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**THE MINISTRY OF AGRICULTURE**

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**PALESTINIAN NATIONAL AGRICULTURAL EXTENSION STRATEGY (PNAES)**

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**RAMALLAH-PALESTINE**

**SEPTEMBER 16<sup>TH</sup> -2012**

## **PREFACE**

The Ministry of agriculture has been doing its utmost efforts to improve services delivery to farmers and increase the production. The main challenges of the agricultural sector are notably the Israeli repressive measures mainly confiscation and restrictions on land and water resources, poor skills of farmers, small-scale farming, water scarcity, low productivity of rainfed crops, soil degradation, dependence of agriculture on climate, weak coordination of agricultural actors and insufficient collaboration between farmers-researchers and extension officers.

While recognizing existing challenges in the sector, we appreciate that as a country, we have unique opportunities and potentialities to achieve greater growth targets. In this regard, we're happy to note that our extension staff has contributed in adopting some appropriate technologies over past years (i.e., introduction of herbs production technologies, high values crops, dates, improved varieties of fruits and vegetables, grafted watermelon, global gap certifications). It is however, unfortunate that the available operational funds for the extension services are limited and no adequate means and extension tools. As a Ministry, we will put in place structures and mechanism to encourage the strengthening of the National Agricultural Extension System and this is evident in the efforts being exerted to have an updating National Agricultural Extension Strategy.

To overcome these challenges, the MOA has adopted the National Agricultural Extension Strategy whose Vision is to ensure ideal conditions for the dissemination and exchange of information between producers, farmer organizations and other different partners in order to transform and to modernize the agricultural sector so that this sector can effectively contribute to achieve the development goals, Shared Vision, and the Palestinian National Food Security Strategy (PNFSS) objectives.

We hope that this strategy is another step forward to enabling the national agricultural development context and completes considerable progress towards the implementation of National Agricultural Strategy Shared Vision adopted by the cabinet on December, 2010. Different rural development actors (public sector especially DAD, civil society organizations, private sector, UN agencies, and International NGOs) should take this opportunity to improve and make sustainable their results in agricultural sector. The challenge for all of us is how to sustain this growth so as to fully revive the economy and improve the livelihoods of our people.

I would like to thank the chairman, secretary, and all member of the Extension Strategy National Committee, MOA staff, District Agricultural Directorates, NGOs, and private sector representatives, and all people who contributed to the formulation of the Palestinian National Agricultural Extension Strategy by conducting regular meetings, attending personnel and phone interviews, answering our inquiries and filling out the questionnaires. I would like to thank the consultancy team headed by Dr. Basim Makhool, CEO of Creative Business Solutions for their key role in preparing the strategy.

Special acknowledgement must be given to Netherlands Representative Office (NRO) in Ramallah for their generous financial support without which this strategy would not have been possible.

**The Minister of Agriculture**

**Eng. Walid Assaf**

## ACRONYMS AND ABBREVIATIONS

AES	Agriculture Experiment Station
AEZ	Agro-Ecological Zones
CBO	Community-Based Organizations
DG	Director General
DAD	District Agricultural Directorate
EO	Extension Officer
EQA	Environment Quality Authority
ESMS	Extension Subject Matter Specialist
EVAP	Improved Extension for Value-Added Agriculture Project
FAO	Food and Agriculture Organization of the United Nations
GDoERD	General Directorate of Extension & Rural Development
GDP	Gross Domestic Product
GDOPP	General Directorate of Planning & Policies
HRD	Human Resource Development
ICT	Information Communication Technology
IPM	Integrated Pest Management
JICA	Japan International Cooperation Agency
JRV	Jordan Rift Valley
LRC	Land Research Centre
MOA	Ministry of Agriculture
M&E	Monitoring & Evaluation
MOF	Ministry of Finance
NDP	National Development Plan
NRO	Netherlands Representative Office
NARC	National Agricultural Research Center
NGO	Nongovernmental Organization
oPt	Occupied Palestinian Territories
PARC	Palestinian Agricultural Relief Committee
PHG	Palestinian Hydrology Groups
PNA	Palestinian National Authority
PNAES	Palestinian National Agricultural Extension Strategy
PNFSS	Palestinian National Food Security Strategy
PRDP	Palestinian Reform and Development Plan
RWDS	Rural Women Development Society
SMS	Subject Matter Specialist
SWOT	Strengthen, Weakness, Opportunity, and Threat
USD	United States Dollar
UAWC	Union of Agricultural Work Committees
WB	West Bank
WB&GS	WB and Gaza Strip

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## Summary

Agriculture plays an important role in the Palestinian economy in terms of its contribution to gross domestic product, employment, trade, and food security. This importance comes from two important factors: climate and water. The location, with coastal plains on the Mediterranean Sea, mountains and below sea level land produces a beneficial range of climatic zones that are favorable to agriculture. Agriculture contributes about 5.4% in 2011 of GDP, and a key element in the trade balance, with a total agricultural exports \$ 79 million, and increased agricultural imports Palestinian to reach \$ 883 million, agricultural sector plays the role of an important role in absorbing manpower. Its share of employment reached 12% by the end of 2011. In addition to the important role of agriculture in food security, domestic agricultural production provides is about 78% of the food basket.

Regardless of its key socio-economic role, the agricultural sector faces many obstacles that can be summarized as follows: The Israeli repressive measure, particularly confiscation of land and water; limited access to developing water and land sources, low productivity, weak coordination between relevant institutions, weak services delivered to farmers, incompatible agricultural education with market requirements, in terms of specialization, quality and number of graduates, and weak application of applied scientific research and weak linkage between research, extension, technology transfer, agricultural education and training.

This Palestinian National Agricultural Extension Strategy (PNAES) is align with following national development plan and strategies, and also build on already existing relevant projects and programs: Palestinian National Reform and Development Plan (PRDP), Establishing the state, building our future, 2011-2013, National Agricultural Strategy Shared Vision, Palestinian National Food Security Strategy and other relevant documents and projects.

Throughout the preparation of the strategy the consultancy team engaged a wide set of stakeholders, including the MOA mainly the General Directorates, extension staff, farmers, and related NGOS. The consultancy team started by reviewing a long list of relevant studies conducted by the MOA about extension services, and JICA extension project, th MOA Sector Strategy, Food Security Strategy, and the Palestinian Reform and Development Plan, and others relevant reports. In addition, a focus group meeting was conducted in Ramallah on Wednesday 20 June 2012, and attended by 55 participants including extensionists, MOA senior staff, members of the National Committee members, JICA, and

others. The team also conducted structured interviews with MOA seniors, famers, and related. Also, filed visits were arranged to three famers, and a filed visit to a cooperative was done too.

By the end of 2011, approximately (168) extension officers working in extension services, and (4) agriculture experimental stations, (38) effective extension. Extension services suffers from several weaknesses including: lack of adequate operational fund allocated for the extension service is one of the most important factors that affect negatively the efficiency and effectiveness of the extension services in Palestine. Furthermore, low level of farm visits frequency, lack of specialized and tailor-based extension training programs both for extension workers and farmers, limited access of farmers to good quality agricultural inputs, especially good quality chemicals & seedlings, lack of means of transport for public extension workers at district and village level.

### ***Vision and Objectives of Extension Strategy***

The vision Extension Services is to have Palestinian agricultural extension clientele demanding and accessing appropriate quality extension services from reliable resources, attaining higher productivity, increased incomes, cementing the bonds and sovereignty of Palestinians over their land and improved standard of living.

### ***Strategic objectives***

The overall objective of the extension services is 'to empower the extension clientele through sharing of information and imparting knowledge, skills and changing of attitudes so that they can efficiently manage their resources, and to contribute to the professionalization of producers by effective adoption of innovations, in order to increase, diversify, specialize and intensify agricultural production, under conditions of economic profitability while preserving the environment.

To achieve the strategy overall goal it should realize the following specific objectives:

1. To improve the agricultural extension organization capacity building & institutional contexts;
2. To promote and consolidate research-extension- farmers linkages;
3. To improve the extension outreach & the effectiveness of extension approaches & methods;
4. To provide market-oriented extension services; integrated environmental support to farmers and extension support to all categories of farmers';

5. To assist farmers to make optimal use of their available resources, ensure access to food and income and enable farmers to mitigate and adapt to new climate challenges;
6. To provide tailor-made, more frequent and sustainable extension services to rural women & their cooperatives;
7. To strengthen farmer organizations and mobilizing farmers into specialized groups;
8. To improve the ability of the Palestinian agricultural products to compete in local and external markets;
9. To promote and support high value crops.

### ***Guiding principles & assumptions for the extension strategy implementation***

To encourage the various partners (including farmers) and agencies to provide efficient and effective services which complement and reinforce each other, in an effort to increase the efficiency and productivity of agriculture in Palestine, the next guiding principles are summarized as follows:

1. Participatory extension
2. Multi approach and multi method
3. Demand driven and market oriented extension;
4. Process and result oriented extension
5. Multi actor extension
6. Building on already existing initiatives

### ***Roles of different actors in implementing extension strategy***

Implementation extension strategy requires active participation of different stakeholders including the Government, Ministry of Agriculture, National Agricultural Research Center, Farmers' organizations, NGOs and Civil Society, Private sector, Banks and Micro-finance institutions, and Higher Agricultural Education Institutions

### ***Implementation coordination, monitoring and evaluation***

To guarantee effective implementation of the extension strategy, a logical framework was designed highlighting interventions needed to achieve each strategic goals, key performance indicators, monitoring, and budgets needed.

## CHAPTER-1

### 1.1 Agriculture Endowment and Its Socio-economic Role

#### A. Agriculture Endowment

Agriculture plays an important role in the Palestinian economy in terms of its contribution to gross domestic product, employment, trade, and food security. The location, with coastal plains on the Mediterranean Sea, mountains and below sea level land produces a beneficial range of climatic zones that are favorable to agriculture.

During the 2010/2011 agricultural year, there were 105,238 agricultural holdings in the Palestinian Territory.<sup>1</sup> Plant holdings comprised 68.2% of all agricultural holdings in the Palestinian Territory, mixed holdings comprised 21.8%, and animal holdings made up formed 10.0%. The total area of land cultivated with tree horticulture, vegetables and field crops in the Palestinian Territory was 1,034.9 thousand dunums. Cultivated land was composed as 63.8% tree horticulture, 12.5% vegetables and 23.7% field crops. As for livestock, there was about 40 thousand head of cattle, 732 thousand head of sheep and 240 thousand head of goats was raised, 38.4 million Broiler birds was raised on the 1<sup>st</sup> of October 2011, and there were 44.3 thousand beehives in the Palestinian Territory, of which 98.1% were modern beehives on October 2010.

The **value of agricultural production** of the Palestinian Territory during the agricultural year 2007/2008 amounted to about US\$ 1.36 billion (60.9% of plant production, and 39.1% livestock production).<sup>2</sup> The value of plant production totaled approximately US\$ 832 million, of which 31.7% came from the value of fruit trees' production, 55.6% from vegetables including cut flowers, and 12.7% from field crops. The value of livestock production (meat, dairy, eggs) was approximately US\$ 535 million. The value added of agricultural production of the Palestinian Territory was about US\$ 876 million, 74% of which were plant production, and 26% from the livestock production.

#### B. Socio-economic Role of Agriculture

##### Contribution to GDP

Notwithstanding the fact that the area of Palestinian Territory is relatively small, the climatic variability allows production of a wide range of agricultural products all over the year.

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<sup>1</sup> Palestinian Central Bureau of Statistics, 2012. Agricultural Statistics 2010-2011 Preliminary results.

<sup>2</sup> Palestinian Central Bureau of Statistics, 2009. Agricultural Statistics, 2007/2008. Ramallah - Palestine

Unique geographical location gives irrigated agriculture significant export potential to lucrative markets in the Middle East, Europe and Asia. Agriculture contributed about 5.4% to GDP in 2011.<sup>3</sup>

### **Contribution to Exports and Foreign Exchange**

Prior to 1971 Palestinian agricultural imports and exports were just about equal, in the US\$ 20-30 million range. Since that time, however, annual agricultural imports have come to far exceed exports. Agricultural exports totaled US\$ 79 million in 2011. Palestinian agricultural imports increased dramatically in dollar terms from US\$ 21 million in 1971 to US\$ 400 million in 1997, to US\$ 883 million in 2011.<sup>4</sup>

### **Contribution to Employment**

Agriculture's most important economic role has been that it served as a source of livelihood for a substantial proportion of the population, as an employer of last resort, especially during occupation. Agriculture absorbed 43 per cent of the labor force in the West Bank during the early 1960's. Though this percentage dropped to about 22 per cent in the early 1990's, agriculture has served as a shock absorber for the economy in the last few years of economic recession. This also helped alleviate poverty, which would have been far worse if this avenue was not available. The share of agriculture employment declined steadily to reach about 12% in 2011. Such decline is attributed mainly to the Israeli repressive measures against the agriculture sector.

### **Contribution to Food Security**

Food security is defined as the availability, accessibility, affordability and equitable distribution of safe and nutritious food to all sections of the population at all times, through the establishment of integrated, multi-sectoral, autonomously managed systems and means. On average, a Palestinian family spends about 37% of its budget on food items. Due to high rates of unemployment, and poverty, about 26% of individuals are food insecure. Agriculture production is a key contributor to food security, as domestic agriculture production provides about 78% of the food basket.<sup>5</sup>

Regardless of its key socio-economic role, the agricultural sector faces many obstacles that can be summarized as follows:<sup>6</sup>

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<sup>3</sup> PCBS. National Accounts 2011.

<sup>4</sup> PCBS. Foreign Trade Statistics 2011.

<sup>5</sup> Palestine Economic Policy Research Institute. How to Increase the Market Share of Domestic Products. July 2012 unpublished draft.

<sup>6</sup> MOA. Agriculture Sector Strategy – Shared Vision. 2009. Ramallah

- The Israeli repressive measure, particularly confiscation of land and water; limited access to developing water and land sources.
- Incomplete legal framework relating to the management of agricultural resources and weak enforcement of respective laws and regulations.
- Weak mechanisms that deal with disasters as well as with manifestations of climate change and desertification.
- Declined productivity due to weak application of modern agricultural systems and techniques by farmers; underdeveloped research and extension; and weak veterinary services, plant protection, marketing, financing, and post-harvest services.
- Weak coordination between relevant institutions, and weak role of supportive institutions including cooperatives.
- High input prices.
- Unfair competition with Israeli products.
- Weak marketing services and infrastructure.
- Declined levels of services delivered to farmers and weak service-related infrastructure.
- Incompatible agricultural education outputs with market requirements, in terms of specialization, quality and number of graduates.
- Absent of laws related to agricultural insurance, lacking mechanisms necessary to deal with natural disasters and weak agricultural and rural finance services.
- Weak application of applied scientific research and weak linkage between research, extension, technology transfer, agricultural education and training.

## 1.2. THE NATIONAL CONTEXT

This Palestinian National Agricultural Extension Strategy (PNAES) should align with following national development plan and strategies, and also build on already existing relevant projects and programs:

**A. Palestinian National Reform and Development Plan (PRDP), *Establishing the state, building our future, 2011-2013*:** The core national development vision of the PRDP is that independence, sovereignty, and open borders are essential ingredients for the sustainable social and economic development of Palestine. The provision development expenditure over the next three years is about US\$178 million which reflects the government commitments to the agriculture sector development as a driver of economic growth and major contributor to food security. By developing the agriculture sector, it aims at generating employment and

increase food security for previously marginalized communities and for workers previously employed in Israeli settlements. The PRDP aims also at empowering local government and bring public services closer to citizens. Moreover, and among other main objectives, it aims at providing support and empowerment to the poor and other vulnerable citizens and their families<sup>7</sup>.

**B. National Agricultural Strategy Shared Vision:** Given the importance of the agricultural sector in economic development of the Palestinian Territory, and the need to ensure sustainable food security for the whole population, the MOA has formulated an agricultural strategy shared vision, adopted in December 2010. This strategy puts the farmer at the centre of its concerns and aims at enabling him to contribute to modernization and professionalization of Palestinian agriculture and to make the agricultural sector the pillar for economic growth of the country, for poverty reduction and for food security. The Shared vision strategy also identifies extension services and innovation as one of the priority areas which will help improve productivity and modernization of the agricultural sector. It's hoped that donors' partner recognizes this importance and demonstrates commitment to progressively increase the budgetary allocation for agricultural sector including extension.

