, based on a variety of cropping patterns (rain-fed or irrigated), planting systems (open or protected), location, season, availability of water resources, availability of agricultural lands, type of community, and other existing economic activities. (ARIJ-ACF, Integrated Report, 2008)

Several parameters are leading to the instability of the Palestinian agro-production system as more than 86% of the produced agro-commodities are dependant on levels of precipitation and are affected by limited access to the technology and limited access to land and water due to the prevailing political conditions. The Palestinian agro-production system produces more than 100 crops throughout the year and achieves surpluses in some produced commodities in the peak-production seasons. Furthermore, the oPt has the ability to export surpluses of tomato, cucumber, squash, eggplant, beans, cabbage, cauliflower, olives, grapes, plums, citrus and eggs, while still meeting the demands of the Palestinian market.

On the other hand, there is shortage in the local production of potatoes, onions, watermelons, and garlic, which creates imbalance in the agro-commodities demand-supply chain in the oPt. Due to the water shortage and poor soil fertility there is a general inability to meet the local consumers' fruit production demand. Yet local production of olives, grapes and citrus has achieved self-sufficiency and even produced surpluses, which are usually marketed to Israel and/or other countries.



It is worthy to note that the Palestinian agricultural production system (especially in the Jordan Valley) is mainly based on producing in certain periods of the year, which creates peaks of production in those periods and shortages in others.

The main crops cultivated in Israel for domestic consumption are potatoes, tomatoes, watermelons, bananas, cucumbers, apples, onions, peppers, carrots, and grapes. The demand on these products is always high. The main products produced in Israel for industrial purposes are grapefruit, wheat, spaghetti, freekeh grapes (for the wine industry), maize, potatoes, olives (primarily for the production of olive oil), citrus fruit, cucumbers, carrots and peas.

To understand the flow of agro-commodities by type, amount and date, a study was carried out to analyze the different stakeholders starting from the main actor (which is the Palestinian farmer), production and marketing channels, the demand in local and Israeli markets (through studying the commodities that passed through the crossing points from both directions), and the flow of the exported commodities.

Accordingly, this study highlights these important issues in commodity flows and supply and demand chain by analyzing the collected information from authorities and through field surveys and the project farmers' records.

### **3.2. Agro-commodity flows between Israel and the occupied Palestinian territory**

Despite signed agreements between the relevant Israeli and Palestinian bodies regarding the free movement of agricultural commodities for both sides, the agreements are predominantly applied to the benefit of the movement of the Israeli agro-commodities into the oPt. The movement of the Palestinian commodities to the Israeli markets or through Israel to the markets abroad is often highly restricted and complicated because of stringent Israeli requirements.

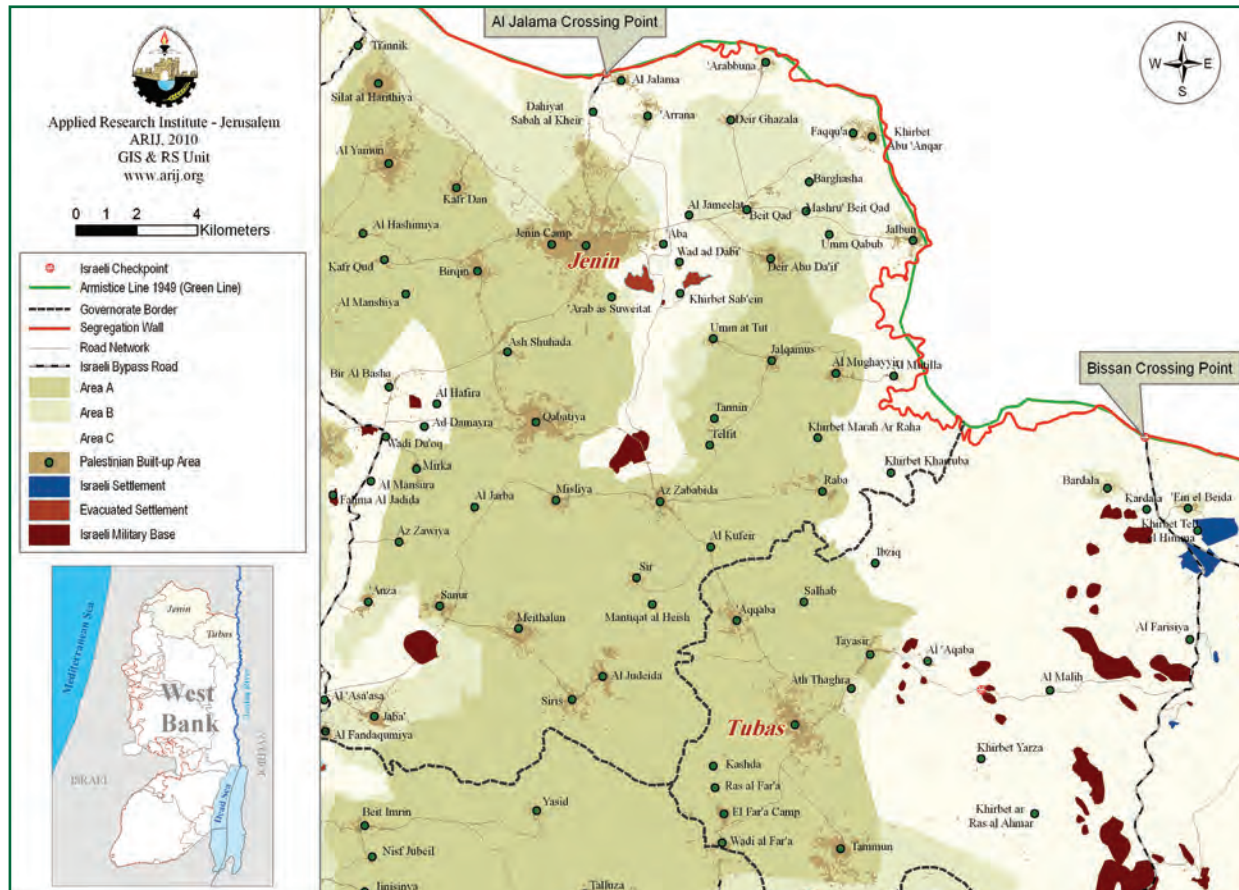
Biological and chemical residue tests are done on a pass/fail basis with no detailed information being passed to the farmer in the case of a failed test. Furthermore, the Israeli authorities do not permit transportation trucks from inside the West Bank to pass into Israel thus forcing a "back-to-back" system where produce must be offloaded from a Palestinian truck and loaded on to an Israeli truck. This process often increases loss of produce due to the increased handling and the length of time the produce must sit under the sun.

The analysis of the complete daily marketing sheets by the project farmers during 2009 for the targeted areas of Tubas showed that about 27.6% of their vegetable production was sold to Israel. Also, most of the Tubas agricultural products were marketed to Israel through Bissan crossing checkpoint.

Tables 14, 15 and 16 below present the fresh produce that have passed through West Bank crossing points and gates from the oPt to Israel and vice versa with a main focus on Bissan checkpoint for the period from 1st January 2009, until April

2010 as almost all of the Northern Jordan Valley commodities are transported to Israel through this checkpoint (Map 3).

### Map 3: the main checkpoint between the West Bank and Israel in Tubas and Jenin area



(Source: ARIJ, GIS & RS unit, 2009)

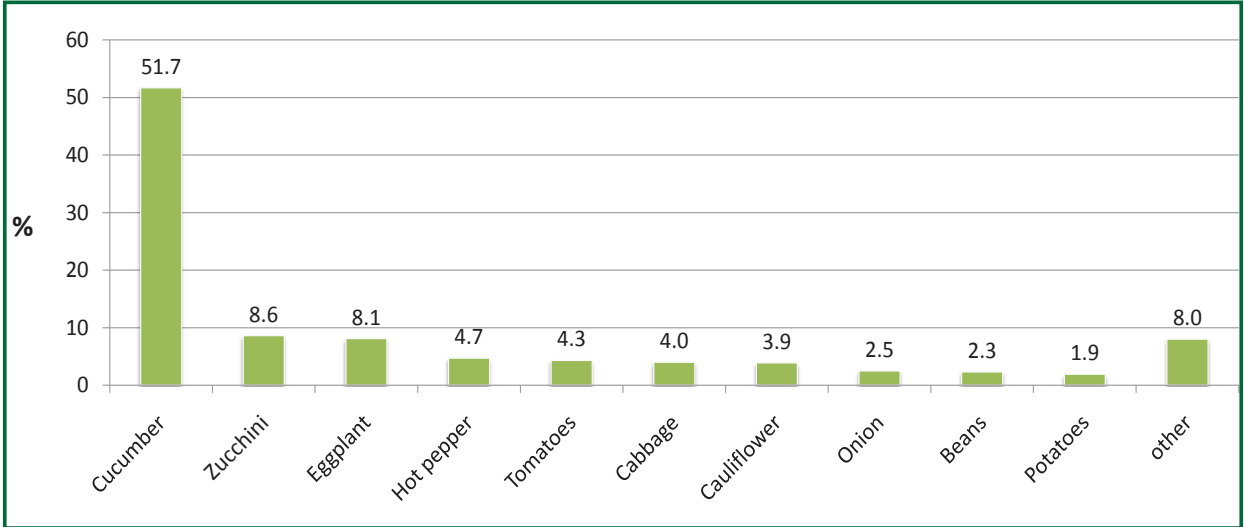
Table 14 shows that between January and December 2009, forty fresh commodities were exported from the West Bank to Israel with total amount of 59,269.325 tons, of which 3,931 tons (6.6%) passed through Bissan checkpoint. The main exported commodity through Bissan checkpoint to Israel was cucumber, followed by zucchini, eggplant and tomatoes respectively.