**C. Palestinian National Food Security Strategy (PNFSS):** Based on the national policy orientations and a process of broad consultations with local communities and other stakeholders, the MOA formulated, in 2005, a Food Security Strategy Paper which has been under implementation. This initiative was supported by the EU office in West bank & Gaza Strip.

**D. Dutch Programme Improving Livelihoods in the Palestinian Territory – West Bank Districts:** This program is funded by the Minister of Development and Cooperation through the Netherlands Representative Office (NRO) in Palestine. The program is implemented by a consortium of five local Palestinian NGOs, led and managed by Agricultural Development Associations (PARC), and working in agriculture sector and rural development, these are: Agricultural Development Associations (PARC), Palestinian Hydrology Groups (PHG), Land Research Centre (LRC), Union of Agricultural Work Committees (UAWC) and Rural Women Development Society (RWDS). This program consists of five sub - projects, where each of the five organizations will carry certain activities at different locations aiming at improving livelihood in the Palestinian Territory. This program will be implemented in a close cooperation with the Ministry of agriculture (MOA). The overall objective of this

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<sup>7</sup> *Palestinian National Reform & Development Plan (PRDP), "Establishing the state, building our future", 2011-2013*

program was to contribute to the improvement of access to food for vulnerable population in rural areas of the WB. While its specific objective is to protect and improve access to natural resources in the targeted locations of rural areas in the West-Bank.

**E. Project Improved Extension for Value-added Agriculture in the Jordan River Rift valley EVAP:** Japan International Cooperation Agency JICA is implementing a project entitled *Improved Extension for Value-Added Agriculture in the Jordan River Rift Valley (EVAP)*. Its overall goal is to enhance agriculture economy and livelihood of farmers in the Jordan Valley Rift. EVAP is going to support selected farmers' organizations through training and extension activities in order to grow farmers who will think and act by themselves. Major supporting activities will be carried out in the field of (i) farming practices towards cost reduction and improvement in quality and productivity, (ii) financing for the practical utilization of information and technology obtained by farmers and (iii) marketing activities to strengthen the adaptability of farmers to the market<sup>8</sup>.

### **1.3. Objectives of the Strategy**

The purpose of the PNAES includes (a) providing the framework for a sustainable and coordinated solution to effective extension service delivery in Palestine, replacing the hitherto *ad-hoc* approach, promoting synergies and avoiding wasteful duplication (b) offering a clear vision and management tool for MOA concerning what and how it intends to prioritize, oversee and coordinate implementation of its agricultural extension policy, and (c) demonstrating that clear vision to donors to assure their commitment, such that Strategy implementation is properly-resourced.

### **1.3. Methodology**

The MOA contracted a local consultancy company Creative Business Solutions, which teamed with two international consultants to prepare the agricultural extension strategy. Throughout the preparation the consultancy team engaged a wide set of stakeholders, including the MOA mainly the General Directorates, extension staff, farmers, and related NGOS.

The consultancy team started by reviewing a long list of relevant studies conducted by the MOA about extension services, and JICA extension project, the MOA Sector Strategy, Food

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<sup>8</sup> EVAP Project publications

Security Strategy, and the Palestinian Reform and Development Plan, and others relevant reports (see annex – for a list of such reports).

In addition, a focus group meeting was conducted in Ramallah on Wednesday 20 June 2012, and attended by 55 participants including extensionists, MOA senior staff, members of the National Committee members, JICA, and others. During the focus groups, extensionists were asked to fill a short questionnaire about the main obstacles facing them, and key recommendations to improve extension services. 23 extensionists filled the questionnaire (See annex for the questionnaire and its results).

The team also conducted structured interviews with MOA seniors, farmers, and related NGOs (See annex for a list of interviewees). Also, field visits were arranged to three farmers, and a field visit to Thenab cooperatives was done too.

## **CHAPTER-2**

### **2. EXTENSION SERVICES IN PALESTINE**

The following subsequent pages are going to provide concise information about the agricultural extension system in Palestine in terms of: historical evolution of extension services, staffing, gender, extension organizations, extension methods and financing and funding extension services.

#### **2.1. HISTORY & EVOLUTION OF EXTENSION SERVICES**

Modern agriculture, which requires a large spectrum of public and private service-provision institutions, was practically not known in the Near East region before the end of the Second World War. Agricultural institutions existing at that time were, more or less, of the administrative types that monitor the abidance to laws and regulations. Among the very few services that started during the British Mandate were education, research, and to some extent, extension. However, agricultural education was neglected, agricultural research was concentrated on seed development, and extension was mostly for distributing developed seeds to farmers.

The situation was improved after 1948, when the district agricultural directorates started to be more active in service provision. The Agricultural Credit Corporation of Jordan and the Jordan Central Cooperative Union and some commercial banks became somewhat active in the supply of agricultural credit in the WB.

Agricultural research and extension activities started in Palestine during the British Mandate and continued after 1948 until 1967, where some improvements were effected during the sixties. Improvement continued during the early years of occupation. However, occupation authorities soon reversed this policy. Research budget was slashed and experimental stations were requested to operate their fields on commercial basis, closing those realizing losses. Eventually, experimental stations were closed and research was almost completely halted. Except for very little effort in the field of applied research, most of the research activities were in the form of surveys rather than research experiments. To encounter these developments, some NGOs were organized to carry out, among other activities, some research and extension work. Colleges, with the assistance of NGOs and in some cases by supplier of inputs, kept carrying out some research. In spite of the fact that their work was

limited in scope, they succeeded in introducing some new crop varieties, protected agriculture, plant protection, agricultural practices and irrigation techniques.

While the extension budget was also cut to barely cover salaries, free access to Israeli research was substantially reduced, and extension staff was reduced to one-third. Extension work was continued at a substantially reduced level with only about 71 extension officer in the WB and Gaza. They performed their duties through certain programs, working with farmers groups rather than individuals. Many national and international organizations involved in rural development and extension work filled in the gap, enabling the continuation of extending some services to the Palestinian farmers. Extension services were provided to cooperatives and selected farmers, demonstrations at selected model farms were performed, some field days and seminars were organized, and some extension pamphlets were produced, mostly translated from Israeli publications. However, these activities reached less than half of the farmers' communities<sup>9</sup>.

## **2.2. ANALYSIS OF CURRENT AGRICULTURAL EXTENSION SERVICES IN PALESTINE**

The results of the study *Assessment of the Public Agricultural Extension System of Palestine & Recommendations for Improvements* which was conducted recently by the MOA showed that approximately (168) extension officers working in rendering extension services to farmers distributed all over the West Bank districts, and (4) agriculture experimental stations, (38) effective extension units including the extension staff working in the GDoERD headquarters. The female extension officers represent around (27%) of the total extension staff, the majority of the extension officers (62%) were in the age groups of (30-39 years), where around (68%) of the extension officers are belonged to the category professional experience of (5 to 13 years).

There is (38) effective extension units distributed all over the West Bank districts, it targets around (269) village and town, (65) extension officers are currently working for the extension units, it renders extension services to farmers in surrounding villages and more specifically in the village where the extension unit's headquarter is, this is due to lack of reliable means of transport and shortage of extension staff. The office of the extension units is often a one office room granted by local authorities or municipalities. They don't have adequate office and field equipments.

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<sup>9</sup> MOA, "Subsector strategy: Institutional building", 1999.

The results of the aforementioned study also showed that the majority (58%) of the respondents' farmers had a better perception about the effectiveness of the provided agricultural extension advisory services. While, 60% of the respondent farmers felt that the MOA E.O are credible and able to provide extension services, in case farmers face problems, (43%) of farmers go to the extension officers for support, as first choice, and (28.3%) go to farming inputs suppliers for support. The information method most appreciated by farmers (54%) is obviously the visit of the extension officer to their farm followed at long distance by field day (18%). This is confirmed by our respondents, approximately (22%) confirmed that they were not visited at all, (40%) of the farmers complain that they were visited long time ago (3 to 6 months), and few (19%) of who affirm to have been visited quite recently (between 1 week and 1 month) as of the date of field survey conduction.

To shed light on the extension system performance, it has been revealed that the ratio of extension officers to farmers in the WB districts is approximately (1:1900) which is far higher than the international standards and other developing countries. The extension services reached less than half of farmers' communities in rural areas by assuming that the agricultural holding in Palestine is around (5 dunums).

The most common methods of advice used is the individual farm visit, as mentioned earlier, it is the most preferred methods by farmers. In general, farmers are not quite satisfied with Radio and TV programmes. Also, the agriculture experimental stations have not an effective role in technology transfer and solving farmers' technical problems, also there is weak linkages and coordination among extension service, applied research and demonstrations.

Lack of adequate operational fund allocated for the extension service is one of the most important factors that affect negatively the efficiency and effectiveness of the extension services in Palestine. Whereas only some amount of 2500NIS/ agricultural directorates/year is allocated as operational expenses rather than (salaries, wages, and fuels). The said amount is not absolutely adequate to cover the needed expenses for one experiment or demonstrations.

The gender extension service is still not at the optimum level, where contacts with rural women are often conducted through rural women associations which exist in rural areas and villages. The rendered extension services to rural women members can be in the form of filed visits, lectures and training courses covering some areas of food processing techniques and home gardens. There is a clear shortage in all rural areas coverage, low frequent field visits

(from 3 to 8 field visit per woman association per year). Female extensionists form about 27% of the extension staff which is relatively acceptable, though efforts are in place to increase it.

Additionally, it has been identified that the credibility of the E.O, coverage percent, and frequency of contact with E.O, varieties of the extension services received by the farmers and farmers' education, lack of operational funds, distortion of extension organizational structure, inadequate of logistics support, mobility restriction, weak of available human resources, inappropriate enabling environment, lack of performance-based reward system, all mentioned factors altogether, had significant relationships with effectiveness of the extension services

### **2.3. SOME EXAMPLES OF EXTENSION APPROACHES CURRENTLY PRACTICED IN PALESTINE.**

There are several extension methods for collective and individual interaction, which the E.O can choose to achieve the desired goals within the extension programme. The extension methods often selected either by an extension staff; it depends on the following criteria: number of target population, extension topic, and best way of addressing farmers' problem. The adopted extension methods and media are illustrated as follows:

**A) Field and office visits:** This entails individual meetings with farmers in their fields or farm to know the agricultural operations applied in the field along with existing technical problems through watching and direct talk. This is an effective method applied daily by the MOA extension officers.

**b) Extension Lectures:** One of the collective methods of conveying skills and information to farmers is through planned meeting with specialists of the relevant lecture topic. In these meetings, PPT and audio visual aids are used to increase the effectiveness of the lecture, which is held at the local authorities' buildings, farmers associations, and houses of farmers.

**c) Field days and demonstrations:** It is one of the collective extension devices to convey ideas through watching something that has been made successfully in a normal farm. This method is accompanied by the presence of specialists to show the differences and reasons of production increase, through improved agricultural operations on these fields.

**d) Farmer Field School:** The farmer field school is a season-long training of farmers involving participatory activities, hands-on activities and decision making. The field school trainer plays the role of a facilitator rather than an instructor. The objective of the field schools is to give farmers an opportunity to learn and achieve greater control over the conditions they face daily in their field. Farmers who participate in field schools learn how to reduce their use of pesticides, enhance their yields and increase incomes. In Palestine, this collective method is applied only in five main districts under a regional programme entitled *Regional Integrated Pest Management (IPM) Programme* funded by the Government of Italy and implemented by FAO in close collaboration with the MOA. The programme is started late 2004 and will last until the end of December 2011. The total number of beneficiaries, in the current agricultural season, is approximately (180) farmers distributed over (12) localities in five districts. It targets different types of crops such as: protected tomato, grapes, almonds,

and citrus. The primary objective, as mentioned, is to teach farmer how to optimize the uses pesticides. Each Farmer Field School consists of 15 farmer participants and receives a grant of US\$1000 for farming inputs procurement. The FFS is recommended to be adopted by the MOA Extension officers as collective and participatory extension methods and as a key tool of improving effectiveness and efficiency of the MOA extension services.

**e) Extension Publications:** They include extension pamphlets, posters, extension messages, agricultural booklets ...etc. These publications aim at achieving certain extension goals and transferring technical information to farmers and workers in agriculture, as to add new expertise and modern agricultural styles through written words and photos.

**f) Television:** There has been no regular TV agricultural programme (episodes) being produced and aired despite its importance in reaching a wide range of farmers and interested people. However, from time to time, some local TV's broadcast one or a series of episodes concerning some agricultural topics in close collaboration with the MOA. Limited financial resources hinders production of episodes.

**j) Radio:** The radio is considered an important mass media. It reaches a wide range of people, because it depends on easy and clear information conveyed in suitable language. The audience of the radio can listen to the programmes being broadcasted while working or while driving, without any effort to get the information. Due to these advantages, there are two agricultural programmes being produced and broadcasted as of 2010 and the second half of 2011, as follows:

(i). Mahattat Zira'eyeh Agricultural Stations. Sponsored by Radio Voice of Palestine, it releases daily early morning between 6:45 to 7:00 hr, for (15) minutes.

(ii). Al-Majalla Al-Zira'yeh Agricultural Magazine, sponsored by Radio Voice of Palestine, it broadcasts every Monday between (17:00) and (17:30hr) and it re-broadcasts every Tuesday between (21:00 hr) and (12:30 hr).

The program takes technical and scientific information from the related departments in the Extension and Rural Development Directorate, DAD's, and Mass Media department within the MOA.

**K) Short Messages Services-SMS, Virtual Extension Portal, and MOA website:**

Farmers receive SMS on urgent issues, and key information including weather conditions to raise their awareness about technical issues.

#### 2.4. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

In the process of developing Palestinian National Agricultural Extension Strategy (PNAES), several semi-structure interviews, meetings, workshops and focus groups have been organized to do a SWOT analysis of the current situation regarding agricultural extension in Palestine, the practices by different organizations, institutions and other partners. Farmers and other partners deplored the absence of adequate operational funds and other needed supportive means for the agricultural extension services, especially at national, districts, and village level as the main cause of inefficiency of extension service delivery. Furthermore, they pointed out the low level of farm visits frequency, lack of specialized and tailor-based extension training programmes both for extension workers and farmers, limited access of farmers to good quality agricultural inputs, especially good quality chemicals & seedlings, lack of means of transport for public extension workers at district and village level, and poor extension-research linkages. The table below illustrates what the participants and interviewed persons, identified as Strengths, Weaknesses, Opportunities and Threats of the current agricultural extension services in the Palestinian Territories.

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> <li>-Existence of many Farmers organizations, NGOs and Projects as service providers;</li> <li>-Existence of infrastructures to support extension services (training centers, storage infrastructures ...);</li> <li>- There are some trained and progressive farmers in the country.</li> <li>- Trained Technical staff in some of the institutions and organizations</li> <li>-Most national organizations do realize the importance of agriculture sector in Palestinian Contexts and do consider agricultural sector as a priority;</li> <li>- Application of ICT in extension such as SMS, websites and agricultural media;</li> </ul>	<ul style="list-style-type: none"> <li>Lack of synergy and harmonization of different agricultural approaches and development initiatives, programs and/or plans at different levels;</li> <li>- Lack of information sharing among different actors in agricultural sector;</li> <li>- Poor coordination with partners that target the same categories (nongovernmental extension);</li> <li>- Inadequate operational resources (vehicles, human, material and financial) to fully out-scale the success stories.</li> <li>- Lack of monitoring&amp; evaluation system for extension;</li> <li>- Organizational structure of extension is not consistent with the actual work of extension;</li> </ul>

<p>- There is a good margin of trust between the farmer and extension worker</p> <p>Availability of qualified, trained, efficient staff capable of transferring modern technology;</p> <p>- Distribution of extension directorates and extension units in all governorates</p>	<ul style="list-style-type: none"> <li>- In adequate number of specialists in some technical and scientific fields;</li> <li>- Lack of specialized training for extension workers at national, District and sector level;</li> <li>- Offering supply-driven training programs</li> <li>- Inadequate training for newly appointed staff</li> <li>- Budget for the extension doesn't fit with its responsibilities and this is reflected in the weakness of the means used and available facilities;</li> <li>-Lack of incentives for agricultural extension officers.</li> <li>-Lack of means of work for extension workers (means of transport, GPS, laboratory, Kits, Computers.....);</li> <li>-Weak organizational and low technical capacity of existing farmers cooperatives;</li> <li>-Media which are not effectively and sufficiently used in agricultural extension information sharing/dissemination;</li> <li>-Absence of a functional relationship between NARC and extension Officers at District and Sector level (no mechanism of feedback from research up to the extension officers);</li> <li>- Poor coordination between extension system and NARC which weakens the credibility of the messages delivered to farmers;</li> <li>- Poor coordination with partners that target the same categories (nongovernmental extension);</li> <li>- Inadequate coordination, collaboration and networking amongst service providers</li> <li>- Weaken research extension farmers linkage</li> <li>- Weak role of universities in the extension of local community and is confined to the teaching and scientific research to a lesser extent</li> </ul>
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	<ul style="list-style-type: none"> <li>-DAD &amp; extension officers don't do in their own farms what they are supposed to demonstrate to farmers and other partners in the area;</li> <li>- Insufficient quality seeds of certain seeds (i.e. strawberries, watermelon,...). When available, late delivery of quality seeds;</li> <li>-Farmers are not sufficiently sensitized on the utility of agricultural credit and fear to take credit;</li> <li>- Some farmers don't know where they can find agricultural service providers for certain agricultural issues.</li> <li>- Extension worker is involved in non extensional tasks and contrast with the extension work</li> <li>-Most of the NGOs are out of extension works</li> <li>-Some farmers (low percent) in the remote &amp; vulnerable areas do not know how to read and write.</li> </ul>
<b>OPPORTUNITIES</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>- Political will to develop agricultural sector;</li> <li>-Existence of a National Agricultural Strategy - Shared Vision and related strategies approaches and programs Ex: Dutch programmes, EVAP projects.</li> <li>- A network of micro finance institutions present in all Districts;</li> <li>- Agricultural Education Institutions (faculties of agriculture, rural development program in Al-Quds university, ....).</li> <li>-There is a coordination between neighboring countries in this field</li> <li>-Communication facilities (Several radios, newspapers, ICT);</li> <li>- Good relationships between district agricultural directorates and local authorities to take part in decision-making in the context of planning and expanding coverage</li> </ul>	<ul style="list-style-type: none"> <li>- Israeli repressive measures including land confiscations, restriction on access to land and water resources;</li> <li>-Insufficient public financing allocated to agricultural sector;</li> <li>-Some local authorities do not consider agriculture as a priority;</li> <li>-Lack of motivation for Extension Officers;</li> <li>- Public extension Officers at District and sector level are diverted from their main task which is agricultural service delivery;</li> <li>-Resistance to change by the farmers ;</li> <li>-Insufficiency of extension officers, in particular high value crops, herbs, dates, new promising sub-sector specialists;</li> <li>- Research confined in experimental stations and not sufficiently done in farmers fields;</li> <li>- Research results not effectively translated</li> </ul>

<p>of extension services (making available office space for the village extension unit).</p> <p>-Existence of a good willingness and intentions for Cooperatives promotion;</p> <p>- Organization of agriculture shows;</p> <p>-Good climatic conditions favourable to agriculture and earlier production, especially in the Jordan valley Rift river.</p> <p>-Opportunities for expansion on regional and international markets.</p> <p>- Interest of some donors to support extension</p>	<p>into extension messages, to be disseminated to different beneficiaries and partners;</p> <p>Qualified extension workers left to better job opportunities;</p> <p>-Agriculture inputs expensive compared to the purchasing power of the farmers;</p> <p>-lack of high quality seeds.</p> <p>-Climatic risks (especially in the Jordan Valley and the South of West Bank)</p> <p>- High interest rate on bank credits;</p> <p>-Lack of insurance scheme in agricultural sector;</p> <p>- Eligibility criteria for farmers to access bank credit difficult to meet;</p> <p>-Lack of concentration platforms between all stakeholders in agricultural sector;</p> <p>-Good quality seeds not enough on agri input markets or other sources;</p> <p>-Political instability in the region;</p> <p>-Lack of Palestinian control on external borders</p> <p>-Macro-economic instability;</p>
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**Sources:** (i). *Study Assessment of the Public Agricultural Extension System of Palestine and recommendation for improvements, MOA, May, 2011* (ii). *Study Evaluation of the key agricultural service provided to Farmers in Palestine MOA 2012* (iii) *Semi-structure interviews and national workshops conducted on June 2012.*

## **CHAPTER-3**

### **3.1. NATIONAL AGRICULTURAL EXTENSION STRATEGY**

#### **3.1.1. Defining Agricultural Extension**

There is no single definition of ‘agricultural extension’ which is universally accepted or which is applicable to all situations. The general concept of extension is a function of providing the required and demand-based knowledge and skills with the objective of enhancing their capacity to undertake farming operations, to improve productivity and quality of life. Extension is concerned not just with physical and economic achievements but also with the development of the rural people themselves. This involves helping farmers in developing abilities to direct their own future development.<sup>10</sup>

Agricultural extension has become one of the means to help alleviate poverty and improve food security, by promoting the transfer and exchange of information that can be converted into functional knowledge to develop enterprises for promoting productivity and generating income. The ultimate goal of agricultural extension is to increase the agricultural productivity of farmers, especially small-scale farmers. This involves technological modifications at the farm level and this depends on its impact on development and dissemination of improved technologies, and involves sociocultural and behavioral adjustments. All these changes can only be institutionally possible through well-established links between the state, research, extension and private organizations (or NGOs).<sup>11</sup>

Agricultural extension placed in the middle of the network of farming inputs, information and services is often highly inconsistent, particularly in more remote areas, especially in developing countries. Therefore, the main task of the extension services, if organized properly, is to bring together and develop that network. A key role of extension services is to link research with farmers in a continuous way. Although it is not the job of extension services to provide inputs and services, they must make providers of such goods and services aware of farmers’ needs and to ensure that these services are provided properly.<sup>12</sup>

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<sup>10</sup> Jusipbek Kazbekov and Asad Sarwar Qureshi. Agricultural Extension in Central Asia: Existing Strategies and Future Needs. 2011. International Water Management Institute. Pakistan.

<sup>11</sup> Same previous reference.

<sup>12</sup> *ibid*

### **3.1.2. Vision and Objectives of PNAES**

The PNAES document presents a situation analysis of the current state of agricultural extension services, on the basis of which a vision, objective and several main areas of policy intervention are set out for moving towards the achievement of the vision and objective.

The Extension Services **vision** is to provide relevant, up to date, and effective extension services to attain higher productivity, increased incomes, cementing the bonds and sovereignty of Palestinians over their land and improved standard of living.

### **3.1.3. Overall objective**

The overall objective of the extension services is ‘to empower the extension clientele through sharing of information and imparting knowledge, skills and changing of attitudes so that they can efficiently manage their resources, and to contribute to the professionalization of producers by effective adoption of innovations, in order to increase, diversify, specialize and intensify agricultural production, under conditions of economic profitability while preserving the environment.

### **3.1.4. Specific strategic objectives:**

*To achieve the strategy overall goal it should realize the following specific objectives:*

1. To improve the agricultural extension capacity building & institutional contexts;
2. To promote and consolidate research-extension- farmers linkages;
3. To improve the extension outreach & the effectiveness of extension approaches & methods;
4. To provide market-oriented extension services; integrated environmental support to farmers and extension support to all categories of farmers';
5. To assist farmers to make optimal use of their available resources, ensure access to food and income and enable farmers to mitigate and adapt to new climate challenges;
6. To provide tailor-made, more frequent and sustainable extension services to rural women & their cooperatives;
7. To strengthen existing farmer organizations and mobilizing farmers into specialized groups;
8. To improve the ability of the Palestinian agricultural products to compete in local and external markets;

9. To promote and support high value crops.

### 3.1.5. Guiding principles & assumptions for PNAES implementation

To encourage the various partners (including farmers) and agencies to provide efficient and effective services which complement and reinforce each other, in an effort to increase the efficiency and productivity of agriculture in Palestine, the next guiding principles are summarized as follows:

(i) **Participatory extension:** Not one way giving information, but in a participatory process by discussing, acceptance of the knowledge, and use of the knowledge. Moreover farmers have to be participated in problems and priorities identifications as well as in extension programme design and planning.

(ii) **Multi approach and multi method:** using several ways to reach the specific groups of farmers, using all the possible methods like individual meetings, group meetings, mass media, written leaflets etc

(iii) **Demand driven and market oriented extension:** In addition to market needs and/or requirements, the interventions should be planned as per demand by different target groups, considering the specific conditions of the area or location;

(iv) **Process and result oriented extension:** The process has to be as good as the results. That is, the expected or targeted results and/or impacts should be planned well.

(v) **Multi actor extension:** The strategy recognizes the complementarities and potential synergy of different actors in agricultural development (NGOs, farmers' organizations, research, extension, agricultural education institutions, input supply, micro credit and other public and private partners intervening in the sector;

(vi) **Building on already existing initiatives:** Building on already existing initiatives. Last year important reports were made, and based on these reports first initiatives were made. Initiatives described in the report *Development of pilot agricultural extension model* must be used in the new strategy.

(vii). **PNAES Flexibility:** The Strategy is flexible, capable of modification in the light of experience, and able to absorb and adapt to lessons learnt. Most particularly, it should allow for two political scenarios. Namely, *either* that the political status quo continues (viz. worsens

all the time), the Israeli settlements and Separation Wall continue to be expanded and extended, frequent settlers harassments, and restrictions on movement accentuated, *or* that the peace process leads to amelioration of living, access to natural resources, and trading conditions.

**(viii). Extension baseline:** the study Evaluation of Public Extension Services System of Palestine: Recommendations for Improvements will form a comprehensive extension baseline. It will be also used as an effective tool for setting-up targeting indicators and comparing them with actual progress, KPI's and impact measurement.

## CHAPTER-4

### 4. 1. POLICIES TO ACHIEVE STRATEGIC OBJECTIVES

In order to achieve the stated strategic objectives of the public extension system, the policies have been identified which require adequate resources, collaboration and working relationships with all concerned institutions that make decisions on the provision of agricultural extension services:

#### **POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (1): THE EXTENSION ORGANIZATION CAPACITY BUILDING AND INSTITUTIONAL ASPECTS**

##### **1.1. *Ensuring better coordination and establishing an effective M&E system:***

Coordination among different extension agencies, a variety of extension agencies among them NGOs, universities, private companies, are operating in the oPt.. However, lack of coordination among the extension agencies is resulting in pluralism that is confusing the farmers who ironically should be the beneficiaries of the services. There is therefore need for co-ordination amongst the different extension services providers. It is also necessary to have an organized monitoring and evaluation system to correctly assess the impact that the current extension has on agriculture. This will pave the way for the adoption of an appropriate mode of extension that addresses the challenges that conventional extension systems present by ensuring that the farmer plays a more active role in terms of decision making on how local agriculture development is supposed to take place. The recommended M&E system will serve as an effective tool of data collection and tangible impacts measurement generated by the extension strategy implementation.

**1.2. *Adequate financing and funding for the agricultural extension services:*** The public extension service is financed through MOA own financial resources and donor contributions. Large fluctuations in the size of this fund have caused financial continuity and disbursement problems for agricultural extension. These problems in addition to inability to implement regular and routinely extension activities underscore the need for an increased share of the government financing and financial contribution.

The MOA calls for major new investment funding in agricultural research and extension from development agencies, Donors, and Palestinian government. The goal is to increase the

current annual spending on Agricultural Extension, Technology Dissemination and Adoption, which a mere of less than 0.038% of AgGDP<sup>13</sup> to 1 % of AgGDP in 2015. The MOA recommends that funding for extension services will come from government budgetary allocations and Donor agencies. Agricultural GDP in 2010 was 560 million (5.9% of GDP), which means that total government investment in agricultural extension needs to increase to USD Million 2.8 annually as of 2013, based on the MOA recommendations. However, allocating more funds to extension should be lead to and linked to an evaluation system to warrant better performance of extension services.

**1.3. Extension organizational structure:** All line directorates within the MOA were organized within a top-down organizational structure that was managed closely from the national to the district level. While the General directorate of extension and rural development (GDoERD) consists of the following main departments, as follows: Horticulture, Vegetables & cut flowers, Rural Development, Field Crops, Animal, and Mass media and Planning of Extension programmes.

At the district level there are 13 District Agricultural Directorates. Their organizational structures includes the following divisions: (1)- Plant Production Division includes: rainfed, irrigated vegetables, horticulture, field crops, and plant protection; (2)- Animal: Poultry, livestock, and Bees; (3)- Rural development division; (4)- Media division; (5)- Planning division; (6)- Plant protection and Marketing division; (7)- Natural Resources division.

This structure was workable in helping the MOA to overcome barriers and mobility restrictions during unrest political situation (i.e., second Intifada), but its top-down approach was not helpful in terms of indentifying farmers' needs, priorities' and formulating a demand-driven extension programme. In 2005, some extension officers were settled in sections or departments within the MOA organizational structure, which are not fit best or suits their qualifications and professional experiences. The reasons were simply for getting better positions and remuneration as well as filling out vacant boxes of the MOA organizational structure. This had negative consequences on the MOA extension officers' performance and on the public agricultural extension system as a whole.

Based on this, the objective of updating & revising of MOA organization structure has become a priority. The revision will aim at the following: (i). Develop better institutional framework responsive to market-demand on extension services, (ii) enable the MOA

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<sup>1313</sup> *By considering that the total annual budget of the MOA is about US\$ 21 Million.*

extension officers to implement their duties and tasks in an effective way and; (iii). to enable DAD and lower level extension units to assume greater role in planning, managing and monitoring of extension services; and (iv) rectify inappropriate action regarding employees' settlements- by appointing the right person in the right position

**1.4. Integrated information and communications technology in services delivery:** The witnessed innovation in information and communication industry offers better and wider accessing opportunities to more people and to effectively and efficiently implementing various functions within the agricultural extension systems. These innovations make an easy access to local or global information and knowledge and are considered simple channels for a two-way communications. New technologies bestow farming households better accessibilities and could be a major empowering resource. Key communications apparatus for improving extension services including:<sup>14</sup>

**(i). Mass Media and development communications:** This includes broadcasting by both (radio and television), printed papers (daily newspapers, periodicals, magazines, and extension brochures), and other accessible approaches, such as posters campaigns, movies and films, etc which enable a source of information to contact many of targeted audience. Public extension services have been slowed to grasp the potentials of mass media, but private firms effectively use mass media in advertising campaigns. Mass media is relatively more important at knowledge function. Here, the key purpose is to generating knowledge and spreading information that leading to changes in feebly environmental attitudes.<sup>15</sup>

**(ii). Interpersonal contacts:** This involves making a face-to-face contact exchange between two or more individuals. It includes field work of extension officers at grass-roots level, friends and/or relations, demonstrations, study tours, agricultural demonstrations & shows, exhibitions, training sessions, meetings /consultations, traditional/cultural gatherings or ceremonies.. etc. These channels could have greater effectiveness to combating any resistance or apathy by the targeted audience. The configuration and change of strongly held attitudes are best consummated.<sup>16</sup>

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14 United Nations, Economic & Social Council, "Approaches, Strategies and Challenges for Information Management and Usage in Fostering Sustainable Agricultural Growth and Rural Economic Development in Sub-Saharan Africa". 29 April- 04 May, 2004, Addis Ababa Ethiopia.

<sup>15</sup> ibid

<sup>16</sup> Ibid "page 29"

*(iii). Telecommunications Systems:* These range from the pay phone to digital wireless phones and the Internet and are powerful tools for expanding the flow of information of all types, and facilitating market transactions, changes in employment, competition, emergence of new industries, and social transformations. Phone communications enhance quality of life and make working and living in rural areas more attractive especially for the youths who are constantly abandoning farming as a primary means of livelihood.

*(iv). Information Technologies:* These manage large volumes of information that can be used in planning, administering, and monitoring agricultural extension programs. Technologies, such as web portal and computer-based databases, remote sensing, geographic information systems, global positioning systems, and weather and climate forecasting generate knowledge that agricultural extension systems provide to clients.<sup>17</sup>

The advancements can help the Palestinian researchers; extension officers, farmers, etc compete in the evolving knowledge economy where competitive advantage is often dependent on timely access to high-quality information. Changes in farming systems also require extension systems to provide more knowledge and information support as producers diversify to new crops, meet higher food quality standards, or adapt to greater resource constraints. Many benefits derive from linking new technologies with traditional media. Internet searches identify global knowledge resources for local print media use; call-in internet radio shows allow listeners to phone in questions that can be researched on the internet before the results are then reported over the radio.