**Table 14: Fresh Vegetables and Herbs crossing from the occupied Palestinian territory to Israel through West Bank crossings**

Product	Total kg passed from West Bank to Israel through all checkpoints	Total kg passed through Bissan checkpoint to Israel	% passed through Bissan checkpoint to Israel
Cucumbers	30,627,894	1,041,300	3.4%
Zucchini	5,122,903	842,500	16.4%
Eggplants	4,782,540	518,800	10.8%
Tomatoes	2,553,896	330,050	12.9%
Onions	1,496,610	89,600	6.0%
Hot peppers	2,787,813	121,900	4.4%
Cauliflower	2,185,320	126,800	5.8%
Cabbage	2,339,734	125,900	5.4%
Potatoes	1,120,764	172,100	15.4%
Beans	1,365,826	94,200	6.9%
Sweet corn	544,162	108,800	20.0%
Broad beans (fuol)	519,633	138,600	26.7%
Jew's Mallow (Mulukhiyah)	611,014	3,450	0.6%
Squash (qara')	534,839	15,500	2.9%
Sweet peppers	978,140	76,850	7.9%
Cowpeas (lubia)	335,580	4,300	1.3%
Snake cucumber (fakouse)	226,000	11,150	4.9%
Okra	331,370	11,960	3.6%
Peas	79,314	15,340	19.3%
Vine leaves	77,140	17,770	23.0%
Turnips	122,780	14,720	12.0%
Thyme (zaatar)	110,161	11,700	10.6%
Fennel	74,050	11,200	15.1%
Cherry tomatoes	34,150	21,550	63.1%
Spinach	87,590	3,850	4.4%
Common bugloss (lesina)	25,007	1,170	4.7%
Parsley	20,090	0	0
Gourds (yaktin)	20,975	300	1.4%
Spring Onions	8,862	0	0
Radishes	15,240	500	3.3%
Lettuces	8,715	0	0
Sweet Potatoes	7,300	0	
Sage (maramia)	19,576	100	0.5%
Chickpeas	40,800	0	0
Beetroots	4,700	0	0
Garlic	2,550	0	0
Artichokes	1,000	0	0
Melon	42,200	0	0
Mint	2,990	0	0
Chamomile	100	0	0
<b>Total (kg)</b>	<b>59,269,328</b>	<b>3,931,960</b>	<b>6.63%</b>

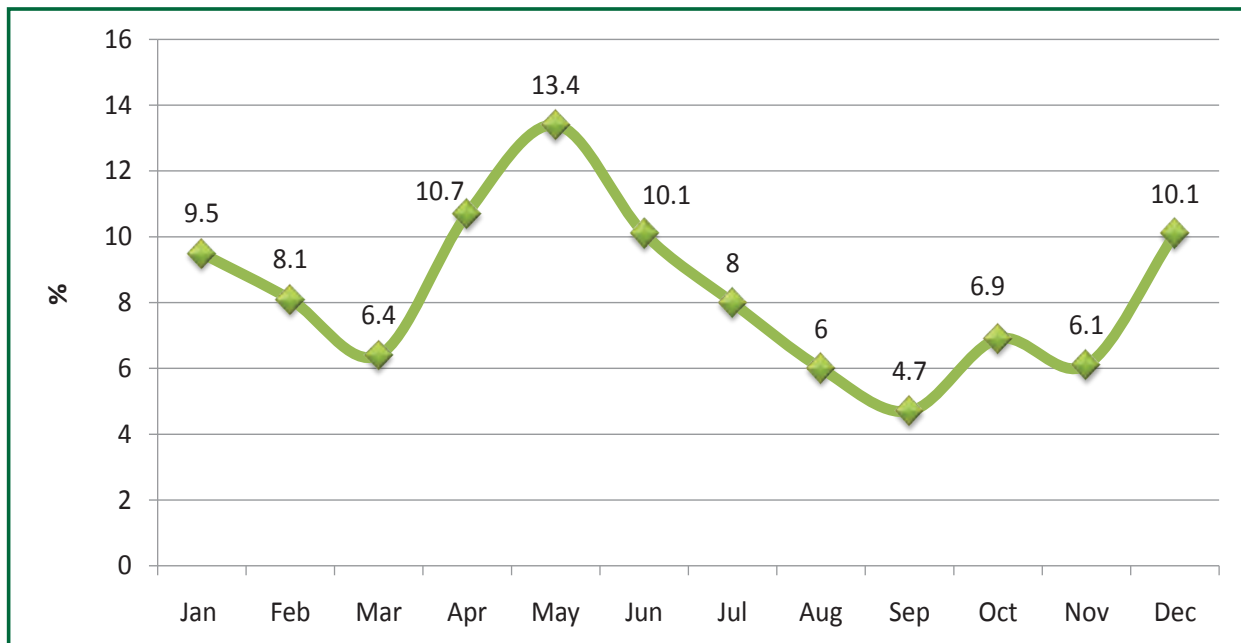
\*source: Inspection Unit, Israeli Ministry of Agriculture

The ten most marketed agricultural products from the West Bank to Israel during the year 2009 were cucumber, with 51.7%, followed by zucchini 8.6%, eggplant 8.06%, hot pepper 4.7%, tomato 4.3%, cabbage 3.94%, cauliflower 3.96%, onion 2.5%, beans 2.3%, and potato 1.9%, respectively. Thus, these ten commodities form 91.7% of the total agro-commodities marketed from the West Bank to Israel. (See Figure 18)



**Figure 18: Percentage of the main crops marketed from the West Bank to Israel Markets during 2009.**  
 (Source: Inspection Unit, Israeli Ministry of Agriculture through ACF, 2009)

The distribution of the commodities marketed to Israel showed that the marketing level increased during the peak-production seasons in the West Bank. For example, the cucumber production-marketing status to Israel showed that the cucumber is mainly produced between March and May and between October and November. We found that the main marketed amounts of cucumber to Israel are concentrated in May and June (when the production was high in the Jordan Valley during May and high in the highlands during June) then it increased during November and December where cucumber production was high in the Jordan Valley. Also, the average commodity flow for the main ten marketed crops was concentrated during April, May, June, December and January (spring and winter crops). (See Figure 19)



**Figure 19: Distribution of the main ten marketed crops from the West Bank to Israel according to monthly bases during the year 2009** (Source: ACF 2010)

During the year 2009, the total volume of vegetable products crossed from Israel to the West Bank reached 30,421,575 tons and included 37 kinds of vegetables. The main 10 agricultural products marketed were sweet corn (49.72% of the total volume), followed by potatoes (22.65%), carrots (9.82%), onions (3.46%), tomatoes (2.71%), chickpeas (2.32%), cucumbers (1.91%), groundnuts (1.52%), garlic (1.02%) and cauliflower (0.99%). (See Table 15 and Figure 20)

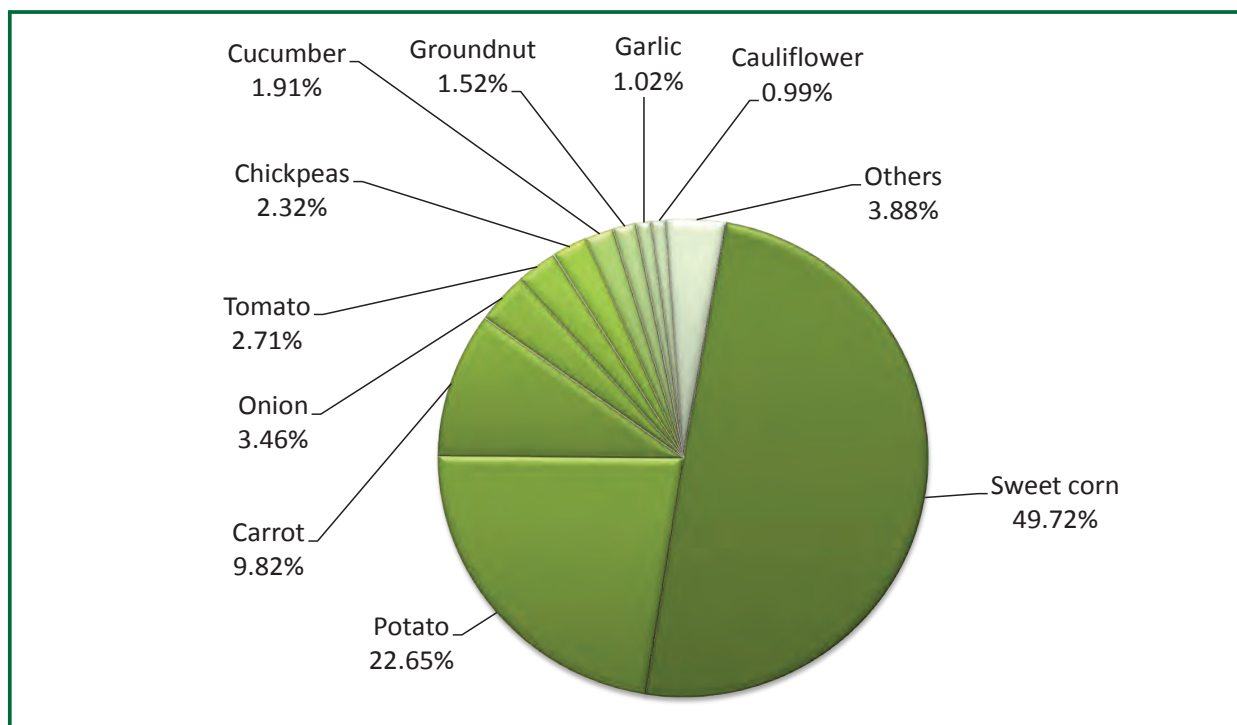
These commodities are produced in the West Bank, although the production of some commodities does not fulfill the local Palestinian market demand especially for sweet corn, potatoes, carrot, onions, groundnuts and garlic, while the other commodities are produced in higher quantities than the demand in the Palestinian market. However, during certain months and due to the lack of storage infrastructure the Palestinians market the excess during the peak periods of production and import the needed amount of the same commodities from Israel during the low production periods.

The provided data from the Israeli Ministry of Agriculture included only the quantities of commodities moved from Israel to the West Bank and vice versa, but does not report on the commodities marketed in West Bank and produced by the illegal Israeli settlements located inside the West Bank. It is difficult to track the commodities flowing into West Bank from the settlements as the commodities can be shipped directly by Palestinian merchants through the Israeli checkpoints inside the West Bank. The boycott against these illegal commodities has increased recently by many of the European countries, by the Palestinian Authority as well as by the Palestinian people. The boycott gives more opportunity for the Palestinian products to be marketed inside West Bank and for exportation.

**Table 15: Common fresh vegetables and herbs crossing from Israel to Palestine in the year 2009**

No.	Crop	Amount in kg	% of total
1	Sweet corn	15124200	49.72
2	Potatoes	6891690	22.65
3	Carrots	2987841	9.82
4	Onions	1052463	3.46
5	Tomatoes	823758	2.71
6	Chickpeas	706825	2.32
7	Cucumbers	582330	1.91
8	Groundnuts	461292	1.52
9	Garlic	310130	1.02
10	Cauliflower	300505	0.99
11	Sweet potatoes	262700	0.86
12	Hot peppers	179329	0.59
13	Cabbage	155285	0.51
14	Fennel	88705	0.29
15	Parsley	81440	0.27
16	Strawberries	77185	0.25
17	Mint	72080	0.24
18	Zucchini	71640	0.24
19	Eggplant	48490	0.16
20	Sweet peppers	41897	0.14
21	Lettuces	36180	0.12
22	Beans	19612	0.06
23	Broad Beans (fuol)	13700	0.05
24	Melon	4660	0.02
25	Okra	4410	0.01
26	Squash (qara')	4200	0.01
27	Jew's mallow (mulukhiyah)	4160	0.01
28	Turnips	3900	0.01
29	Watermelon	2800	0.01
30	Artichokes	2098	0.01
31	Peas	2000	0.01
32	Common bugloss (lesina)	1700	0.01
33	Radishes	910	0.00
34	Thyme (zaatar)	790	0.00
35	Spinach	300	0.00
36	Sage (maramia)	270	0.00
37	Vine leaves	100	0.00
<b>Total</b>		<b>30,421,575</b>	<b>100.00</b>

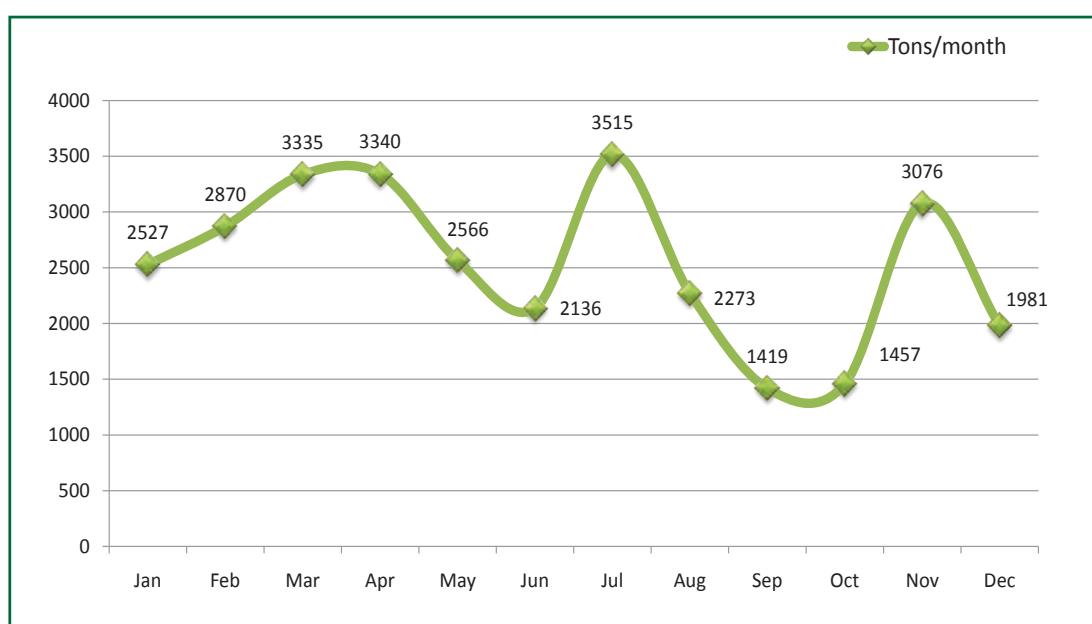
(Source: Inspection Unit, Israeli Ministry of Agriculture through ACF, 2009-2010)



**Figure 20: Distribution of main crops marketed from Israel to West Bank during 2009-2010**

(Source: Inspection Unit, Israeli Ministry of Agriculture through ACF, 2009)

In 2009, the monthly average volume of vegetables that passed from Israel to the West Bank reached 2,541.3 tons. July 2009 witnessed the highest amount of vegetables flowing from Israel to the West Bank at 3,515 tons while September witnessed the lowest amount of vegetable commodities at 1,419 tons. (See Figure 21)



**Figure 21: Distribution of vegetable commodities marketed from Israel to the West Bank by month during 2009**

### 3.3. The Palestinian – Israeli vegetable products marketing balance

Vegetable products exchange between Palestine and Israel is mainly concentrated in 15 agro-products. Out of a total of 89,690 tons exchanged, 66.1% were marketed from the West Bank to Israel, and 33.9% were marketed from Israel to the West Bank. The principal commodities exchanged are cucumbers (51% of the vegetables from the West Bank to Israel) and sweet corn (49% of the marketed vegetables from Israel to the West Bank).

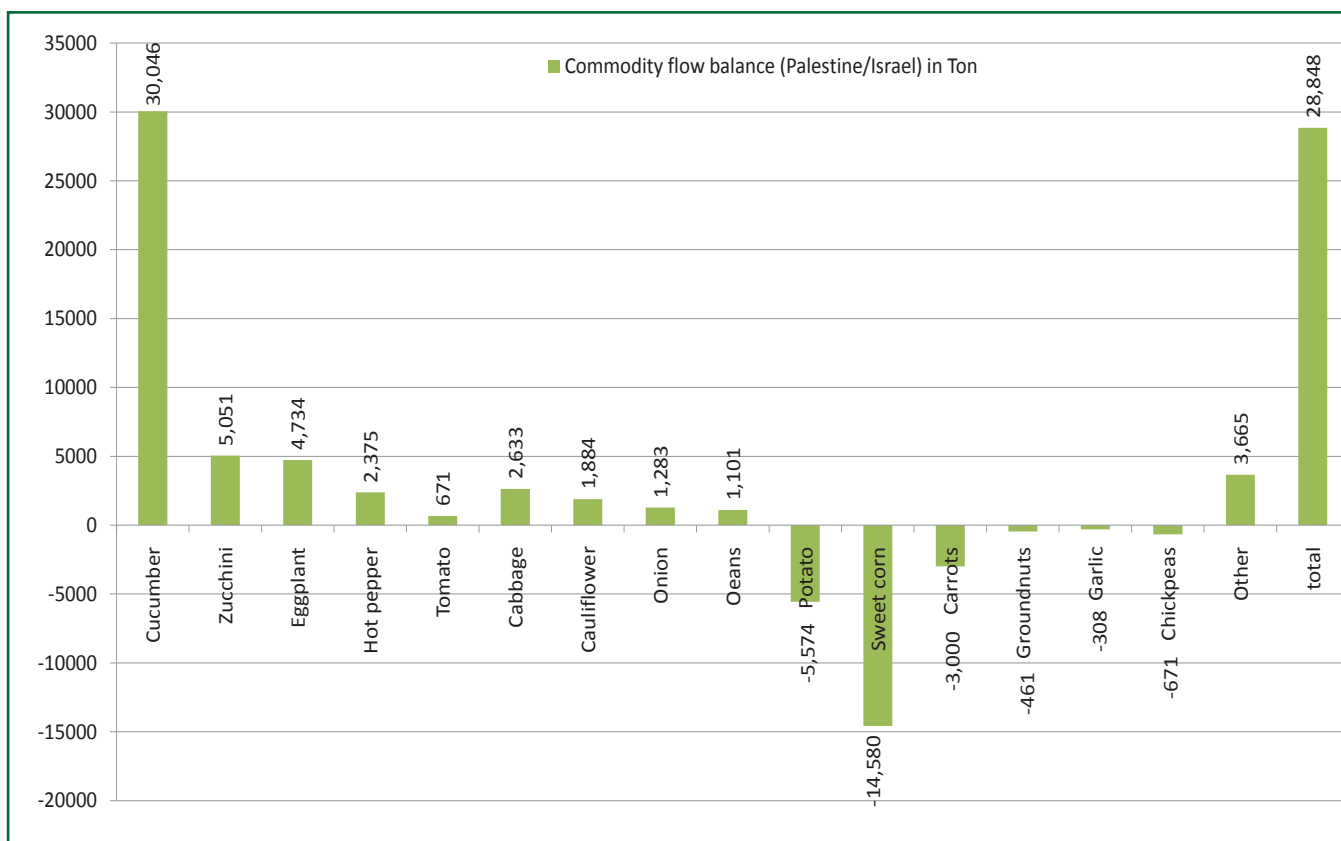
The principal vegetable crops in the West Bank which showed a deficit trading balance between marketed amounts to Israel and imported from Israel on the Palestinian side are sweet corn, potatoes, carrots, groundnuts, garlic and chickpeas, respectively. This means, the amount produced in the West Bank of these six vegetable crops is less than the actual needs of the Palestinian markets and there is a high potential to increase the cultivated areas of these crops, which would be highly feasible and assist in reducing the deficit in the produced amounts of these commodities. (See table 16 and figure 21)

These crops are planted in limited areas in Palestine as they required special soil types, required water with high quality, and required special harvesting machines and special storage system which are very limited or unavailable in Palestine.