**1.5. Dilution of effects of extension services:** The field level extension officers are often made responsible for a variety of other activities, such as inspections, distribution farming inputs, donor-funded projects implementation, and regulatory work of procurement and collection of statistics. Thus, the efforts towards rendering effective agricultural extension services get diluted. The MOA should tackle this issue by setting-in-place certain mechanism through which extension officers can only be involved in delivering extension services to farmers, and in implementing activities of extension-based agricultural projects.

**1.6. Facing up to and addressing human resource limitations:** Training is a fundamental feature of the extension approach supported by the New Agricultural Extension Strategy. Extension is no longer a matter of simply providing information to farmers. It is now generally acknowledged that extension officers need skills in how to facilitate discussions and coach different stakeholders in natural resource management and market supply chains. They

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<sup>17</sup> World Bank, " Agriculture Investment sourcebook", May 2006.

must shift from lecturing to being able to empower farmers themselves to learn about how to manage their farms and crops. Moreover, the uncertainties and variability inherent in climate change and market trends mean that they need to help farmers consider a menu of options and reflect on probable risks rather than promoting standardized advice. These tasks require skills in critical thinking and problem solving, which were discouraged in the extension bureaucracies of the past. These skills are currently beyond the capabilities of most of the MOA extension officers.

Training will also be necessary to provide extension officers with the skills necessary to deal with the needs of particular clients, such as: herbs farmers, high value crops, dates, cut flowers, food processing, tropical and subtropical fruits trees, global gaps certifications etc. The aforementioned training needs of extension staff, based on the service requirements of farmers, will set the training agenda.

**1.7. Extension oriented-educational programme:** Determination of training and development for personnel in any organization is a challenging task. The Palestinian Faculties of Agriculture<sup>18</sup> provide courses on basic sciences and various aspects of agriculture in their curriculum. They teach only one extension subject matter as an optional course during the whole period of university study. Many of the students that graduate from the faculties of agriculture become extension officers employed by the MOA. Although the MOA has carried out a number of in-service training for its extension officers, most of training was training-oriented crop and animal production and while training in extension education has been scarce. To improve performance and increase the motivation and job satisfaction of extension officers, a greater need for continuous training and guidance in respect to extension methods and content is required.

To tackle this issue at the institutional level, it's recommended to diversify the educational programmes adopted by local universities by including more new specializations tailored to local market needs and demand. At the same time, it's strongly needed to design a one-year extension education programme in close collaboration with the concerned local universities or faculties of agriculture so that fresh graduates and/or the already appointed extension officers can enroll and obtain a specialized diploma in extension. Moreover, setting-in-place an

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<sup>18</sup> There are two agricultural schools in Palestine. The first one is Al-Aroub Agriculture School in Hebron District in the WB and the Second one is Beit Hanoun Agricultural school in GS. Additionally there are four universities in the WB &GS providing BSc. Degrees in Agriculture. These universities are Al-Azhar University in Gaza; Hebron University; An-Najah University and Al-Quds Open University in the WB and all have three to four agricultural fields ( MoHE 2003).

effective system of continuing education for extension personnel at various levels were some of the constraints that the extension services faced in trying to provide technical assistance to farmers.

Agricultural education for farmers themselves (such as that provided by agricultural schools) is an important component in efforts to enhance their capacity to demand & utilize extension advice, but these institutions are also in a serious state of decline in West Bank & Gaza Strip (WB&GS). Plans for extension must reflect this human resource gap and include concerted & sustainable investment strategies to address it.

**1.8. Reinforce Existing Agricultural Laws and Regulations:** To date the MOA has established the agricultural law, Law No-2/2003. This law now needs to be applied through the development of the necessary by-laws, directives, and other legislative and regulatory law also needs to be effectively reconciled with other national laws that deal with agriculture, water, food safety, and environmental issues in various ways. Possible duplications of authority and responsibilities and other potential sources of discord need to be clearly identified and resolved under the framework of the legal committee which was established by the Palestinian Cabinet in 2008.

Moreover, it's worthy to mention that the Palestinian MOA has already agreed to many international conventions related to agriculture and sustainable development and will continue to be actively involved with international legislation related to the agriculture, food safety, environment and development. The MOA needs to develop its own legislation and enforcement procedures related to all agricultural extension aspects more rapidly. The needed and missed laws and by-laws will be identified by a joint tech-legal committee and develop the missing laws and by-laws accordingly (such as Organic Agriculture).

**1.9. Improving Extension Planning Framework:** The annual extension plan's objectives are set-in-place without giving adequate attention to the following: (i) The national extension strategic plan agenda and priorities. (ii) The extension programmes objectives' and their realistic and relevance. (iii) Logical framework connection made between the objectives from one part and the outputs and activities from the second part; and (iv) Key performance indicators are set in place for better M&E and impacts measurement and assessments.

The extension plan contents and format have been used since decades. The MOA has not yet updated it according to its organizational development, farmers needs and local conditions. The MOA does not involve farmers at all levels in the annual extension plan identification

and preparation. Therefore, this weakness should be studied and analyzed in-depth so that a good and effective solutions can be made for tangible improvements in the area of local needs identifications, farmers' involvement, extension effectiveness, and consequently better impact on the agriculture sector as a whole. The improvement in planning process would ensure that the rendered extension services are responsive to actual needs of farmers and suits their local conditions and resources.

**1.10. Coordinated Extension Activities:** The agricultural extension services of various providers within the national agricultural extension system will be coordinated to optimize uses of recourses within the system. This implies sharing of information and expertise among involved extension services providers and participation where appropriate within others' extension activities. The agricultural extension strategy recognizes that different agencies working in same fields those they often have corresponding expertise that might bring together effective services to farmers that could be enhanced too.

There are important roles to be performed by public extension systems, private-sector companies and NGOs in transferring innovative agricultural technologies, improving rural livelihoods and optimizing uses of the national natural resources. There is a need to clarify the different roles and responsibilities with respect to how extension services should be organized and how these institutions, organizations and companies can work more closely in bringing about sustainable agricultural development at the village, district and national levels as well as in implementing the strategic interventions proposed by the present extension strategy.

**1.11. Create incentive system to reward extension officers:** Frontline extensionists work under difficult conditions, between two demands, from the communities and from DAD, often in poor office space conditions, without proper or adequate reliable means of transport, without means of work and without much perspective to improve their situation in terms of career, performance-based incentives, and training or study opportunities. In this regard and since government personnel policies preclude salary bonuses, the MOA should consider using merit-based promotions and other incentives like professional training, equipment, and awards to recognize and encourage excellent work.

This is the best way of having the MOA grass root extension officers re-motivated so that they can contribute significantly in implementing the extension programmes in a proper and effective way.

**1.12. Agricultural knowledge and management information system:** A computer database containing information on the farmer and the previous practices adopted by the framer and an

information system containing important aspects of crop husbandry, results of research and new technologies will help extension officers provide the correct information so that farmers take proper decisions. Such information can be stored and made available rapidly through IT to facilitate planning. Currently, DAD's have no any computer databases and the available information at district level are scattered and partially stored in the form of administrative files, the available agricultural information at district and village's levels are not adequate and lacking.

## **POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (2): PROMOTING AND CONSOLIDATING RESEARCH- EXTENSION- FARMERS LINKAGES:**

It's worthy to mention here that National Agricultural Research Center (NARC) which belongs to the MOA is currently the umbrella of the agricultural research in Palestine. It's equipped to conduct researches experiments and trails in the field of agriculture (i.e.; breeding program). Applied research activities in the field of agriculture in Palestine are still limited, and there is a lack of human resources, research laboratories; operational funds; and infrastructure. Also, academic research is not coordinated with the relevant MOA institutions and departments.

An active, close and respectful relationship between research and extension is needed if the two departments (institutions) are to come together to achieve sustainability and wide-scale impact. Currently, at central and local levels the formal interaction between research and extension has been limited to irregular joint meetings and sometimes training workshops and field demonstrations.

For ensuring better coordination between applied research, extension, farmers and other local stakeholders different formal mechanisms should be addressed to realize the following (1). Demand for and availability of technology (2). Analyze best practices in technology supply based on demand, (3) work with farmers to test and adapt new technologies to see which best fits local conditions and demands, and helping farmers to make an independent judgment of what technology best suits their needs, (4). Help farmers (and agribusiness, cooperatives, and others) access information and advice about technological innovations from various sources; (5) Set in place a joint annual research and extension plan for trails and demonstrations; (6). Assess how the potential of ICT is playing out in technology dissemination and for

communicating research results to farmers; and (7) Farmers' problems identification and analysis.

Extension's role as a facilitator, broker, coach and even a partner in local rural development initiatives and value chains represents an opportunity for a good relationship with research. Extension can provide a window for learning about rural change and innovation processes through the dialogue among extension officers, farmers and other value chain actors about the relevance of different innovations in their livelihoods, the risks that arise in different farming systems, market preferences, power and gender aspects and a myriad of factors that appear in processes of technological change and transfer, adaptation to climate risks and market development.

**POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (3): IMPROVING THE EXTENSION OUTREACH & THE EFFECTIVENESS OF EXTENSION APPROACHES AND METHODS:**

The efficiency of agricultural extension services will be improved through training programs, skill development, institutional strengthening and logistical support. Trained extension officers will be provided to work effectively with all categories of farmers, and with all members of households, and to solve basic production, management and marketing problems in a wide range of crop, fishery, livestock, and forest. The focus of outreach activities is to provide the most cost-effective services to farmers. The MOA will continue to work within their own organizational structures and procedures, but the current strategy seeks to ensure that effective co-ordination is established to increase the efficiency of agricultural extension.

Effective extension services delivery requires strong financial and institutional support, better coordination between public institutions, extension providers and closer links with the private companies and farmer communities. Specialists and extension officers need adequate resources to interact with producers, including the ability to set up demonstrations sites on farms. Some examples include having access to equipment and tools to demonstrate how irrigation scheduling can improve crop production using devices like Tensiometers, water meter, pressure gauge and other technologies. Other resources need include transportation to improve interaction with farmers, mobiles, PC computers, office space in the field, and access

to pest, plant and soil/water diagnostic services including mineral nutrition laboratory analyses, alternative feeds.

The majority of extension approaches that has been used were based on a top down approach in which the farmer only seemed to be involved at the behest of the extension officer, a fact that consequently strangled any sense of involvement and ownership on the part of the farmer. Ideas were imposed on the farmer who was often perceived as a passive recipient, incapable of identifying his priority needs and developing the appropriate solutions too. There is therefore need to shift from the traditional master student relationship between farmers and extension officers to one that thrived more on the involvement and participation of farmers than the officers. To meet this challenge, the MOA extensionists need to prioritize their interventions, fine-tune their methodological approaches, and select efficient decision support tools to efficiently target the needs of farmers within specific environmental and socioeconomic settings. This can be achieved through strong government interventions, Participatory extension approaches and farmer participation in research among other interventions.

***1- Appropriate extension methodology and methods:*** The extension services perform an important role at worldwide in enhancing agricultural productivity. The complexity and variety of production systems and the ever changing geopolitical morphology require that extension models should be enough flexible to acclimatizing to all these changes and any developments. The effectiveness of extension interventions should also be primarily pivoting, on the objectives of interventions vis-à-vis needs, expectations and to targeting beneficiaries.<sup>19</sup>

In order to increase extension contacts, coverage and utilization of a variety of extension methods and approaches the MOA in collaboration with other partners and donors' agencies should allocate adequate operational funds and necessary equipments, tools, transport facilities and teaching/training materials to extensionists.

There is a wide range of extension methods which the MOA extension directorates can use in their work with farmers and rural households. No single method is suitable for all purposes and occasions. The MOA extension officers should select appropriate methods in order to meet specific extension objectives with their various categories of farmers. These methods are likely to include: (Farm visit, Media, demonstration, training, participatory methods, fairs,

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19 Kimaro W.H, Mukandiwa L and Mario E.Z.J, "Towards Improving Agricultural Extension Service Delivery in the SADC Region", 26 – 28 July 2010, Dares Salaam, Tanzania.

visits & motivational tours etc). It's worthy to mention here that selection of certain extension methods often rely on the available resources to interact with farmers and other farmers' categories in an effective and proper way.

As for adopting extension participatory approaches, the Farmer Field Schools (FFS) form a special category of farmers groups, which are highly relevant for agricultural extension. In the Palestinian Territory and till 2010, approximately (15) Farmer Field Schools had been established in three Districts namely (Jenin, Tulkarem and Qalqilia). FFSs can through a participatory learning approach graduate into strong players in participatory planning, monitoring and evaluation. Expansion of the present programmes will further increase the number of these groups to 100 in a few years time, as well as stimulate the formation of FFS networks at District level.

**2- Extension Coverage:** The public extension service supported by front line extension offices has been operating through individual farmer contact and groups in a moderate proportion of the villages in a District. Villages were selected based on the following criteria: (a) existing of irrigated and intensive agriculture where there is a potential to increase agricultural production with the available technology; (b) rural population number and density; (c) ease of road access; (d) presence of other extension unit and/or research and other support services (e) existing sufficient number of active farmers who are in needs for the extension services. Remote marginalized areas could be targeted too.

According to MOA statistics, in 2010, approximately (5200) field visits were conducted by the (170) extension officers during the agricultural season 2010\2011 in all West Bank districts. This means that each extension officer actually served only (30) households per year. If we assumed that (5200) field visits were benefited by (5200) different rural households then statistically it can be concluded that the MOA extension officers (170) can reach only (4.66%) of the total number of agricultural holdings in Palestine (111458 agricultural holdings). The extension total coverage varies sharply between districts, being lowest in Ramallah (0.24%) and highest in Jericho (24.2%). At the community level, about two-third of the surveyed farmers in the villages stated that they had access to information on the MOA agricultural extension service.

Based on the aforementioned actual extension coverage, the extension strategy assumed that each extension officers should annually assist at least 130-150 farm households directly and about 520-600 farm households indirectly or roughly 600 households per extension officer

per year<sup>20</sup>. The 170 public extension workers could cover approximately 102 000 households indirectly, or 25 500 households directly. By comparing this percent with the total number of agricultural holdings we can conclude that the expected total agricultural households' coverage over upcoming three years for contact with agricultural extension will be 23 % or 25 500 households.

It can be concluded that all districts have insufficient extension coverage and for that the MOA should take, among other steps, a quick and serious step to maximize (i.e., take advantages of the recruited extensionists by temporary contracts) and re-distribute the number of agricultural extension professionals in some District of Agricultural Directorates (i.e., according to their needs and cultivated areas).

**3-Equipment and tools**, The MOA extension officers require working tools to perform their duties in an effective manner. A complete KIT will include amongst others: spraying equipment, magnifiers, digital cameras, pressure gauge, digital compound microscope, soil & water analysis kits, tents, uniforms and protective clothing, backpacks, boots etc. In view of the required improvement in connectivity of extension officers it needs the purchase and work-related use of mobile phones by extension officers needs to be considered.

In an ideal situation sufficient number of four-wheel-drive vehicles for each district extension team and/or for the extension supervisors are strongly recommended so that the MOA extension officers will be able to fulfill their terms of reference. The actual cultivated areas, number of existing vehicles, and number of extension staff will be considered upon the vehicles needs assessment.

**POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (4): MARKET-ORIENTATION, EXTENSION SUPPORT TO ALL CATEGORIES OF FARMERS & INTEGRATED ENVIRONMENTAL SUPPORT:**

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<sup>20</sup> *One of the most common mechanisms for dissemination of information is through farmer-to-farmer extension. The public extension service itself aims to indirectly reach four times more farmers through direct contacts. An important mechanism in this is through farmer or community groups. The very principle of group formation at community level aims at information sharing between farmers.*

***1-Market-oriented extension:*** The primary focus of agricultural extension today is no longer on increasing production but rather on enhancing rural incomes through market-orientation and responding to farmer demand.

Market-orientation relates to a chain of value developments as a whole. Markets demand new varieties, breeds and processing, but technologies should be just one aspect. Chain of value developments may require effective communication and facilitation of linkages, coaching of interactive learning and partnership among a broad spectrum of actors within the chain of value. Extension role in supporting market-orientation in these podiums to encouraging a dialogue among these stakeholders who could come together to negotiating and building up a social capital. This would often involve training in negotiation skills and contracting. Social capital is often the most important factor in market development. By increasing transparency, exchange and extension could make up an important contribution to building a trust, particularly with regard to including poor farmers on a more identical foothold in market development.<sup>21</sup>

Markets are the driving force in agricultural development. This suggests that technological and organizational changes are in most instances driven by efforts to participate in markets. This is why, in recent years, extension has been steadily moving beyond its past role in technology transfer to greater involvement in facilitation, coaching and brokerage in market chains.