<b>Crop</b>	<b>From the West Bank to Israel (tons)</b>	<b>From Israel to the West Bank (tons)</b>	<b>Commodity flow balance(Palestine-Israel)</b>
Cucumber	30,627.9	582.3	30,045.6
Zucchini	5,122.9	71.6	5,051.3
Eggplant	4,782.5	48.5	4,734.1
Hot Pepper	2,553.9	179.3	2,374.6
Cabbage	2,787.8	155.3	2,632.5
Cauliflower	2,185.3	301.5	1,883.8
Onion	2,339.7	1,056.7	1,283.1
Beans	1,120.8	19.6	1,101.2
Tomato	1,496.6	825.8	670.9
Garlic	2.6	310.4	-307.9
Groundnuts	0.0	461.3	-461.3
Chickpeas	40.8	711.8	-671.0
Carrots	0.0	3,000.3	-3,000.3
Potato	1,365.8	6,939.7	-5,573.9
Sweet corn	544.2	15,124.2	-14,580.0
Other	4,298.5	633.2	3,665.3
<b>Total</b>	<b>59,269.3</b>	<b>30,421.6</b>	<b>28,847.8</b>

*Source: Inspection Unit, Israeli Ministry of Agriculture through ACF, 2009-2010*





**Figure 22: West Bank – Israel agricultural marketing Balance during 2009**  
 (Source: Inspection Unit, Israeli Ministry of Agriculture through ACF, 2009)

Though the cucumber balance significantly goes to the occupied Palestinian territory, we still see that there are also some cucumbers marketed from Israel to the West Bank despite of the large surplus cucumber production in the West Bank in the high season of March, May, June and July. The same can be said about hot peppers, especially in March and July; eggplants, especially during March, July and November; zucchini squash in March and May; and tomatoes in February, May, and July. Thus, marketing balance should be reconsidered to protect the Palestinian farmers by controlling the crops entering the Palestinian areas from Israel, especially during the Palestinian peaks periods of production.

### 3.4. Daily Marketing Study in the Project Targeted Areas

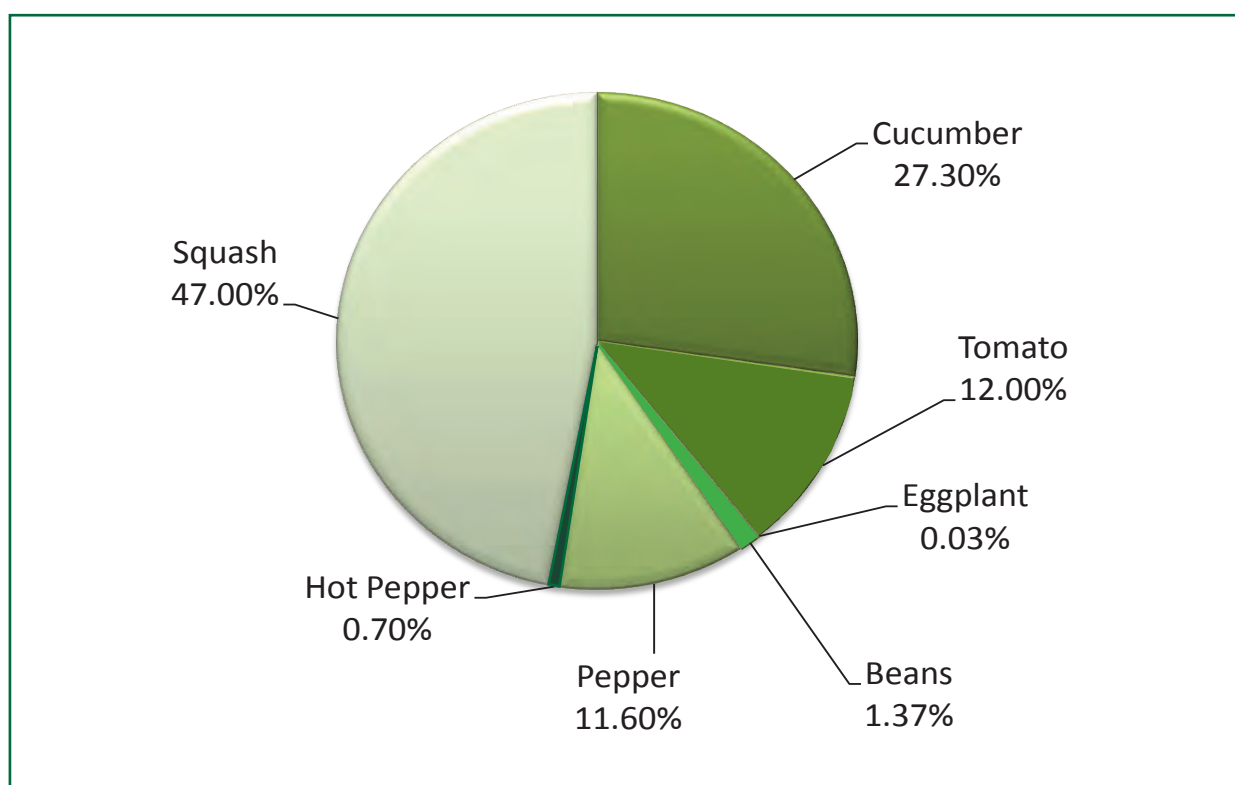
An in-depth analytical study about the marketing system in Tubas Governorate was conducted by ARIJ. Accordingly, a daily marketing sheet was developed to be completed by the project farmers to enhance the farmers' documentation and planning process. To ease the documentation process, the daily marketing sheets were printed into booklet format and copies were distributed to all project farmers and they were trained on how to fill the daily marketing sheets.

To carry out the marketing study analysis for the targeted villages and cooperatives in Tubas Governorate, the daily sheets of 215 farmers were collected and analyzed

by the project team. These sheets covered November and December 2008; January, February, September, October, November and December 2009; and January and February 2010, which correspond to the main production months during the project period.

The study focused on analyzing the production and marketing prices as well as market trends in 2009. Comparisons were also done between similar months in the years 2008 and 2010 to understand the changes in the vegetables production-marketing system in Tubas area.

The analysis of the farmers' daily production-marketing sheets for 2009 showed that the main produced vegetable crops in the northeastern Jordan Valley reached 5,966 tons, which are distributed as follows: squash production (47%), cucumber (27.3%), tomato (12.00%), pepper (11.60%), green beans (1.37%), hot pepper (0.7%) and finally eggplant (0.03%). (See Figure 23)

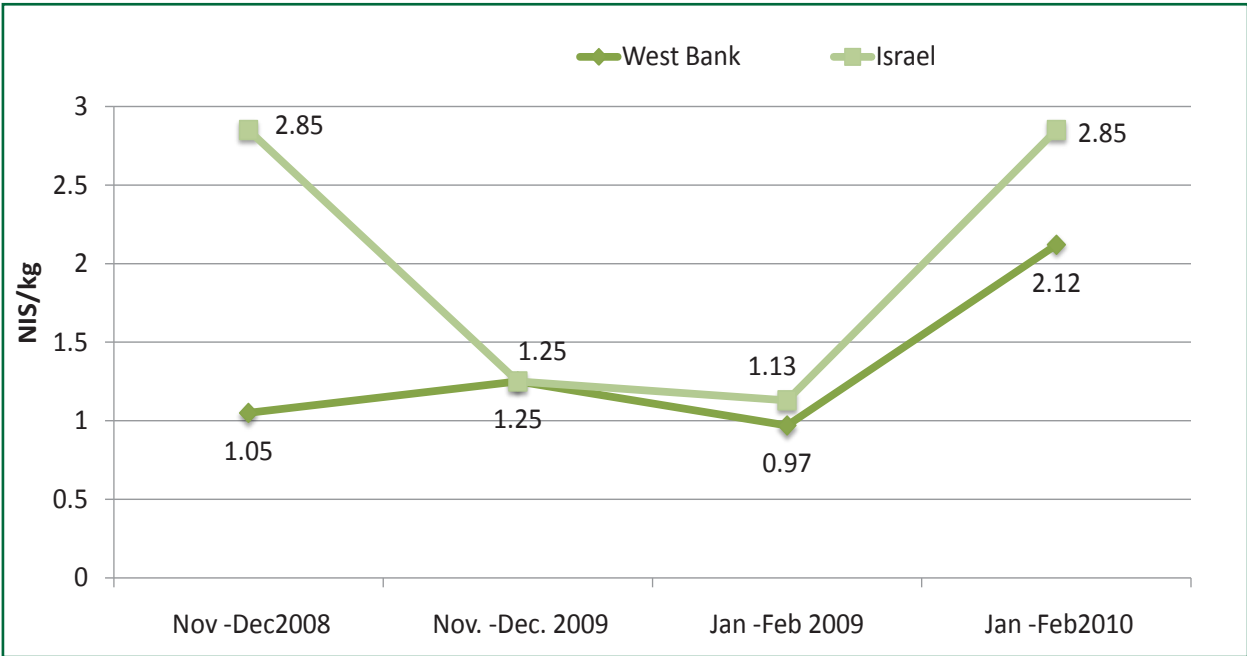


**Figure 23: Distribution of produced vegetable crops by quantity in the year 2009 by the project targeted farmers.**

Out of the total 5,966 tons of the main vegetable crops produced and marketed by 215 of the project farmers, who have completed the marketing daily sheets in 2009, 55.8% were marketed to the West Bank markets and 44.2% were marketed in the Israeli markets. The case was different in the year 2007 as 53% of the produced main vegetable crops in the targeted area were marketed in Israel. It is expected that the volume of products moving from the West Bank to Israel will be greater during the seasonal fallow that occurs every seven years in Israel, such as in 2007.

The average farm gate selling price for various produce marketed in Israel in 2009 was NIS 1.6/kg, while in West Bank markets it was NIS 1.56/kg. This shows that there is only a minor difference between the Israeli and the Palestinian selling prices. In 2009, 22.4% of the total tomatoes were marketed to the Israeli markets with an average selling price of NIS 1.1/kg, and 77.6% were sold in the West Bank markets with an average price of NIS 1.2/kg.