Market demands are changing rapidly and becoming more stringent and rigorous. An increased provision of market-oriented extension is essential, if producers and rural entrepreneurs ought to acquiring and accessing knowledge and information they might need to counter these challenges. Good market-oriented extension services require looking beyond current and available market opportunities to focusing more on helping farmers to be well-prepared to compete in potential new markets. Iterative approaches would be needed to helping clients to adapting to the range of factors that are impacting agricultural markets, as of climate change to expanding and dominance of supermarkets and global supply chains.<sup>22</sup>

Market-orientation demands a value chain orientation; which in turn implies that extension must meet the needs of a range of actors – not just farmers. Extension must be concerned with local economic development and empowerment, and not just farming itself. In effect, market-oriented extension is about making sure a range of actors are able to collaborate with one

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<sup>21</sup> Ian Christoplos, "Mobilizing the potential of rural and agricultural extension", Danish Institute for International Studies, FAO, Rome, 2010

<sup>22</sup> Ibid, "Page 39".

another. For example, if traders or input vendors want to invest in a particular product, they may need to provide advice to farmers about varieties and planting methods. The other value chain actors who are advising farmers about what they want to sell (inputs) or buy (farm produce) therefore also need to understand the technology themselves in order to provide such advice. These other market actors require access to extension as well. Such a broader approach to the extension agenda is controversial. It raises questions about whether extension is just about 'helping farmers' or if it requires advice to a variety of stakeholders so as to contribute to developing the rural economy (and with that, rural livelihoods). A genuine value chain approach implies the need for facilitation and brokerage efforts to address constraints and bottlenecks to market access. Merely 'helping farmers' may not provide much help if the rest of the market chain is dysfunctional.

***2-Demand-driven:*** One aspect of market -demand is to mobilize extension for flexible livelihood support through initiatives that encourage the diversification of the strategies through which the farmers are themselves managing the risks that they face. The farmers and those who are vulnerable to climate and market uncertainty and variability need new forms of extension to help them to understand such risks and manage them. Services must be flexible enough to respond to the varied and changing demands of the poor farmers who are struggling to deal with overwhelming challenges to the future of their farming systems. As part of this, extension services need to provide or link to information and knowledge regarding weather and climate change, market prices, regulatory structures, quality standards and consumer demands, and access to financial services if they are to help the poor to deal with the changing landscape of risk.

***3-Integrated Extension Support to Farmers:*** it's important to enable the MOA extension officers to offer high quality integrated extension support, including farm management, production, credit and marketing for their target groups and area.

Extension for the farmers is not only about advice related to smallholder farming, but also advice in how to benefit from the rural economy through livelihood diversification; jobs in processing, agritourism, market access services, ICT services and other areas may require different skills and understanding. For that, Business development services or vocational training may be the most appropriate form of extension for the rural poor who are diversifying their livelihoods or leaving farming altogether.

***4-Extension support to all categories of farmer:*** Extension services recognize the rural households and their farms as the basic units of production. All members of rural households would contribute to agricultural activities and household welfare. It, therefore, seeks to

ensuring that all members of all types of rural households have access to the extension services they may stand in need. This should be done by launching particular activities to meet the needs of particular categories. Extension programmes would be including specific activities:<sup>23</sup>

- Women farmers and other women household members, in support of home based production and post-harvest activities as well as their roles in production;
- Young people, who are the farmers of the future;
- Small and marginal farmers;
- Bedouins
- Medium and large farmers
- Previously Israeli settlement workers
- High tech farmers, using techniques on international level
- Farmers growing high value crops
- Farmers located in the seamed zones
- Each grower can be member of more groups, depending of the criteria.

**5-Focusing on subsistence farmers,** the reason for the focus on subsistence farmers is because the majority of farmers are subsistence engaged in some of the projects\agricultural activities that cannot be described as profitable. Participants mostly diversify on a small scale or on a subsistence basis. The second most favoured category is small scale commercial. The reason for this focus is that the majority of subsistence farmers are poor and vulnerable and extension services are mostly requested by them. Furthermore, this can strengthen farmers' ties with their own lands and sustain and empower their farming activities as a main source of livelihoods means. *The slogan which is held by the MOA is Farmer at First.*

**6-Integrated Environmental Support:** The proposed strategies to attain these objectives are as follows: (a). Integration of the environment into the overall agricultural policy to ensure an extension policy of sustainable agricultural development; (b) Environmental impact assessment as an integral part of the development and testing of innovations by agricultural research institutes, universities, non-government organizations and the private sector; (c) Promotion of environmentally sound agricultural practices, such as Integrated Pest Management, and active discouragement of damaging and hazardous agricultural practices; and (d) Monitoring the impact of agricultural practices by environmental agencies (EQA);

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23 Existing extension system: strengths, weaknesses and proposed reforms in Bangladesh, Paper prepared for Regional Workshop on Operationalizing Reforms in Agricultural Extension in South Asia, February, 2003 at New Delhi, India.

and (e) The use of findings to stimulate a continuous improvement of agricultural technologies, (f) issue and enforce relevant rules and regulations.

## **POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (5): EXTENSION AND THE CLIMATE CHANGE-FOOD SECURITY NEXUS:**

*1-Extension and food security*, Extension efforts related to food security essentially fall into two categories. The first is to intensify and promote food and agricultural production, support land development activities, and reduce food losses to ensure food availability at reasonable prices. The second is to encourage the creation of a line of credit for small and large farmers, and more livelihood opportunities to ensure entitlements and access to food. The sudden attention to food security and food supplies that appeared in 2008 was due primarily to concerns about overall availability and stabilization of prices. It is important to note, however, that the food production challenge is in many respects the tip of the iceberg in relation to the underlying need for extension to contribute to an enabling environment for the livelihoods that will provide entitlements to food for the rural poor.

Extension has been a missing link in many donor-funded emergency projects and local initiatives. It is an essential component in efforts to promote and realize both household and national food security, but the extension plans within national food security programmes have tended to pay insufficient attention to farmers' constraints and needs in terms of information, modern technologies and innovation system.

*Extension's role in dealing with food security is a combination of the following:*

- Addressing long-term chronic insecurity through productivity improvement
- Addressing food losses due to poor post-harvest treatments, Israeli checkpoints and movement restrictions, lack of proper storage technologies and facilities'
- Increasing resilience to extreme climatic events and conflict through support to agricultural rehabilitation and risk reduction efforts;
- Responding on vulnerable and marginalized households in the following areas: seam zones, eastern slope, prone drought areas, closed villages and areas, and previously Israeli settlements workers, and areas behind the Separation Wall;
- Increasing rural employment and incomes to make food more affordable;

**2-Extension and the climate change**, climate change is an area where extension currently has little involvement but where needs and expectations for the future are great. Increased flow of information and communication among farmers and other stakeholders in agri-food systems are required if farmers are to adapt to the changes in climatic conditions that are already inevitable. Strong extension service is essential to ensure that the national policies on climate change adaptation and mitigation are appropriately communicated and adapted to farmers and reflect their conditions and concerns. Extension service must be a central actor if synergies between climate change adaptation and mitigation are to be achieved since extension can become a platform for finding out how to bring together global and national policies related to climate changes with the decision-making of farmers trying to earn a living and feed their families. In order to contribute to this, extension needs to engage with different actors, promote new forms of institutional development, and provide a different array of services than in the past.

The extension will need to develop strong collaboration with a different array of actors than it worked with in the past, such as meteorological services and the environmental agencies that have a central role in climate change mitigation and adaptation efforts. Extension can act as a channel to provide information about weather, optimization of water resources, public awareness campaign, environmental services, project and grant related to drought mitigation projects, and drought resistant varieties, while also ensuring that there would be a feedback circle to the community of a climate change on how climate change would impact local micro-climates, diverse production systems, markets and eventually livelihoods. Further, extension officers, as innovation brokers, could use facilitation for negotiating with an array of new actors that small holders would face massive climate change and adaptation and mitigation efforts should get underway (e.g. organizations monitoring and reporting). Diversified communication methods, collaboration with new and different media, expanded use of ICTs, and innovative partnerships are all required. This may even involve working with insurance companies and other private financial service providers, which requires an increased awareness of risk and ways to respond to extreme events as a precondition for provision of a crop insurance and other weather-indexed risk transfer products.<sup>24</sup>

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<sup>24</sup> *FAO, Mobilizing the potential of rural and agricultural extension, Rome, 2010.*

**POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (6): PROVIDING TAILOR-MADE, MORE FREQUENT AND SUSTAINABLE EXTENSION SERVICES TO RURAL WOMEN & THEIR COOPERATIVES:**

Extension is in most cases tasked with promoting agriculture for cash and commercial crops, either for export or to achieve national crops self-sufficiency. These goals may clash with objectives of reaching female farmers and their organizations as they may have little or no incentive to adopt or plant cash crops because they will not control the income resulting from this production. They often prefer to concentrate on subsistence crops and/or petty trade or casual labour because these are sources of income that they can more easily control. Extension may therefore not be able to achieve gender equity because the broader policy environment, including priorities for research, finance, farms ownerships, donors-funded projects, etc., is not equitable. Gender equity in access to extension services requires attention to gender roles in households, society, agriculture and rural development more generally. Furthermore, special attention will be given to the rendered MOA extension services outreach and its frequency in terms of conducting more field visits to rural women cooperatives, training, demonstrations, reaching new target group areas, and mobilizing rural women into newly rural women cooperatives, producing value-added products, etc.

Groups of rural women are formed at the village level and they cooperate with the MOA female E.O in conducting certain extension programme. The women associations or groups are usually provided with training and extension services in the forms of lectures, visits, training courses, demonstrations, and exhibitions organizations to spread new methods in food industries such as drying, freezing, pickling and manufacturing dairy products as well as some aspects concerning home-gardens cultivations.

The MOA female Extension officers are trying to reach many farmers with limited resources. E.O should design more participatory extension approaches to reach and involve most rural women in most rural areas. Indeed, the extension-oriented to rural women reaching out to approximately 64% of total number of Palestinian villages.

It has been concluded that the MOA female extension officers provide their extension services to a few numbers of rural women associations (385 rural women associations). The Ratio of female extension officer to rural woman is (1) female E.O to (772) rural women

(1:772), which is relatively higher than international standards set for the public extension service<sup>25</sup>.

According to the MOA, the main extension methods used are: training sessions, meetings, exhibition and demonstrations. It was estimated that the conducted number of field visit to one rural women association is ranging from (3 to 8 visits a year) which is inadequate level of contacts and assistance<sup>26</sup>.

During field visits, the female E.O provide extension services to rural women on certain topics concerning food processing and home gardens as they considered as main activities of income generation to most subsistence farmers and rural families. Also women farmers suffer from inadequate access to marketing services.

There are few females E.O in Palestine (27% of the total MOA extension officers). To reach women farmers, more female E.O should be hired, trained and their visits to rural areas be supported. Another problem of extension, besides lack of operational fund and transportation, is the cultural constraints on women. The gender of E.O is an important factor in rural areas. Since women farmers did not feel comfortable around male E.O, they prefer to receive visits and training programmes from female E.O.

Extension programmes and materials should be developed that take into consideration the woman's talent, educational levels and needs. The illiterate level of rural women is higher than other regions in Palestine so more demonstrations, field days, audio-visual presentations, radio and television programmes should be used more extensively. Furthermore, the extension officers have to schedule the training and extension programme depending on women's free time to ensure higher participation.

#### **POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (7): SUPPORTING FARMER ORGANIZATIONS & MOBILIZATING FARMERS INTO SPECIALIZED GROUPS:**

The policy and strategy are founded on the principle of mobilizing farmers into groups and promoting the active participation of farmers and their organizations to ensure that extension

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<sup>25</sup> Study "Evaluation of Public Extension system of Palestine: Recommendations for Improvements, MOA, May- 2011.

<sup>26</sup> *ibid*

effectively responds to farmer's problems and needs. Partly, this can be done by empowering farmers with knowledge, technical assistance, and enhanced decision-making skills to enable them (i) articulate and exert demand on research and extension services; (ii) encourage and foster the evolution of farmer groups and associations and their partnerships with appropriate public, private and NGO sector agencies as service providers and/or enterprise partners; (iii). Promote producers organizations to take on the responsibility of managing available resources; (iv). Establish ties between suppliers of agricultural inputs, food processors, merchants, and users (producers and associations); and (v). Enable farmers to fully participate in the planning of extension programmes; and (vi). Enable farmers groups to produce competitive and value-added agricultural products.

The extension staff in their turns should facilitate farmers' access to credit and improved production inputs (including seeds, fertilizers), bulk procurement and selling, pooling of farmers' produce and storage/preservation/ processing to add value and developing market links with backward linkages. They also link with other service providers (agro dealers, micro-finance institutions, and researchers) to access specialized services required by farmers.

**POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (8): IMPROVING THE ABILITY OF THE PALESTINIAN AGRICULTURAL PRODUCTS TO COMPETE IN LOCAL AND EXTERNAL MARKETS.**

The possibilities for the export of high values crops such as vegetables, herbs, grapes and olive oil to the markets of Arab countries and other countries are limited for many reasons such as: the weak competitiveness of these products, inability to meet markets conditions and requirements, high production and marketing costs; inexistence of reliable and trusted local marketing company, in addition to the restriction imposed by Israel<sup>27</sup>; and existing limitations by some importing countries.

The available Post-harvest treatment facilities such as pre-cooling; grading and packing; cold storage and refrigerated transport and other infrastructure are inadequate despite there were some recent efforts and developments in this regard mainly in the dates and herbs subsectors.

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<sup>27</sup> Still, the exportation of Palestinian agricultural commodities to Israel or abroad is being controlled by the Israeli occupation forces, which gives priority to marketing Israeli produce, only allowing movement of Palestinian commodities when there is a shortage in Israeli products. This indicates that the Palestinian agro-marketing system is unstable, unfeasible and risky. A review of the Palestinian Agricultural sector -2007.

The inadequate of postharvest facilities and infrastructure could severely limit the ability of Palestinian agricultural produce in competing with other markets. In addition, some external markets such as Europe demand standards that as yet Palestinian producers are often unable to achieve. For that reason, the MOA should put more efforts and resources to helping and assisting farmers\producers as well as creating a pool of qualified extension officers to produce quality products that could meet standards of international markers. In addition, to training and upgrading the technical skills of farmers regarding the following: global gap certifications; farmers' awareness regarding farming chemicals, chemicals minimum applications, GAP; branding and good postharvest treatments. The MOA should focus on the rehabilitation of destroyed agricultural facilities and infrastructure in GS.

#### **POLICIES NEEDED TO ACHIEVE STRATEGIC OBJECTIVE (9): PROMOTING AND SUPPORTING HIGH VALUE CROPS AND ANIMAL PRODUCTS**

Our objective is to help increase the income of farmers through new crop and market options and thus contribute to local food security and sustainable production through crop diversification. We are concerned with all crop groups: (*mainly*) vegetables, field food grains and legumes, horticultural, and feed.

(i) Enhanced distribution of knowledge on key high value crops, especially for vegetables main cultivation areas, to stimulate crop diversification (ii) Assessment and promotion of high value crops for distinct agro-ecological zone; for sustainable development and income generation, and (iii) develop strategies and methods for introduction and management of diversified crops (i.e. eggplants, spring cucumber, okra, hot pepper, cauliflowers, colored cabbage, medicines, and aromatic plants) (iv) Support for publication and distribution of material, articles, presentations and newsletters on new crops and crop production technology (v) New initiatives\projects which support technology transfer and pilot testing of innovative crops and advanced cultivation techniques. Similarly animal production with export potential should ne further explored and promoted.

#### **4.2. ROLES OF DIFFERENT ACTORS IN AGRICULTURAL EXTENSION SYSTEM**

a) **The Government:** adoption of the extension strategy is highly needed, and should be accompanied by the allocation of sufficient funds, support, and appreciation of the role of agriculture.

b) **Ministry of Agriculture (MOA):** The Palestinian Ministry of Agriculture (MOA) is currently responsible to deliver extension services to farmers through their extension officers at Sector, District and village level, who are accountable to the MOA. Moreover, the main functions of the MOA are as follows: (i) coordination and planning of agricultural development programs, (ii) agricultural sector information function, (iii) monitoring and evaluation function, (iv) regulation and control function, (v) resources mobilization function. Planning for agricultural sector development by the MOA cannot be possible without information going up from local level (DAD) informing about the general situation, its evolution and problems of farmers.

This observation shows that functional dependence between the (MOA) and the District Agricultural Directorates (DAD) is necessary. The MOA needs information from Districts to be able to properly plan the development of the agricultural sector, while Districts need support of the MOA. Otherwise the coherence and effectiveness regarding agricultural related issues will be limited. This shows also the need for the MOA with NARC and agricultural experimental stations (i) to set up needs, priorities and fund to enable the Ministry to develop agricultural sector, (ii) to strengthen the capacities of DAD through their extension officers and extension units, and (iii) to develop strong functional relationship farmers- extension and research.

c) **Donor countries and Institutions:** implementation of the extension strategy requires funding for many interventions, and capacity building. So donors are asked to participate in the implementation of the extension strategy, by funding its interventions, participate in capacity building, transfer of best practices, and benchmarks.

d) **National Agricultural Research Center (NARC) as a specialized agency:** The role of NARC is to do applied research, to a lesser extent extension, and to coordinate the implementation of research-based agricultural development programs. In particular, they are expected to provide technical, research results and capacity building support to the MOA extension services, help in producing extension materials for extension officers, farmers and other related partners. They are also charged with the role of promoting participatory research aiming at solving the real problems of farmers and other clients.

Once the PNAES is approved, it implies that NARC agricultural researchers will participate in agricultural extension programs planning, monitoring & evaluation at district and national level. Moreover, the stakeholder platforms at district level will have to actively participate in Agricultural extension and research program and/or interventions development. Participatory monitoring and evaluation, therefore, will be conducted at different levels to ensure effective communication among different actors.

**e) Farmer organizations:** Farmer organizations, even still timidly, contribute to strengthen production and marketing structures. They have to provide proximity services needed by farmers, contribute to problem and solutions identification, collaborate with the MOA extension officers to execute tailor-based extension programmes. It is expected that farmers organizations will be organized by commodity chains and their role in delivering extension services will be reinforced. The promotion of partnership between farmers' organizations, extension and research and other actors involved in one way or another in agricultural service delivery will enable them to be the real partners. This will therefore, effectively work hard to effectively satisfy different clients as per their demands.

**f) NGOs and Civil Society:** Local and international NGOs are not only funds providers but also service providers for local communities (farming inputs supply, marketing and processing of agricultural production, counseling\advisory, facilitation in problem and solutions identification, facilitation in farmers' organizations in commodity chain, capacity building of farmers' organizations, lobbying and plea for local communities etc). NGOs and Civil society will have to provide the feedback through stakeholders' platforms, at different levels. Also they have to coordinate their donor-funded projects activities in accordance with district annual extension action plans so that a synergy between projects and extension services are realized.

**g) Private sector:** The private companies are active in all steps of commodity chain starting from inputs supply, production, marketing, processing and commercialization of processed or unprocessed product. Its role in providing extension services will need to be strengthened for better ensuring the linkage between production and markets.

**h) Banks and Micro-finance institutions (MFI's)** despite of its importance, the agricultural sector is not much financed by commercial, MFI's and concerned local banks, comparatively with others economic sectors. That is why; the Palestinian agriculture sector should receive adequate donors funding through development projects and the Palestinian Cabinet compensations against natural calamities, which occur from time to-time. Continuous efforts

should be deployed to encourage local banks and (MIFs') for more participation in financing agricultural sector.

**i) Higher Agricultural Education Institutions:** Higher Agricultural Education Institutions (i.e., Minister of education and higher education, and faculties of agriculture) will be approached and consulted on the regular review of their curricula, so that they can educate and train qualified staff and set in place new educational programmes responding to the profile of the new extension strategy i.e. equipped with skills to work in rural areas, respond to local and international market needs, identify farmers needs and priorities, take initiatives in autonomous way, analyze complex situations of agricultural development, having competences in management and entrepreneurship, play advocacy & lobbying role whenever necessary. Higher Agricultural Education Institutions will be part of stakeholders' platforms, at different levels.

**j) Primary and Secondary schools;** will take part in setting up some demonstration fields for them to learn, but also for the farmers around to benefit from agricultural information and or innovations. This is can help assist in the following: (i) promoting the idea of Greening Palestine project by conducting training session (theory and practical sessions) on proper way of planting and taking care of fruit and forestry seedlings, (ii) raising awareness on the importance of home-gardens in strengthening households' food security and livelihoods approaches, and (iii) raising awareness on optimizing uses of chemicals and pesticides in agriculture (residues level, safety periods, existing of Arabic labels, pesticides toxicity and proper treatment, etc).

**k). Functional relationship between Local Authorities and DAD:** The MOA extension officers at district and village level need to have functional relationship with all public and private institutions with which they can cooperate to achieve successfully their functions. The MOA extension officers need more particularly to work closely with local Authorities (i.e., municipalities, and village's councils), to achieve a common objective of providing the most effective possible supports needed by farmers and by other actors of agricultural development in the Districts. The following is a tentative list of areas which need a functional relationship between Local Authorities and Extension officers at District level: (1). Basic technical and socio-economic information; (2) Agricultural planning and lands uses; (3). Facilitation and technical support; (4). Technical control, license and regulation; (5) Capacity building; and (6) Monitoring and evaluation of activities and give timely feedback to different partners. It's worthy to mention here that the types of functional relationships which are expected between

the MOA extension officers and local authorities are not only limited to what has been mentioned in above.

#### **4.3 IMPLEMENTATION, COORDINATION, MONITORING AND EVALUATION:**

To guarantee sustainability of implementation of the PNAES, adequate institutional arrangements are already in place. The GDOERD and district agricultural directorates (DAD) on behalf of the MOA are the national bodies which are responsible for the coordination, supervision, planning, monitoring and evaluation of that implementation. To accomplish these functions, concertation platforms will need to be set up at different levels, with the participation of all stakeholders.

At district level, at least four concertation and follow-up meetings (one per Quarter) will be organized each year. All agricultural extension stakeholders at District level will be expected to attend those meetings including the MOA extension officers (field level staff and SMS's).<sup>28</sup> The main agenda for those meetings are: (i) to revise the plan for agricultural extension activities forwarded from grassroots level, (ii) to prepare agricultural and awareness campaigns, (iii) to discuss the role and assign responsibilities in implementation of agreed District extension action plan, and (iv) to assess progress made so far.

At national level, one concertation and follow-up meeting (at least) with all partners' representatives will be organized each year by the GDoERD. To ensure the successful implementation of the extension strategy, annual agricultural extension action plans of the Districts should contain activities for all stakeholders' institutions and partners present in the District. All stakeholder institutions are expected to collaborate through this agriculture forum as a condition to accept their interventions in the District.

A reporting system will be established. All stakeholders' institutions will be asked to report to Districts so that one agricultural District report is produced under the coordination & responsibility of the (DAD). This report will be transmitted to the MOA to be analyzed by GDOERD<sup>29</sup> & Districts realizations will be integrated in GDOERD annual report. M & E system must be developed as soon as possible to facilitate this task.

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<sup>28</sup> *To be defined by the GDOERD in close collaboration with DAD's according to actively operating stakeholders existing at each district.*

<sup>29</sup> *Namely the Extension Programs Planning Department*

## CHAPTER- 5

### 5.1. LOGICAL FRAMEWORK ON NATIONAL AGRICULTURAL EXTENSION STRATEGY

**General objective:** The overall objective of the extension services is ‘to empower the extension clientele through sharing of information and imparting knowledge, technology transfer, skills and changing of attitudes so that they can efficiently manage their resources, and to contribute to the professionalization of producers by effective adoption of innovations, in order to increase, diversify, specialize and intensify agricultural production, under conditions of economic profitability while preserving the environment.

Specific Objectives	Objectively Verifiable Indicators	Source of Verification	Assumptions & Risks
<b>1. Supporting extension capacity building &amp; institutional aspects</b>	1.1. M&E system is developed and put in place	- Progress Reports  - Receipt vouchers  - Administration files  - Minutes of meetings  - Extension programmes	Adequate financial resources are made available for the purpose of capacity building & institutional aspects  Recognition of the importance of extension organization and capacity building aspects by different actors including donors
	1.2. Merit-based Incentive system is developed, and put in place		
	1.3. No. of developed and approved laws and by-laws		
	1.4. No. of conducted specialized training courses covered different topics		
	1.5. No. of developed and operated databases		
	1.6. No. of printing materials and audio-visual aids developed and disseminated.		
	1.7.No. of conducted farm visits, workshops, demonstrations , meetings etc		
	1.8.No. of newly served farmers, farmers cooperatives and other marginalized groups		
	1.9. The extension organization structure is revised, effective and flexible		
	1.10. Type of rendered extension services advices.		
	1.11. Type and number of groups received extension services by the extensionists		
	1.12. No. of districts that prepare their extension programmes based on farmers needs		

Specific Objectives	Objectively Verifiable Indicators	Source of Verification	Assumptions & Risks
<b>2. Promoting &amp; consolidating Research-Extension- Farmers linkages</b>	2.1. Annual Extension Plan is prepared jointly	-Progress Reports	Making available adequate operational funds
	2.1.No. of joint field demonstration and farm visits	-Receipt vouchers	
	2.3.No. of joint field visits and meetings	-Administration files	
	2.4. No. of problems and solutions identified and solved	-Minutes of meetings	Willingness of both extensionists & researchers to cooperate & work together.
	2.5.No. of brochures and printing materials prepared and disseminated	-Extension programmes	
	2.6. Information is flowing easily among researchers, extensionists and farmers.		

Specific Objectives	Objectively Verifiable Indicators	Source of Verification	Assumptions & Risks
<b>3. Improving the extension outreach and the effectiveness of extension approaches and methods.</b>	3.1.Number & type of extension methods and approaches selected and applied	- Progress Reports	Make available resources (funds, personnel, vehicles) for on-farm demonstrations, farm visits, and other participatory extension methods
	3.2. Number of newly served farmers, farmers groups and other interested persons	- Receipt vouchers	
	3.3.Number newly reached and served localities and famers cooperatives	- Administration files	
	3.4.Number of extension officers vs. famers	- Minutes of meetings - Field visit reports	
	3.5.Number of conducted farms visits, demo, training workshop, brochures, etc		No Israeli restrictions on people movement between main cities and rural, remote, and closed areas
	3.6. Number of concentration meetings and workshops		
	3.7. Type and number office and field equipments made available.		

<b>Overall Objective:</b>			
<b>Specific Objectives</b>	<b>Objectively Verifiable Indicators</b>	<b>Source of Verification</b>	<b>Assumptions &amp; Risks</b>
<b>4. To provide market-oriented extension services; integrated environmental support to farmers and extension support to all categories of farmers';</b>	4.1. The extension services are flexible and tailor-made to suit the needs of different categories of farmers	- Progress Reports	Farmers should be empowered organizationally and financially so that they demand for appropriate services
	4.2. Farmers groups are effectively participated in planning & implementation of extension programmes	- Receipt vouchers	
	4.3. Demand of different farmers' categories are assessed and measured regularly	- Administration files	
	4.4. The ability of farmers to manage the risks they face	- Minutes of meetings	The MOA extension staff cannot meet the current demand among various stakeholders because they are few, scattered. & not motivated
	4.5. All types of rural households (including rural households whose newly reclaimed lands) have access to the extension services	- Field visit reports	
	4.6. Type of information and knowledge linked to extension services		
	4.7. Small and Subsistence farmers are the main recipient of extension services		
	4.8. Number of marginalized groups served by the extension services		The MOA extension staff are able to carry out participatory planning process effectively in close participation with farmers
	4.9. Types of other services which are integrated to the extension services		
	4.10. No. & types of environmentally sound agr. practices promoted & applied		

<b>Overall Objective:</b>			
<b>Specific Objectives</b>	<b>Objectively Verifiable Indicators</b>	<b>Source of Verification</b>	<b>Assumptions &amp; Risks</b>
<b>5. To assist farmers to make optimal use of their available resources, ensure access to food and income, and to mitigate and adapt to new climate challenges</b>	5.1. Type of communicated information regarding climate change	- Progress Reports	Make available adequate operational funds Extension services are able to deal with new climate challenges
	5.2. Type of used communications methods and its frequency	- Receipt vouchers	
	5.3. Number and type of actors with which the extension staff are working	- Administration files	
	5.4. Number of joint events with stakeholders and its frequency	- Minutes of meetings	
	5.5. % of production increase and the quantities of saved agri-products losses	- Minutes of meetings	
	5.6. % of farmer's income increase	- Minutes of meetings	
	5.7. Number of job opportunities made available	- Minutes of meetings	
	5.8. Amount and quantities of losses saved due to recommended climate change mitigation measures	- Field visit reports	
<b>6. Providing tailor-made, more frequent and Sustainable Extension Services to Rural Women &amp; their Cooperatives;</b>	6.1. Number of reached rural women cooperatives and number of members farmers.	- Progress Reports	Make available adequate operation fund and reliable means of transport.  Make sure that the number female extension officers is sufficient
	6.2. Number of conducted field visits, training course, workshop, demo., etc	- Receipt vouchers	
	6.3. Number of newly formed rural women cooperatives	- Receipt vouchers	
	6.4. Type of newly produced value-added products	- Administration files	
	6.5. Number of newly villages and localities reached.	- Administration files	
	6.6. Percent (%) of rural women income increase	- Minutes of meetings - Field visit reports	

<b>Overall Objective: Promoting farmer organizations &amp; mobilizing farmers into specialized groups</b>			
<b>Specific Objectives</b>	<b>Objectively Verifiable Indicators</b>	<b>Source of Verification</b>	<b>Assumptions &amp; Risks</b>
<b>7. Strengthening farmer organizations and mobilizing farmers into specialized groups;</b>	7.1. Number of cooperatives organized by commodity chain	- Progress Reports	Farmers should be convinced and believed in the importance of cooperative works concept and its philosophy.
	7.2. Number of cooperatives received support for the MOA	- Receipt vouchers	
	7.3. Number of new farmer organizations having obtained legal status	- Administration files - Minutes of meetings - Field visit reports	The more farmer cooperatives specialized the more they can take <i>more</i> active role in local agricultural development
	7.4..Number of operational concertation platforms		
	7.5.Number of meetings of concertation platforms at national and decentralized level organized with participation of farmer organizations		
	7.6. Number of farmer cooperatives active in solving marketing bottlenecks.		Farmer cooperatives should work professionally based on actual needs of their members far away of political aspects
	7.7. Number of farmer cooperatives' produced value-added products		

<b>Overall Objective:</b>			
<b>Specific Objectives</b>	<b>Objectively Verifiable Indicators</b>	<b>Source of Verification</b>	<b>Assumptions &amp; Risks</b>
<b>8. Improving the ability of the Palestinian agricultural products to compete in local and external markets</b>	8.1.Number of granted Global Gap certificates to concerned persons or organization	- Progress Reports	Farmers are fully aware of international standards & conditions  Farmers are technically qualified
	8.2.Types and number of training sessions or hours	- Receipt vouchers	
	8.3. Laws, by-laws, regulations and standards drafts in place	- Administration files	
	8.4. % of farmers who produce hygiene dairy products	- Minutes of meetings	
	8.5 Number of products get marketed under brand names	- Field visit reports	
	8.6. Number of agro products samples taken and analyzed against pesticides residues		
	8.7. Areas, quantities and value of cultivated organic agro-products		
	8.8. Number of farmers who are able to reach the international markets		
	8.9. Quantities of exported agricultural products		
<b>9. Promoting &amp; supporting crops production &amp; marketing</b>	9.1. No. of dunums cultivated with crops	- Progress Reports	Readiness and commitment of farmers and food processing plants to produce and procure crops at a win-win basis
	9.2. Types of cultivated crops	- Receipt vouchers	
	9.3. Agricultural profit per unit area (dunum) vs. conventional crops	- Administration files	
	9.4. Number of contracted farmers and food processing plants	- Minutes of meetings	
	9.5. Volume and value of sales of crops	- Field visit reports	
	9.6. The contorted prices vs. conventional crops prices all over the agriculture season		

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>1.Establishing M&amp;E system</b>	1.1. The M&E system is designed, developed and effectively operated.	1.1.1. Assess the current situation of the extension organizations	<b>100, 000</b>
		1.2. 1. Agree upon a list of key performance indicators	
		1.3. 1. Conduct a series of national and local level workshops	
		1.4. 1. Conduct training for the extension personnel	
		1.5. 1. Set up a proper design for an effective M&E system	
		1.6. 1. Operate and update the newly developed M&E system	
		1.7.1. Gather information against KPI's in a regular basis	
		1.8.1. Analyze data and write progress reports periodically	
		1.9.1. Dessiminate and submit reports to the MOA decision makers	

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>2. Adequate financing &amp; funding for the agricultural extension services</b>	2.1. Financial resources are adequately available for the extension organizations and programmes	2.1.1. Assessing the extension current budget and funding situations	<b>100,000</b>
		2.1.2. Identifying financial needs of extension in an annual basis	
		2.1.3. Lobbying to raise the budgetary allocation for extension services	
		2.1.4. Working out to raise adequate funds from donors agencies	
		2.1.5. Reviewing and annual assessment of the financial resources	
<b>3. Organizational structure</b>	3.1. Updated and aligned extension organizational structure with market demand, new emerging issues, and farmers' requirements.	3.1.1. Assessing the current situation and propose some modifications	<b>50,000</b>
		3.1.2. Modify the extension organizational structure <sup>30</sup>	
		3.1.3. Approved and adopted the newly organizational structure	
		3.1.4. Conduct periodically review and assessment	

<sup>30</sup> \*Based on market demand on extension services it's proposed to create the following units: market –extension unit , herbs production & processing, & food processing unit.