The fluctuating in the selling prices, whether for the Israeli or Palestinian markets, also affects the commodity flows. For example, the average market price of one kilogram of tomatoes during November and December 2008 was NIS 1.05/ kg in the West Bank while in Israel it was NIS 2.85/ kg compared with November and December 2009 when it was NIS 1.25 /kg for both West bank and Israel. On the other hand, the average market prices of tomatoes for January and February 2009 were NIS 0.97/kg in the West Bank and NIS 1.13/kg in Israel compared with NIS 2.12/kg and NIS 2.85/kg for the same months in 2010. (See Figure 24)



**Figure 24: Tomato price fluctuation in Israeli and West Bank markets**

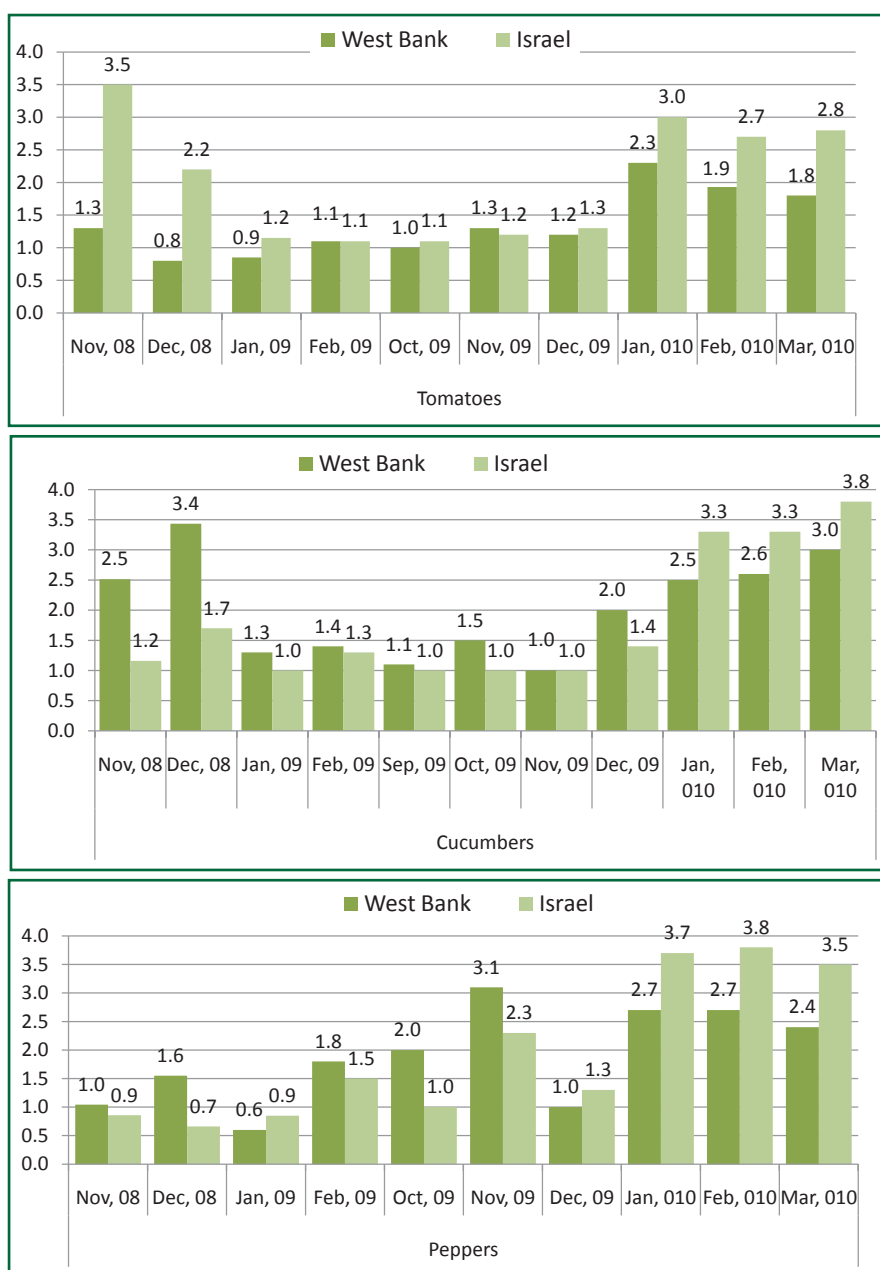
The instability in market prices not only depends on the monthly production levels, but also on year, and location. (See Figure 25 and Table 17)

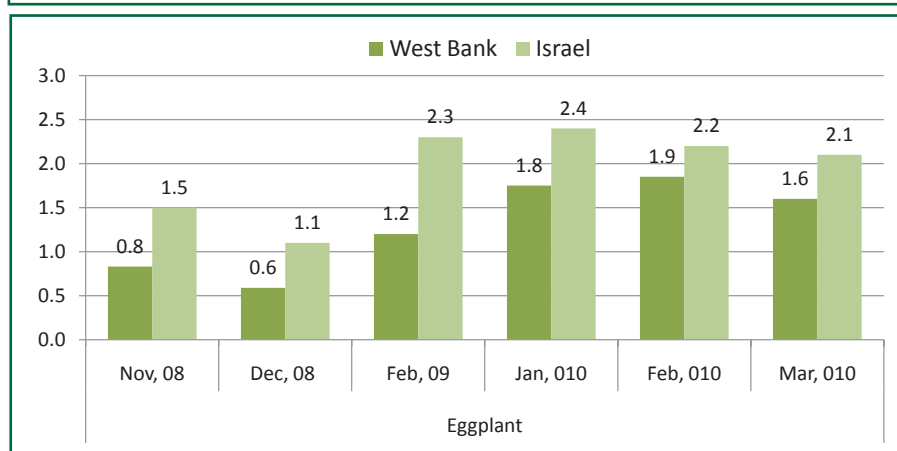
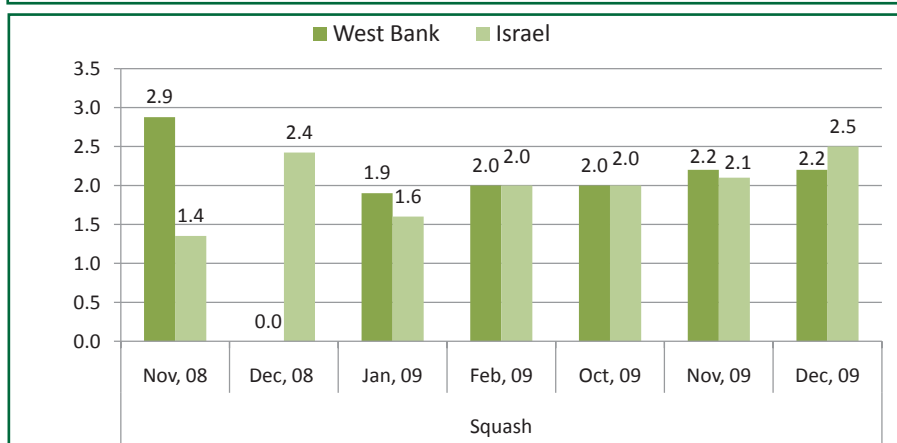
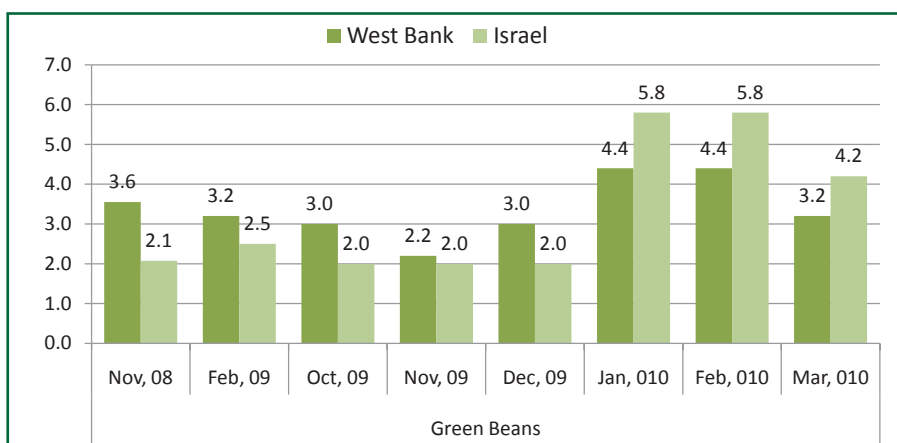
**Table 17 : Distribution of marketed vegetables and the marketing prices by crop**

Crop	Marketed In Israel Markets	Marketed In West Bank Markets	% Average price (NIS/Kg)	% Average price (NIS/Kg)
Squash	22.4	1.1	77.6	1.2
Cucumber	47.7	1.3	52.3	1.1
Tomato	22.4	1.1	77.6	1.2
Pepper	50.5	1.6	49.5	1.4
Beans	38.2	2.0	61.8	2.5
Eggplant	20.1	1.2	79.9	0.6

(Source: ARIJ –ACF Daily Market Study, 2008-2009)

**Figure 25: Distribution of the main vegetable crops marketed in Israeli and West Bank markets with their average selling prices NIS by the project framers and by crop.**



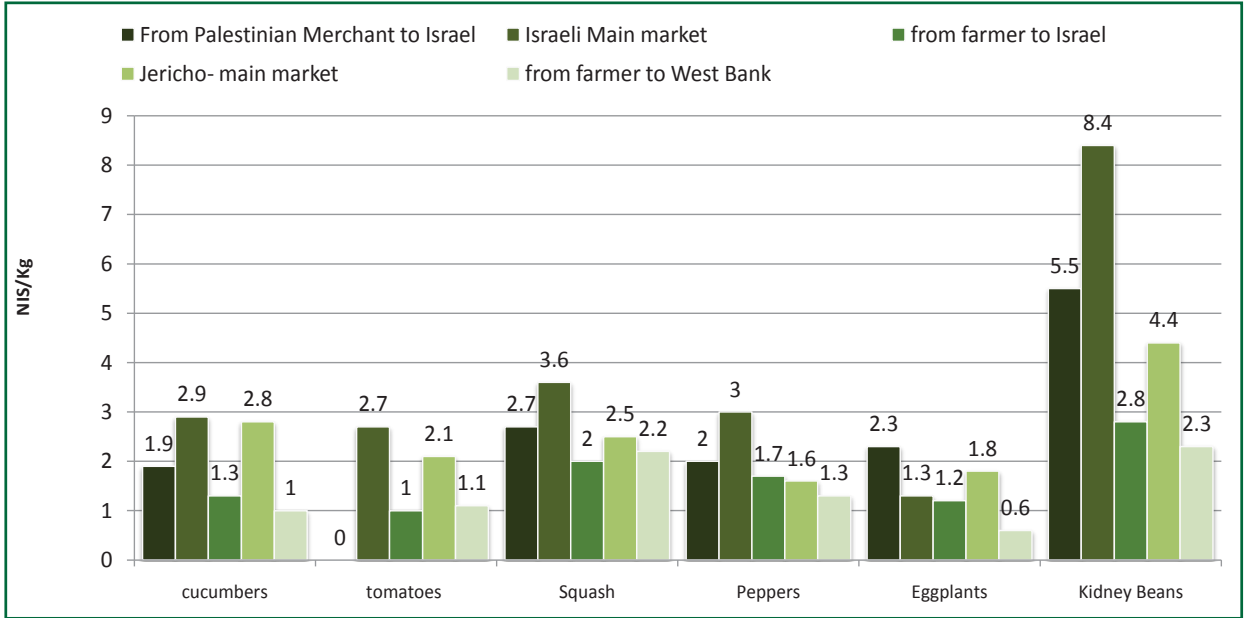


(Source: ARIJ –ACF Daily Market Study, 2008-2010)