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>4. Integrate information &amp; communication s technology in services delivery</b>	4.1.The delivered extension services are integrated with information and communications technology	<b>4.1.1. Development communications such as:</b> electronic information, Print, Face-to face and\or combination of these such as media-forum, radio-internet link, call-in radio, TV broadcasts.	<b>500, 000</b>
	4.2. A powerful tool of expanding the flow of information of all types is being in used;	<b>4.1.2. Mass Media:</b> Develop and broadcast the following: Radio & television, Print; newspapers, magazines, and extension brochures. Other approaches: poster, campaigns, and films, etc. Printing out the already existing brochures and posters.	
	4.3. Reach more people and carry out various functions more effectively and efficiently	<b>4.1.3. Interpersonal contacts:</b> Conduct a face-to-face exchange between two or more individuals such as: farm visits, demo, study tours, agricultural exhibitions, training sessions, meetings, gathering, etc.	
	4.4. Easy access to local or global information and knowledge and are simple channels for two-way communications.	<b>4.1.4. Telecommunications systems:</b> (i). Empowering of the web-portal virtual extension center, (ii). Prepare and broadcast extension information via web portal regularly, (iii). Let the MOA extension personnel stay in touch with each other via closed group mobile phones (iv). Sending short SMS extension message at mobiles of all farmers	

		categories from time-to-time and when needed.	
	5.1. The extension system provides better, cheaper, and faster information.	<b>Information technologies:</b> (i). Studying the current situation and indentifying needs, (ii). Setting- in- place an effective geographical information system unit; (iii). Providing the grass root staff with Global Positioning System; and (iv). Providing DAD with weather & climate forecasting stations (iv). Digital LCD compounds microscopes and any other tools or equipments based on local conditions and resources.	<b>200,000</b>
<b>5. Integrate information &amp; communications technology in services delivery</b>	5.2. The information & communication technology are integrated in the extension service delivery		

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>6. Dilution of effect of extension services</b>	6.1. The time allocated for rendering extension services to farmers are improved	6.1.1. Review the already conducted studies qualification assessment ...	<b>10,000</b>
		6.1.2. Assess the current situation of the work assigned to extension staff	
		6.1.3. Find out proper mechanism to let the extensionists focus on their works	
		6.1.4. Approve and adopt the MOA decision regarding the reached mechanism	
		6.1.5. Conducting national workshop for monitoring & evaluation	
<b>7. Facing up and addressing Human Resource limitations</b>	7.1. The MOA extensionists are well trained, able to provide responsive extension services in accordance with the newly emerging sub-sectors and markets requirements	7.1.1. Undertake in-depth training needs assessment of the MOA extensionists	<b>500,000</b>
		7.1.2. Prepare a tailored-made training plan	
		7.1.3. Train the extension staff in newly emerged sub-sectors or crops <sup>31</sup>	
		7.1.4. Train extensionists in the managerial aspects (needs assessment, project identifications, M&E, feasibility study,...)	
		7.1.5. Create pool of qualified extensionists in Global Gap certifications	
		7.1.6. Create pool of qualified extensionists in crops cultivation, marketing & processing,	
		7.1.7. Create pool of qualified extensionists in food safety and quality assurance	
		7.1.8. Train some staff on photograph, filming and montages.	
<b>8. Extension-oriented</b>	8.1. The outputs of agricultural educational programmes are in accordance with local market	8.1.1. Conduct several concertation meetings with concerned local universities and other key actors concerning the idea of designing &	<b>500,000</b>

<sup>31</sup> Such as: Herbs, cut-flowers, hanging strawberries, dates, tropical and sub-tropical trees, etc.

<b>Educational programme</b>	needs and demands	setting in place a specialized one-year programme on extension & other new education programmes	
		8.1.2. Agree upon the institutional arrangements and requirements	
		8.1.3. Agree upon modules and their contents	
		8.1.4. Develop contents of extension modules curriculum development	
	8.2. A specialized one-year extension programme is developed and set in place	8.2.1. Set in place a set of selection criteria	
		8.2.2. Sign a cooperative agreements with local universities	
	8.3. Approximately (20) extension officers are well trained and graduated yearly from the contracted local university.	8.3.1. Select good extension officers from the MOA and other stakeholders	
		8.3.2. Commence the implementation programme	
		8.3.3. Conduct annual concertation and evaluation meeting	

**Strategic Objective 1: Supporting extension capacity building and institutional aspects:**

Category of intervention	Expected Results	Instrument (Activity)	Total Costs (US\$)
<b>9. Reinforcing existing agricultural laws &amp; regulations<sup>32</sup></b>	91. Missed laws and by-laws are developed and enforced (eg: organic agriculture)	9.1.1. Identifying what are missing in terms of laws & by-laws	<b>Zero, to be done by MOA staff</b>
		9.1.2. Get the Minister of Agriculture's approval on needed laws & by-laws	
		9.1.3. Conduct joint meeting with all relevant partners for outlines development	
		9.1.4. Prepare TOT and subcontracting qualified consultants or private firms	
		9.1.5. Get the MOA and cabinet approval on the final drafts	
		9.1.6. Put the approved laws and by-laws on force.	
<b>10. Improving Extension Planning Framework</b>	10.1. The planning and preparation process of Annual Extension Plans & programs are improved	10.1.1. Preparation for technical support planning	<b>70,000</b>
		10.1.2. Study and assessment of the adopted planning mechanism	
		10.1.3. Constraints and problems identifications	
		10.1.4. Agreement on proper planning mechanism	
		10.1.5. Training of extension personnel on planning	
		10.1.6. National workshop conduction prior effective implementation	

<sup>32</sup> Extension related laws and regulations

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>11.Coordinate d extension activities</b>	11.1. Extension activities, information and expertise are coordinated and shared among the agencies involved in extension delivery.	11.1.1. Create a "concertation platform" at district and national levels.	<b>50, 000</b>
		11.1.2. Convene regular planning & concertation meetings at all levels.	
		11.1.3.Prepare joint and integrated Annual Extension Plan (national, local).	
		11.1.4.Divide roles and responsibilities	
		11.1.5. Commence implementation of the extension plan at local levels.	
		11.1.6.Conduct regular follow-up and evaluation meetings	
		11.1.7.Exchange of information via email and the extension web portal (VAEC)	
		11.1.8. Call for all partners to attend extension events and activities	
		11.1.9.Disseminate of success and un-success stories for better planning	
		11.1.10. Urge all partners including farmers to use VAEC and consider it as a specialized national extension resource center.	

<b>Strategic Objective 1: Supporting extension capacity building and institutional aspects:</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>12. Create incentive system to reward extension officers<sup>33</sup></b>	12.1. The incentive system to reward extension officers is prepared, approved & put on force.	12.1.1. Undertake internal discussions within the MOA	<b>60,000</b>
		12.1.2. Prepare two or three ideas on best & applicable incentive system	
		12.1.3. Discuss the proposed ideas and select the best proposal	
		12.1.4. Develop detailed contents information of the incentive system	
		12.1.5. Approve and adopt the system	
		12.1.6. Make annual assessment for rewarding excellent works & extension staff	
		12.1.7. Make a regular revision and assessment in a regular manner.	
<b>13. Agr. Knowledge &amp; Management information system</b>	13.1. A comprehensive computer-based databases are established, operated and updated in a sustainable way	13.1.1. Study and analyze current information status at national & district levels	<b>200,000</b>
		13.1.2. Come up with evidence-based proposal idea on how information can be gathered, stored and made available rapidly through IT	
		13.1.3. Prepare TOR for a computer & web portal database	
		13.1.4. Call for bid and select a qualified contractor	
		13.1.5. Design the requested databases, gather & store information,	
		13.1.6. Begin using the newly developed databases & update them continuously	

<sup>3333</sup> Since the government personnel policies preclude salary bonuses, the MOA should consider using merit-based promotions & other incentives like professional training, etc.

<b>Strategic Objective 2: To promote and consolidate Research-Extension- Farmers Linkages</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>2.1. Extension- Research-farmers linkages</b>	2.1.Extension, research, farmers linkage is promoted, and strengthened	2.1.1.Develop and prepare joint (researcher & SMS's) annual extension plan	<b>300, 000</b>
		2.1.2.Develop annual extension & research plan for the experimental stations	
		2.1.3. Agree upon needs-based extension themes for pilot demonstrations	
		2.1.4. Jointly supervise the implementation of Pilot demonstrations	
		2.1.5. Invite farmers for field days and demonstrations and results discussions	
		2.1.6.Participate in concertation platform at district and national level	
		2.1.7. Conduct joint M&E of extension plan	
		2.1.8.Prepare quarter and annual progress reports & when needed	
		2.1.9. Any other interventions suit extension & research needs	

<b>Strategic Objective 3: To improve the extension outreach &amp; the effectiveness of extension approaches and methods</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>3.1.Agricultural extension approaches &amp; methods</b>	3.1.The participatory and collective extension methods are adopted based on farmers needs and conditions	3.1. 1.Study current status of agricultural sector in the districts	<b>300, 000</b>
		3.1.2.Study socio-economic, agriculture conditions of farmers	
		3.1.3.Calculate number of target farmers per subsector	
		3.1.4.Set in place a target level (no. of farmers) based on available resources	
		3.1.5. Select the most appropriate & effective extension methods & approaches <sup>34</sup>	
		3.1.6.Prepare annual extension plan per district	
		3.1.7. Commence the extension plan implementation	
		3.1.8.Evaluate and review the effectiveness of the adopted extension methods	
		3.1.9.Make available adequate resources for on-farm demonstrations & others	
		3.1.10. Any other appropriate interventions	

<sup>34</sup> Participatory extension methods are to be considered such as: Farmer Field School (FFS), Pilot demonstrations, field days, fairs, etc.

<b>Strategic Objective 3: To improve the extension outreach &amp; the effectiveness of extension approaches and methods</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>2.Increase extension contact</b>	2.1.Brought extension staff into contact with more farmers and farmers groups	2.1.1.Study and analyze the current situation	<b>500, 000</b>
		2.1.2.Make available adequate operational funds & extension personnel <sup>35</sup>	
		2.1.3. Provide DAD and extensionists with necessary equipments & tools	
		2.1.4.Make available adequate transport facilities , procure two vehicles\district	
		2.1.5.Studying several options regarding improving extension staff mobility <sup>36</sup>	
		2.1.5. Provide training materials to extension personnel	
		2.1.6. Set up appropriate performance standards for extension staff	
		2.1.7. Increase the remuneration package & promotion	
		2.1.8. Set and develop a mechanism to involve farmers in the process of appraising extensionists performance	
		2.1.9. Increase awareness among farmers about the importance of extension services	

<sup>35</sup> Part of MOA staff who are currently working under unemployment program can be requested to serve as grass root extension officers

<sup>36</sup> Kilometer age system can be a good option to study

<b>Strategic Objective 3: To improve the extension outreach &amp; the effectiveness of extension approaches and methods</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>3.Extension outreach and coverage</b>	3.1.The agricultural extension services' outreach and coverage are significantly improved and reached new interested farmers, marginalized groups and target areas <sup>37</sup>	3.1.1.Study and analyze the current situation and available resources	<b>300, 000</b>
		3.1.2.Identify with grass root extension staff the most needy groups and areas	
		3.1.3. Select the most appropriate extension methods & approaches	
		3.1.4. Provide DAD and extensionists with necessary equipments & tools	
		3.1.5. Make available adequate number of extensionists, transport facilities & operational funds	
		3.1.6.Increase the remuneration package & promotion	
		3.1.7. Prepare tailor-made extension programme in line of groups & areas needs	
		3.1.8. Prepare extension and printing materials	
		3.1.9. Provide extension services by using different tools and extension methods	
		3.1.10. Mobilize farmers into groups and cooperatives	
		3.1.11.Evaluate the progress made and accordingly plan for future	

<sup>37</sup> Such as: Bedouins, rain fed crops, remote areas, seamed zones, previously workers of Israeli settlements, young, fresh graduates, and more rural women's groups.

<b>Strategic Objective 4: To provide market-oriented extension services; integrated env. support to farmers &amp; extension support to all categories of farmers</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>4.1. Extension-market oriented services</b>	4.1. All agricultural extension activities are based on the needs and problems which identified at farm level.	4.1.1.Study and assess technical capabilities of extension personnel	<b>200, 000</b>
		4.1.2.Provide specialized training & technical assistance to extension personnel	
		4.1.3. Work closely with farmers to identify problems using participatory methods and techniques.	
		4.1.4.Conduct on-farm participatory research to select appropriate solutions to farmers' problems	
		4.1.5.Set-in place an extension agenda based on local situation & resources	
		4.1.6.Make available tools, equipments and adequate operational funds	
		4.1.7.Ensure rendering demand-led extension services	
		4.1.8.Evaluate the acquired experience and disseminate information	
		4.1.9.Scaling-out this experience into different sectors, groups and regions	
		4.1.10. Any other needed interventions	

<b>Strategic Objective 4: To provide market-oriented extension services; integrated env. support to farmers &amp; extension support to all categories of farmers</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>4.2. Extension support to all categories of farmers</b>	4.2. The agricultural extension services are provided to all categories of farmers and marginalized groups.	4.2.1. Identify the number and categories of farmers and other interested groups at each district level	<b>300,000</b>
		4.2.2. Conduct field survey and local workshops for different farmers categories	
		4.2.3. Assess farmers most pressing needs & priorities in terms of extension	
		4.2.4. Prepare and incorporate their needs in an annual extension plan	
		4.2.5. Make available tools, reliable transport means & adequate operational funds	
		4.2.6. Conduct a concertation meetings with all partners in relevant districts	
		4.2.7. Preparation of extension plan and implementation (in coordination with all stakeholders)	
		4.2.8. M&E of extension plan	
		4.2.9. Dessiminate acquired experience	
		4.2.10. Make available additional extensionists if needed based on local situation	

<b>Strategic Objective 4: To provide market-oriented extension services; integrated env. support to farmers &amp; extension support to all categories of farmers</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>4.3. Integrated environmental support</b>	4.3. The extension services provided to farmers are promoting environmental friendly agricultural practices.	4.3.1. Training and advising farmers on minimum chemicals applications	<b>100, 000</b>
		4.3.2. Promotion of environmentally sound agricultural practices such as: IPM	
		4.3.3. Introducing certain measures for maintaining soil fertility and degradation, and introduction of improved species.	
		4.3.4. Conducting public awareness regarding proper uses of pesticides	
		4.3.5. Monitoring the impact of agricultural practices	
		4.3.6. Continuous improvement of agricultural technologies	
		4.3.7. Conducting an environmental impact assessment as an integral part of the development	
		4.3.8. Testing of innovations by the agricultural research	
		4.3.9. Recycling of residues (both crop and animal).	