### 3.4. Integrated Analysis for the Agro-Commodities Marketing Channels and Pricing Systems

The most important part of the marketing chain is identifying the commodity marketing channels and analyzing the change in the selling prices from one actor to another in the marketing chain. In the project target area there are three main marketing channels for fresh vegetables (see Figure 26). To be aware of the changes in the selling prices and marketing information, the marketing

information system should be available in order to document, monitor and plan the production-marketing process cognizant of the marketing prices from season to season, year to year and from one direction to another. Accordingly, the project team has conducted several contacts and surveys with specialized persons and through the available information on the internet.



**Figure 26: The selling prices for the main six vegetable crops on farmer selling price, Palestinian merchants to Israeli markets, and Israeli and West Bank wholesale markets, by crop**

To understand the difference between the West Bank and Israeli market marketing chains, the average selling prices for the main six vegetable commodities were calculated and the correlation between them was analyzed and presented in Figure 27. Table 18 summarizes the changes in the prices form one actor to another. It is clear that the lowest prices farmers obtain are at the farm gate, with some increase when the commodities are directed to Israel through the merchants with almost 15% increase for the farmers' average selling prices.

A Palestinian merchant is able to sell to an Israeli merchant at a price that is 218% higher than that which the Palestinian farmer can sell to an Israeli merchant (from 1.7 NIS/kg to 3.7 NIS/kg). In the West Bank, the wholesale prices in the main market are 178% higher than the farmer selling price (from 1.4 NIS/kg to 2.5 NIS/kg).

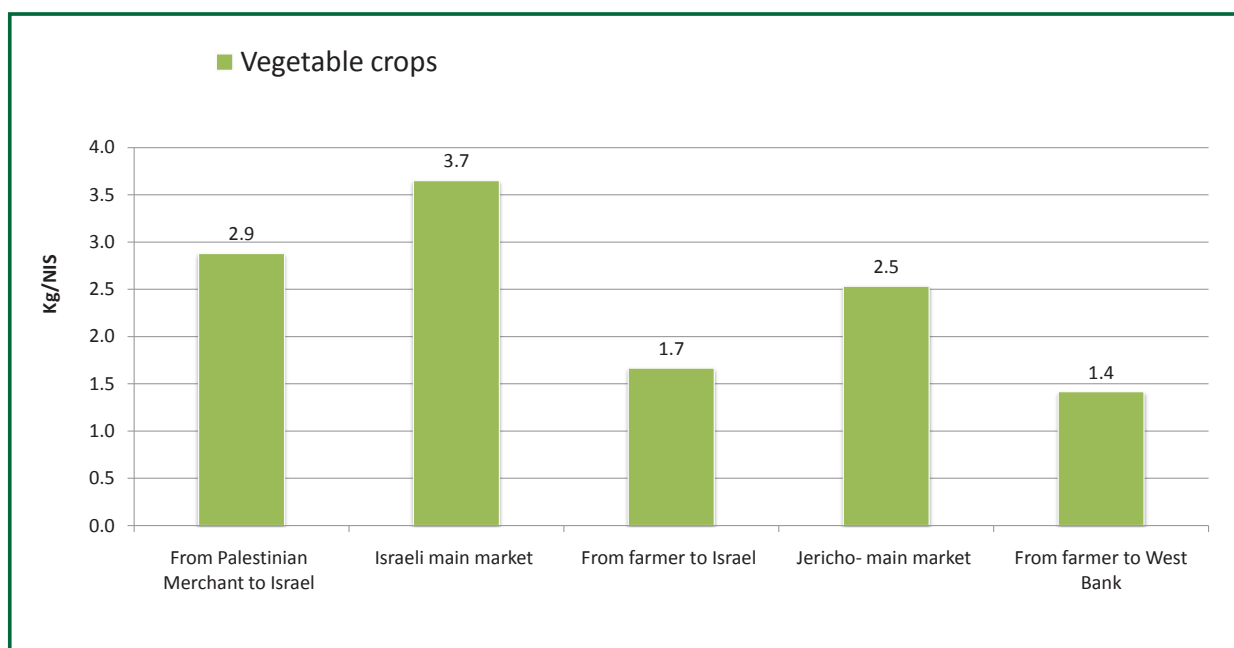


Figure 27: average selling prices of main six vegetable crops by market chain

Marketing direction	Marketing chain to Israel	Difference from farmer selling price (NIS)
	Selling price NIS/kg	
From Palestinian farmer to the Palestinian merchant	1.7	
From Palestinian merchant to the Israeli market	2.9	+ 1.2
In the Israeli market (wholesale prices)	3.7	+ 2
Marketing direction	Marketing chain inside the West Bank	Difference from farmer selling price (NIS)
	Selling price NIS/kg	
From the Palestinian farmer to the Palestinian main market	1.4	
In the Palestinian main market (wholesale prices)	2.5	+ 1.1

The third marketing channel is the export market where sales prices are higher but the challenges to market entry are greater, both in terms of quality and competitive pricing. Unfortunately, the marketing information system does not currently exist; therefore, the project team was able to contact the main exporting companies (Pal Garden, Holy Land, Al-Khaizran and Beit Al-Maqdes companies) to gather information about the exported vegetables and herbs in the year 2009. According to the collected information, 90 tons of bell peppers were exported, of which 75 tons were exported to Dubai; and 600 tons of cherry tomatoes and other varieties tomatoes were exported, of which 100 tons were produced by 18 farmers of this joint project. Finally, 180 tons of herbs were exported. This shows that there is a great potential for exportation, however the borders and exporting process is not currently controlled by the Palestinian Authority and related marketing risks should be mitigated. Areas for improvement include quality, post harvest treatment, quality tests, creating agricultural insurance system, developing a suitable agricultural marketing laws and policies, and signing exporting agreements with other countries with low or no exporting fees.



## Part III: Conclusions and recommendations for improving the Palestinian agro-marketing system

This project contained several activities including needs assessments for different stakeholders, field surveys and visits, special studies, specialized workshops, and farmer training in order to improve agro-marketing activities in the occupied Palestinian territory with a main focus on the northern part of the Jordan Valley. Accordingly, valuable contributions to the body of knowledge on agro-marketing in the West Bank were provided by the farmers, traders, specialists, and specialized governmental, social and private bodies. This section will present the conclusion of the special studies and the recommendations which have resulted from all the activities carried out within the scope of this project and given by different stakeholders for improving the Palestinian agro-marketing sector.

### A. Improving farmers' agro-business

- 1- Improve farmers socioeconomic and geopolitical situations by empowering farmers to better plan their production cycle, building farmers' capacities towards better production practices, enhancing the farmer's accessibility to production inputs and new technologies.
- 2- Establish and develop marketing infrastructure, enhance quality control procedures, and develop an integrated pricing system.
- 3- Activate the implementation of agriculture insurance system to mitigating the impacts of natural crises;
- 4- Protect small and medium farmers from exploitation from middlemen/exporting companies.
- 5- Diversifying the planted crops and adopting new technologies to minimise the effects of seasonality and marketing peaks and troughs.
- 6- Production planning for different crops must be developed based on an actual supply and demand chain to diversify the planted crops and cropping systems towards sustainable agriculture.
- 7- There is a great potential for improving the agricultural production system in the north-eastern part of the Jordan Valley due to untapped potential production opportunities during the off-season. There is also potential to produce more crops and more food crops to enhance food security and livelihood of Palestinian homes.
- 8- Despite the limited access to water, this area can produce more crops and more land can be cultivated if better land, water and crop management practices are applied.

9- Restriction on the exportation of high quality products should be removed and farmers should have the opportunity to market their products easily in local markets, in Israel, and abroad – especially if their products meet with the international standards.

10- The Ministry of Agriculture should support marginalized agricultural areas by preparing a development plan for these areas, with the help of different stakeholders in order to enhance institutional cooperation, transparency and to maximize the benefits of existing farmers.

11- The Ministry of Agriculture should provide farmers with adequate extension services.

12- There should be tight control on marketing prices to protect the farmers' rights and encouraging them by issuing daily information on selling prices per each crop according to cost of production, availability, sources, and quality. Additionally, an integrated market price information system should be developed in the oPt to follow up and monitor the demand-supply chain for the demanded agro-food fresh commodities (mainly vegetables and fruits).

13- Encourage Palestinian farmers to focus more on the local market to avoid uncertainty, problems, and obstacles facing marketing to Israel. Also, the farmers should diversify their production based on the commodities that are solely being produced in Israel and minimally produced in Palestine to meet with the Palestinian markets' demand on these commodities.

## **B. Improving farmer planning and farming practices**

**1- Seasonal planning and crop diversification:** Due to lack of marketing information and limited access to the natural resources and technology, Palestinian farmers are unable to plan properly for the planting season (including which type of crops they will plant) which results in reduced profits and can cause market price troughs especially in the periods of peak production. Thus, there is a need for joint efforts between different stakeholders led by the Ministry of Agriculture to improve farmers' awareness regarding crop diversification and focusing on food commodities in high demand and the timing of this demand.

**2- Agricultural practices:** Despite the fact that Palestinian farmers have started practicing some environmentally sound practices, they still use chemicals intensively including some banned chemicals. Thus, there is a need to improve education and awareness on managing their resources better and reducing the misuse of harmful chemicals in agricultural production through environmentally sounds practices.

**3- Recording and documentation:** A major portion of planning for the future is learning from past experiences and avoiding pitfalls to maximize benefits. Thus, Palestinian farmers should be trained how to record and document their farms' activities, production, marketing channel, and selling prices and how to calculate the production cycle cost by crop to insure better planning for the coming season.

### **C. Developing the Palestinian Agro-certification system:**

1- Building producers' awareness concerning the challenges and benefits of agro-certification systems.

2- To assure the sustainability and functionality of the certification system and certified farm crops, through increasing farmers' interest in the benefits of participating in a certification system rather than applying only because of the availability of funding and exportation expectations and encouragement of the donors and/or the private sector.

3- There is a lack or shortage of the infrastructure required to implement the requirements of certification systems. Thus, there is a need to develop the following: local, accredited laboratories that provide pre- and post-harvest services including suitable harvesting tools, grading, packaging, labeling, and cold transportation and storage systems.

4- There is a need to establish agricultural insurance systems against natural crisis, and marketing risks and losses to reduce the producers' risk of losing their crops and/or losing their marketed or exported products.

5- There are many existing certifying systems in Palestine which confuse the producers; thus, it is recommended that the focus is on the most suitable based on ease for the farmers to adopt and comply with the system's requirements.

6- The absence of Palestinian national standards is undermining the development of improved agricultural practices in Palestine; thus, it is important to develop local quality control systems and standards that parallel the existing quality systems elsewhere.

7- Many Palestinian crops enjoy distinguishing characteristics that are gained from weather conditions, soil and water characteristics, growing location, and/or from the long production experience passed down through generations. These crops should be preserved and improved because of their special characteristics and should be registered as GI, based on their production areas, to be identified as Palestinian crops – in order to preserve their Palestinian intrinsic property and to improve their marketing value.

### **D. Increasing the demand on the Palestinian agricultural commodities in local Palestinian markets and Israel**

1- There is a strong agricultural trade relationship between the West Bank and Israel. The main commodity exported to Israel is cucumbers (51% of the marketed commodities sent to Israel). The main commodity marketed from Israel to the West Bank is sweet corn (49% of the marketed commodities sent to West Bank from Israel). When planning the crop production calendar farmers should take into consideration the most strategic crops at the most strategic time for the most strategic market in order to maximize profits and market shares.

2- Despite the high level of agricultural trade between the West Bank and Israel, the stability of such trade is not certain and fluctuates considerably from season to season and from year to year in both quantity and price. Therefore farmers should not depend excessively on this market and should ensure a diversity of buyers from a range of markets.

3- The growing movement towards the boycott of products from Israeli settlements inside the West Bank will provide better opportunities for Palestinian products to be marketed both locally and abroad.

4- Exportation requires both improvements in the political environment and better quality products – which increases the challenges for the Palestinian farmers. Thus, improving the production system quantitatively and qualitatively will increase the feasibility and reduce the marketing risks for the Palestinian farmers.

5- A marketing information system with volume and prices per crop must be available on a daily basis. This will significantly contribute to improving the agro-production marketing system in the oPt. Also, this is a powerful planning tool and the best mechanism to protect the farmer and the consumer.

6- The marketing chain should shorten to increase farmers' profits and reduce the prices for consumers.

7- Palestinian farmers have a great opportunity to produce new crops which are not currently being produced in the West Bank and are being imported from Israel such as sweet corn, onions, potatoes, etc. and to produce new crops with high export potential such as herbs.

8- Palestinian small and medium-scale farmers should be supported and protected from marketing crises related to crossing closures, sharp drop in selling prices, price protectionism of Israel and competition from illegal settlement products in West Bank markets. They should also be protected from natural crises such as drought and frost.

They should receive fair prices for their marketed commodities through appropriate management of the existing marketing chains.

9- The role of middlemen and the steep price increase of commodities at every step along with the value chain negatively affect both the farmers through low sales prices and the consumers through high purchase prices.

### **E. Encouraging the involvement of organizations, cooperatives and governmental bodies in improving the agri-business, especially at small and medium scales**

1- Institutional cooperation and transparency: All related institutional bodies should coordinate and synchronize their practices in the agricultural sector to maximize their impact, avoid duplication, enhance transparency, and adequately reply to the real needs of the agro-business sector.

2- Develop a national strategy and action plan: The Ministry of Agriculture has developed a three-year strategy with a participatory approach including all possible stakeholders; the Ministry of Agriculture is going to develop an action plan with the same approach. Thus, the participating stakeholders should reflect the real needs of the farmers and their communities.

3- Empowerment and enhancement of cooperatives: Most of the existing agricultural cooperatives are weak and do not have clear bylaws, management systems, or future visions or goals. In most cases, they are controlled by families or by key individuals. Thus, there is a need to revitalize cooperative laws and to assist these cooperatives in improving the services they provide – especially in marketing farmers' products.

4- Infrastructure for agricultural production: New projects should focus on improving the infrastructure for agricultural production as well as pre- and post-harvest services. This will reduce the farmers' losses and increase the marketing period of their produced commodities, thereby improving their income potential.

5- Build the capacities of farmers and their cooperatives towards achieving better networking and management systems to plan what and when to plant, to avoid marketing risks, and selling price shocks.

6- Specialized agricultural organizations (governmental, non-governmental, and private sector) should participate in mitigating the impact of these risks and challenges on the farmers, especially small and medium farmers. They should work together to create suitable policies, action plans and support to empower the agro-production system and find ways to increase its production capacity, quality, and competitiveness with similar products produced in Israel and illegal Israeli settlements.

## References

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- Agricultural Statistics, 2007/2008. Ramallah, Palestine: Palestinian Central Bureau of Statistics, 2009.
- Babcock, Bruce A. Trends in Use of Geographic Identification of Food in the United States. Ames, Iowa USA: Center for Agricultural and Rural Development, Iowa State University, 2004.
- Commodities flow sheets through crossing points between West Bank and Israel. Israel, Palestine: Inspection Unit, Israeli Ministry of Agriculture – through ACF, 2009 - 2010.
- De Langhe, Edmond. Banana diversity in the Middle East (Jordan, Egypt, Oman).
- Different social, economic, agriculture, etc, data. <http://www.pcbs.gov.ps>.
- Dr. Alawaida, Mohammad. Status of Dates planting in Jordan, 2008.
- Dr. Sultan, Sufian. Grapevines, establishing planting, training, pruning services.
- Farm Structure Survey, 2004/2005: Main Findings. Ramallah, Palestine: Palestinian Central Bureau of Statistics (PCBS), 2007.
- First Arab Fair Trade Forum. Amman, Jordan, 2009.
- GIS & RS Database (Land use/Land cover analysis). Bethlehem, Palestine: Applied Research Institute – Jerusalem, 2006.
- Housing and Establishment Census 2007, Main Indicators by Locality Type. Ramallah, Palestine: Palestinian Central Bureau of Statistics (PCBS), 2009.
- Integrated Report for the Palestinian Agro-Production Calendar and Marketing Potentials for the Local, Israeli and External Markets (Case Study of the Tubas Governorate). Palestine: ARIJ & ACF, 2008.
- Labor Force – first quarter survey. Ramallah, Palestine: Palestinian Central Bureau of Statistics, 2010.
- Labor Force Survey. Ramallah, Palestine: Palestinian Central Bureau of Statistics, 2009.
- Monitoring Demand on the Palestinian Agricultural Commodities in the local Palestinian Markets and Israel. Bethlehem, Jerusalem: Applied Research Institute – Jerusalem (ARIJ) & Action Against Hunger –Spain (ACF), 2010.

- Palestinian Agricultural Sector Report. Bethlehem, Palestine: Applied Research Institute – Jerusalem (ARIJ), 2007.
- The final draft of the agriculture Sector Strategy (2011-2013). Bethlehem, Palestine: Ministry of agriculture, 2009.
- The Palestinian Agriculture Sector review report. Palestine: Spanish Cooperation & ARIJ, 2007.
- The Palestinian village profile database. Bethlehem, Palestine: Applied Research Institute – Jerusalem (ARIJ), 2010.
- Village profile & household baseline survey for Tubas Governorate and Targeted communities. Bethlehem, Palestine: Applied Research Institute – Jerusalem (ARIJ) & Action Against Hunger –Spain (ACF), 2009.
- [http://www.ifoam.org/about\\_ifoam/principles/index.html](http://www.ifoam.org/about_ifoam/principles/index.html),
- <http://www.living-organic.net/organic-farming.html>,

## المراجع العربية :

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- إثنائية، محمد س. واقع شجرة التين في فلسطين.
- برنامج الأمن الغذائي في الضفة الغربية – دليل الزراعة المربحة. فلسطين: 2008، ACIDI-VOCA.

ان الهدف الرئيس من الحصول على شهادات الجودة هو تلبية متطلبات اسواق جديدة من اجل فتح المجال امام المنتجات الفلسطينية للوصول الى هذه الاسواق، وخاصة أسواق التصدير. وتشير نتائج الدراسة الى ان 20 منتجا من أصل 55 منتجا (36.4%) ممن حصلوا على شهادات الجودة تمكنوا من تصدير منتجاتهم (وبشكل رئيسي زيت الزيتون). وكشف 50% من المنتجين ممن حصلوا على شهادات الجودة أن الطلب على منتجاتهم قد ازداد بعد حصولهم على شهادة الجودة.

ترتبط بعض المحاصيل الزراعية الفلسطينية جغرافيا بمناطق أو مواقع الإنتاج وترتبط بالثقافة الغذائية المحلية من حيث النكهة واللون والطعم والرائحة وموسم الانتاج. وقد أظهرت الدراسة أن هناك فرصة عالية متاحة في الأسواق لكثير من المحاصيل الزراعية الفلسطينية المرتبطة جغرافيا بمكان إنتاجها من قبل المستهلكين الفلسطينيين.

تم التحقق من وجود عشرة أصناف فلسطينية كمحاصيل تتمتع بالهوية الجغرافية (ترتبط بمكان انتاجها)، وهي الففوس الساحوري، الباذنجان البتيري، العنب الخليلي، جوافة قلقيلية، بطاطا (بطاطة) الفارعة، الموز الريحايوي، البرنقال (شموطي) الريحايوي، البلح الريحايوي (واد الاردن)، زيت بيت جالا، وتين تل.

يعتبر السوق الإسرائيلي هو السوق الثاني الرئيسي للمحاصيل الزراعية الفلسطينية. لكن وبسبب وجود الإجراءات الإسرائيلية فان حركة السلع الفلسطينية إلى الأسواق الإسرائيلية أو التصديرية عبر إسرائيل غالبا ما تكون محدودة ومعقدة، بسبب الاجراءات الامنية، فحوصات المتبقيات البيولوجية والكيميائية، والحواجز والاعلاقات.

يتركز تبادل منتجات الخضروات بين الضفة الغربية وإسرائيل أساسا في 15 نوع، والتي تصل بمجموعها إلى 89.69 الف طن، منها 66.1% قد تم تسويقها من الضفة الغربية إلى إسرائيل، في حين أن 33.9% من تلك الكمية تم تسويقها من إسرائيل إلى الضفة الغربية خلال عام 2009. ويلاحظ وجود تقلبات في أسعار البيع نتيجة لعدة عوامل، منها قنوات التسويق، السوق المستهدفة (الأسواق الإسرائيلية أو الفلسطينية)، والوقت من السنة.

تعرف الغالبية العظمى من المزارعين الفلسطينيين ضمن فئتي صغار ومتوسطي المزارعين، وهذا يجعلهم هدفا سهلا للاستغلال من قبل التجار والوسطاء والشركات الزراعية وأكثر عرضة للكوارث الطبيعية والتسويقية. الا انه يمكنهم تعزيز قدراتهم من خلال عملهم كمجموعات منظمة ودمجهم في تعاونيات نشطة، وتبني نظام تخطيطي لزراعة المحاصيل المناسبة في الأوقات المناسبة وإدارة المصادر المتاحة بشكل مناسب، مما يؤدي إلى زيادة قدرتهم على تجنب مخاطر الانتاج الزراعي يشتى اشكاله. كما ينبغي على المؤسسات المتخصصة (الحكومية، الأهلية، والقطاع الخاص) أن تشرك المزارعين في التخطيط ورسم السياسات الملائمة من اجل التخفيف من آثار هذه المخاطر والتحديات عليهم، وتقديم الدعم لتطوير نظام انتاج زراعي متكامل ومتوازن، وتحفيز استخدام الاساليب التكنولوجية الحديثة المناسبة من اجل زيادة الانتاج كما ونوعا، ورفع القدرة التنافسية للمنتجات الفلسطينية مع المنتجات المماثلة في أماكن أخرى.

### ومن اجل تحسين قطاع التسويق الزراعي في الضفة الغربية، لا بد من العمل على النقاط التالية:

- 1) بناء قدرات المزارعين الفنية والادارية.
- 2) بناء وتحسين البنية التحتية الفلسطينية المتعلقة بالزراعة والتسويق والامكانيات المتاحة.
- 3) بناء وتطوير معايير الجودة الوطنية وأنظمة منح شهادات الجودة والبنية التحتية المطلوبة لها.
- 4) تطوير القوانين والمعايير الفلسطينية لحل المشاكل التي تحد من تطوير نظام التسويق الزراعي.
- 5) إنهاء الاحتلال للتخلص من الآثار المترتبة عن ممارساته وتعزيز وصول الشعب الفلسطيني إلى الموارد الطبيعية الفلسطينية (الأرض والمياه).
- 6) تعزيز وتقوية دور التعاونيات التي من شأنها أن تقلل من التأثير السلبي للتجار والوسطاء والقطاع الخاص.
- 7) تشجيع الاستثمار في الزراعة من خلال تطبيق نظام التأمين الزراعي ويجاد مصادر تمويل يمكن الاعتماد عليها.
- 8) تحسين مواعيد الإنتاج الزراعي (البرنامج الزراعي) كما ونوعا والتحول نحو محاصيل مجدية إقتصاديا، وذات قدرة إنتاجية أكبر مما يؤدي إلى تحسين الإنتاج الزراعي، ويقلل من مخاطر التسويق لدى المزارع الفلسطيني.
- 9) تطوير برنامج خدمات الإرشاد الزراعي لدى وزارة الزراعة الفلسطينية لكي يتلاءم مع احتياجات ومتطلبات التسويق.
- 10) تفعيل دور المستهلك في عملية التسويق من خلال تشكيل لجان فاعلة تعمل حماية المستهلك ورفع مستوى وعيه ومدى أهمية التركيز على إستهلاك المنتجات المحلية ومتابعة جودتها.



قام معهد الابحاث التطبيقية - القدس (أريج) بالشراكة مع منظمة العمل ضد الجوع بتنفيذ مشروع «تعزيز القدرات التسويقية لصغار ومتوسطي المزارعين في محافظة طوباس من خلال التجارة إلى الأسواق الإسرائيلية والدولية». حيث تم استهداف ستة قرى تقع في الجزء الشمالي من وادي الأردن، وهي بردلة، كردلة، عين البيضاء، وادي الفارعة وطمون من محافظة طوباس، وفروش بيت دجن من محافظة نابلس.

تشكل الزراعة جزءا هاما من الاقتصاد الوطني الفلسطيني وخاصة بالنسبة للمناطق الواقعة في شمال الضفة الغربية والتي تشكل القرى المستهدفة في هذا المشروع جزءا منها، حيث يستهدف المشروع 250 من الاسر التي تعمل في المجال الزراعي، ففي مجال الإنتاج الحيواني، تبين أن 16.4% من هذه الأسر تقوم بتربية الثروة الحيوانية (وتشمل الأغنام، الماعز، الأبقار، النحل والدواجن). أما بالنسبة للإنتاج النباتي، فإن جميع الاسر المستهدفة تعمل في الإنتاج النباتي وان أكثر من 98.9% من الخضروات المنتجة بهدف التسويق، وان أكثر من 50% من إنتاج الزيتون وزيت الزيتون بالإضافة الى جميع الانتاج من المحاصيل الحقلية يتم استهلاكها من قبل تلك الأسر.

هناك ثلاثة أنظمة رئيسية لتسويق المنتجات الزراعية الفلسطينية الطازجة، وهي: الاسواق المحلية: وهي الاسواق المركزية المتواجدة في محافظات الضفة؛ السوق الإسرائيلية: وهي إما من خلال التجار الإسرائيليين، تجار من العرب داخل إسرائيل، التجار الفلسطينيين، أو مباشرة من قبل المزارع؛ السوق التصديرية: وهي الأسواق الأوروبية، أسواق الولايات المتحدة، أسواق روسيا، والأسواق العربية.

لقد تم تسويق 18.7% من كمية الخضار المنتجة عام 2009 من المواقع المستهدفة بالمشروع في سوق محافظة طوباس، في حين أن 53.6% من الانتاج تم تسويقها في أسواق الضفة الغربية، و 27.7% تم تسويقها في الأسواق الإسرائيلية. وقد لوحظ انخفاض حاد في نسبة المحاصيل المسوقة إلى إسرائيل في العام 2009 مقارنة مع العام 2008. ويرجع ذلك إلى حقيقة أن سنة البور اليهودية التي كانت خلال عام 2008 انتهت، كما أن التسهيلات التي كانت مقدمة للبضائع الفلسطينية خلال تلك السنة انتهت، لذلك عادت الظروف التسويقية إلى المستوى الطبيعي.

تعتبر أنظمة وقنوات التسويق من العناصر الرئيسية لتسويق السلع الزراعية، حيث تؤثر على جميع الجهات ذات المصلحة والمعنية بالتسويق ابتداء من المزارع وحتى المستهلك. وتعتبر عملية توفير المنتج المناسب بالجودة المطلوبة وفي الوقت المناسب من اهم عناصر استدامة وتطوير قنوات التسويق.

سلامة المحاصيل من الناحية الصحية للمستهلك هي معيار جودة مهم للغاية للمنتجات الزراعية . وقد أظهرت نتائج جولتين من تحاليل متبقيات المبيدات الكيميائية في ثمار الخضار، وجود نسبة عالية من العينات الملوثة ببقايا المبيدات، وان بعض تلك الكيماويات غير مسموحة للاستخدام على المحصول المستهدف.

تعتبر شهادات جودة المنتجات الزراعية من اهم متطلبات واثباتات الجودة للمنتجات وخاصة التصديرية ، ويوجد في الأراضي الفلسطينية خمسة أنظمة لإصدار الشهادات لأغراض الزراعة والمنتجات الغذائية. وتحمل شهادة جلوبال جاب المرتبة الأولى من حيث عدد الشهادات الممنوحة للمنتجات الزراعية ، تليها شهادة الزراعة العضوية ، وشهادات التجارة العادلة ، وشهادات الهسب (تحليل المخاطرة والقدرة على السيطرة) وأقلها عددا هي الشهادات التي منحت من خلال. في حين يحتل محصول البندورة المرتبة الأولى من حيث حصوله على اكثر عدد لشهادات الجودة يليها زيت الزيتون، الفلفل، البازيلاء، البصل، النعناع، والجوافة على التوالي .

لقد نجح 55 مزارع من اصل 101 مزارعا (الذين تمت مقابلتهم) في الحصول على شهادات الجودة (54.4%) في الحصول عليها، في حين أن 45 مزارع من الحاصلين على الشهادة أكدوا رغبتهم في تجديد الشهادة، بينما يعتقد البقية (10 مزارعين) ان هذه الشهادة غير مجدية اقتصاديا ولا يرغبون في تجديدها.



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