<b>Strategic Objective 5: To assist farmers to make optimal use of their available resources, ensure access to food and income, and to mitigate and adapt to new climate challenges</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>5.1. Extension &amp; Food Security</b>	<b>5.1. The food security level of the extension target groups is improved.</b>	5.1.1. Focusing on the practices that would improve productivity	<b>200, 000</b>
		5.1.2. Helping farmers to improve post harvest treatments	
		5.1.3. Providing and responding on vulnerable and marginalized households	
		5.1.4. Providing extension to newly reclaimed lands, and newly established animal related projects	
		5.1.5. Adopting agricultural practices which can reduce the production costs	
		5.1.6. Improving farmers products in terms of quality & competitiveness	
		5.1.7. Promoting the adopting water saving and water harvesting techniques.	
		5.1.8. Encouraging farmers to exploiting their backyards	
		5.1.9. Promoting the adoption of cheap alternative farming inputs.	
		5.1.10. Providing information and knowledge regarding food processing & hygiene	
		5.1.11. Any needed and relevant interventions	

<b>Strategic Objective 5: To assist farmers to make optimal use of their available resources, ensure access to food and income, and to mitigate and adapt to new climate challenges</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>5.2. Extension and climate change</b>	5.1. The impact of Drought on agriculture is mitigated and controlled.	5.1.1. Prepare a set of mitigation measures to be introduced to farmers such as <sup>38</sup> :	<b>200, 000</b>
		5.1.2. Conservation farming techniques	
		5.1.3. Composting & Crop diversifications	
		5.1.4. Early planting	
		5.1.4. Growing of drought tolerant crops\ varieties	
		5.1.5. Drought mitigation training	
		5.1.6. Winter plowing & water harvesting techniques	
		5.1.7. Non-traditional farming activities	
		5.1.8. Training farmers on the importance of supplementary irrigations	
		5.1.9. Raising farmers awareness by using printing materials & audio-visual aids	
5.1.10. Any other relevant interventions			

<sup>38</sup> \*\* *The mitigation measures should be environmental friendly and socio-economic-cultural appropriate.*

<b>Strategic Objective 6: Providing sustainable, tailor-made and more frequent extension services to rural women and their organizations</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>6. Extension bias in Gender</b>	6.1. Rural women and their organizations are received sustainable, tailor-made and more frequent extension services	6.1. Promote, support and encourage rural women organizations	<b>300, 000</b>
		6.2.Design & develop extension programs based on rural women needs	
		6.3.Improve the extension programmes' outreach, frequency and coverage	
		6.4.Improve and support enable policy environment regarding gender equity	
		6.5.Prepare and conduct rural women centered- training programme	
		6.6. Identify & procure tools &equipments needed for rural women extension	
		6.7. Promote and encourage value-added products and branding	
		6.8. Facilitate trade matching and marketing of rural women products	
		6.9. Help assist in conducting rural women products fairs	
		6.10. Prepare and disseminate printing materials	
		6.11. Any other needed interventions	

<b>Strategic Objective 7: To strengthen farmer organizations and mobilizing farmers into specialized groups</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>7. Farmers cooperatives promotion &amp; mobilization</b>	7.1. The producers are organized by commodity chain	7.1.1. Organize local seminars to sensitize stakeholders on the advantages of organizing producers in commodity chains.	<b>500,000</b>
		7.1.2. Support producers who express interest to organize themselves by commodity chain (organization of meetings, development of charters, establishment of committees, etc.)	
		7.1.3 .Support producer organizations to put in place specialized organizations.	
	7.2. The concertation platforms are put in place with the participation of the farmer organizations at national and local levels	7.2.1. Organize every year at each decentralized level concertation/planning/evaluation meetings of the platforms with the participation of farmer organizations.	
		7.2.2. Organize every year, at national level two concertation/planning/evaluation meetings	
	7.3. Farmers' cooperatives are produced hygienic and value-added products	7.3.1. Improve food safety and hygienic of members' farmers products	
		7.3.2. Support & encourage producing value-added products with brand names	
		7.3.3. Contribute towards solving marketing constraints & production costs	

<b>Strategic Objective 8: To improve the ability of the Palestinian agricultural products to compete in local and external markets</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>8. Improving standards &amp; food safety control</b>	8.1. Food safety and standards are controlled and improved	8.1.1. Developing of Palestinian standards & regulations	<b>300, 000</b>
		8.1.2. Completing the missing laws and by-laws	
		8.1.3. Restructuring of the extension organizational structure, when needed	
		8.1.4. Applying quality management system on extension organization	
		8.1.5. Improving hygiene of home-based dairy processing products (i.e., cheese)	
		8.1.6. Raising awareness of public & consumers on food safety and quality	
		8.1.7. Optimizing uses of chemicals and pesticides	
	8.2. Palestinian agro-products are competitive and able to meet the international markets standards	8.2.1. Training farmers on International standards & requirements	
		8.2.2. Granting to farmers cooperatives & packing house global gap certifications	
		8.2.3. Setting-in-place proper mechanism regarding testing & analyzing of pesticides residues level on agro-products in local & International markets.	
		8.2.4. Promoting of branding of agro products	
		8.2.5. Promoting & encouraging organic agriculture and products	
		8.2.6. Providing reliable and frequent market information	

<b>Strategic Objective 9: To promote and support high value crops</b>			
<b>Category of intervention</b>	<b>Expected Results</b>	<b>Instrument (Activity)</b>	<b>Total Costs (US\$)</b>
<b>9. crops promotion &amp; support</b>	9.1. High value crops are promoted and support as an effective way of diversifying predominant conventional crops and increasing farmers' profit.	9.1. Training a qualified pool of extensionists on crops & food processing	<b>200, 000</b>
		9.2. Recruiting adequate number of food processing specialists	
		9.3. Updating the extension organization structure	
		9.4. Mobilizing framers into specialized cooperatives	
		9.5. Establishment of small food processing units	
		9.6. Providing up-to-date market-based extension services	
		9.7. Facilitate trade links between farmers and food processing plants	
		9.8 Make available supportive legal environment framework	
		9.9. Supervize initiate trade matching, contract, & implementation via DAD	
		9.10. Dessiminating the acquired experience & scaling it out into other regions	
		9.11. Any other relevant interventions	

## Annex -1: List of Persons interviewed

### Annex (1-1)- List of MOA seniors interviewed-June-2012

#	Name	Position	Organizations
1.	Ibrahim Qtishat	Director G. of Extension	MOA
2.	Abedullah Lahlouh	D.G. of Planning & Policies	MOA
3.	Qasim Abedo	D.G. of Soil and Water	MOA
4.	Attef Rabaya	D.G. of Financial and Admin. Affaires	MOA
5.	Ali Ghayadeh	Deputy Assistant of Admin. & Financial Affaires	MOA
6.	Zakaryia Salwadeh	D.G. of Land development	MOA
7.	Basim Hamad	Act. D.G. of Rangelands & Forestry	MOA
8.	Mohammad Sadiq	Director of Pesticides Department	MOA
9.	Abedullah Dahla	Head of section of Plant Diseases	MOA
10.	Shadi Darweesh	Director of Quarantine department	MOA
11.	Doha Aydi	Act. Director of Mass Media Department	MOA
12.	Safa'a Ibsais	Director of Rural Development Department	MOA
13.	Ashraf Barakat	Head of division of Horticulture	MOA
14.	Yaser Al- Natour	Deputy Director of Field crops Department	MOA
15.	HIROYASU Onuma	Japanese Int. Consultant- EVAP project	MOA\ JICA

### الجهات التي تم مقابلتها لأغراض اعداد استراتيجية الارشاد

المؤسسة	الشخص
مدير مديرية زراعة طولكرم	احمد عبد الوهاب
مديرة محطة التجارب الزراعية في طولكرم	علياء قناديلو
مدير مركز التدريب في مديرية زراعة طولكرم	السيد تحسين
نائب مدير مديرية زراعة طولكرم	مأمون التايه
رئيس قسم الانتاج النباتي في مديرية زراعة طولكرم	براء الغول
مرشد زراعي طولكرم	سامي موسى
مرشد زراعي طولكرم	نبيل حمدان
مزارع فراولة طولكرم	اسامة ابو خميس
مزارع زهور ريادي- طولكرم	نضال بلعوي
رئيس جمعية ذنابة التعاونية	اياد ملوح
مدير مصنع الدبال في الجمعية ذنابة التعاونية	طالب ابو هاني
نائب مدير عام الاغاثة الزراعية	د. عبد اللطيف محمد

مدير شركة بال جاردن	مازن سنقرط
مدير شركة نيو فارم	هيثم الحسن
رئيس الاتحاد التعاوني الزراعي	فياض فياض
منظمة الاغذية والزراعة للامم المتحدة (الفاو)	د. عزام صالح
مدير شركة ريف للتمويل	محمد الدلو

### Participants in the Focus Group

Name	Job Title
Eng. Ali Aiadah	Assistant Deputy -MOA
Eng. Ibrahim Kteshat	Director General Extension and Rural Development -MOA
Dr.Azez Slameh	NARC-MOA
Dr. Jehad Ibrahim	NARC-MOA
Munther Salah	Deputy Director of Agriculture Jenin-MOA
Magdi Odeh	Director of Agriculture Tubas-MOA
Rafie Adelh	Deputy Director of Agriculture Tubas-MOA
Suleiman Abu Amer	Head Plant Production -MOA
Hashim Sawafta	Unit northern Jordan Valley-MOA
Mohammad Fatayer	Director of Agriculture Nablus-MOA
Fayez Mousselmani	Deputy Director of Agriculture Nablus-MOA
Mohammad Ashour	Head Plant Production -MOA
Mamoun Al-tayeh	Deputy Director of Agriculture Tulkarem-MOA
Nasreen Barham	Deputy Director of Agriculture Qalqiliya-MOA
Ayman Al-Alim	Agronomist-MOA
Abraham Al-Hamad	Director of Agriculture Salfit-MOA
Labib Obaid	Deputy Director of Agriculture Salfit-MOA
Asmahan Ghron	Deputy Director of Agriculture Ramallah-MOA
Ali Al-Shakhshir	Head of Animal Production-MOA
Zafer Al-Hamshari	Director of Agriculture Jerusalem-MOA
Amer Lbadh	Deputy Director of Agriculture Jerusalem-MOA
Mohammad Hdidon	Department of Livestock-MOA
Ghassan al-Husseini	Department of Plant Production
Safinaz Badr	Director of Agriculture Bethlehem-MOA
Ibrahim Mshalh	Deputy Director of Agriculture Bethlehem-MOA
Majdi Amr	Director of Agriculture Dora-MOA
Mahmoud Shahin	Deputy Director of Agriculture Dora-MOA
Badr Hawamdeh	Director of Agriculture Hebron-MOA
Osama Jarar	Deputy Director of Agriculture Hebron-MOA
Dr. Iyad Farajallah	Director of Agriculture Yatta
Slah Al-Deen Al-baba	Director of the Horticulture
Yasser Abdel Rahim Natour	Deputy Director of the Department of Crops-MOA
Najeh Odeh	Director of pasture-MOA
Mustafa Barakat	Director of Prevention-MOA
Jamal Abdu	Deputy Director of the Department of Rural Development-MOA
Nariman Odeh	Deputy Director of the Department of Prevention-MOA
Doha Abdi	Deputy Director of the Department of Programs Planning -MOA
Mahmoud Taftah	Director of the Department of Animal Production-MOA
Ashraf Barakat	Extension Officer - MOA
Majid Al-Kharraz	Extension Officer -MOA
Ragheb Camille	Quarantine Department - MOA
Hanan Hage	Agricultural Media- MOA
Hanadi Al-jalad	Manager of Cabinet Unit - MOA
Samer al-Titi	Director of the Department of Planning and Policy - MOA
Lena Dawas	General Department of Planning
Dr.Hisham Awartani	Director of the Institute of Corporate Governance-Nablus
Dr.Munqith Shtayeh	Dean of the Faculty of Agriculture Al-Najah University
Hiroyasu Onuma	JICA- Expert
Fares Al-Jabi	Agricultural Expert
Ibrahim Abu Tafesh	Journalist
Fawaz Hanbali	Technical Assistant- JICA
Wekken, J. van der (Jacco)	International Expert- DLV Plant
Mink Vermeer	International Expert -DLV Plant
Eng.Amin Abu Soud	Dutch Program Coordinator - MOA
Dr.Basim Makhool	CEO- Creative Business Solutions- Consultancy Team Leader

#### **NATIONAL COMMITTEE'S MEMBERS**

1. Eng. Abedullah Lahlouh – Acting Deputy Minister- Chairman
2. Eng. Ibrahim Qtishat- G. Director of Extension & Rural Development- Decision taker
3. Dr. Mohamed Abu Eid- G. Director of NARC- Member
4. Dr. Munqez Shtayeh- Dean of faculty of Agriculture, An-najah university-Member
5. Dr. Hisham Awartani- Representative of Private sector- Member
6. Mr. Sadeq Odeh- Representative of NGOs- Member-
7. Mr. Amin ABU-ALSOD- the MOA Senior Program Coordinator- Member
8. Dr. Ali Abu Ayyash - Ministry of Education - Member

## **Annex -2: List of documents reviewed**

- MOA. Evaluation of Public Agricultural Extension System of Palestine: Recommendations for Improvements, implemented by MOA and CIRD, funded by Netherlands Programme, May, 2011.
- MOA. Qualification Assessment of the MOA staff working in the extension services, implemented by MOA and Dimensions, funded by Netherlands Programme, May, 2011.
- MOA. The agricultural extension services: a review of global experience, implemented by MOA and Al-Markez for Marketing & Developmental Consultancies, funded by Netherlands Programme, October, 2011.
- MOA. Development of Pilot Agricultural Extension Model, implemented by MOA and Horizon for Sustainable Development, funded by Netherlands Programme, September, 2011.
- MOA. Study of Market Demand on Various Extension Services in Palestine, implemented by MOA and Horizon for Sustainable Development, funded by Netherlands Programme, January, 2012.
- MOA. Evaluation of the key agricultural services provided to farmers in Palestine, implemented by MOA and Horizon for Sustainable Development, funded by Netherlands Programme, March, 2012.
- MOA. Assessment of the organizational capacity of the MOA, conducted under a project entitled Improving the MOA capacity building implemented by the MOA and FAO, funded by the Spanish cooperation office, December-2010.
- MOA. Palestinian Agricultural Policy, second draft, Ramallah, 1999. (Unpublished).

- MOA. Strategy for Agricultural Research and Extension, prepared in cooperation with the Adaptive Agricultural Research and Extension Project, UNDP/Pal/96/J21, Ramallah, February 1999.
- MOA. Strategy for the Palestinian Agriculture Sector -Shared Vision, prepared in cooperation with the FAO, Ramallah, December 2010
- Records and various administrations files existing at the General Directorate of Extension and Rural Development, April, 2011.
- Central Bureau of Statistics, Agriculture Census 2010, and Agriculture statistics 2008, Ramallah- Palestine
- European Commission-Technical Assistance Information Exchange Instrument (TAIEX). Assessment Mission on Sanitary and Phytosanitary Policies to the occupied Palestinian territory. 2011.
- OIE – PVS. Evaluation of the Veterinary Services of the Palestinian Territories (West Bank) June, 2010.

## **Annex -3 TOR of the extension strategy**

### **Project objectives**

The primary purpose of the agricultural extension strategy formulation is to develop a comprehensive roadmap setting the direction, priorities, and pace of agricultural extension services, taking into account the country's policies and development programs in the agricultural sector and the need to rapidly disseminate newly created and existing technologies to Palestinian Farmers and create sustained visibility for agricultural extension for the next upcoming years. The development of the agricultural extension strategy should take into account the current developments and the prevailed conditions in local, regional and global contexts (i.e., separation wall, frequent Israeli closures, food crises, drought, climate change,...).

### **Project timing**

The Terms of Reference (ToR ) document dictates the study to take place within 8 weeks after signing the contract. In respect of this timing CBS delivers the final report within 8 weeks after signing the contract.

### **Methodology**

An outline of a formulation approach is provided below however it should be made clear that the consultant team is responsible for revising the approach as necessary. Any changes should be in line with professional norms and standards. They must be also cleared by the MOA and (the MOA program coordinator) before being applied.

#### **1- Documentary Review**

The following documents should be reviewed at the planning and design phase as to grasp and gain an in-depth understanding of the context, limitations, constraints, and opportunities of different agricultural sub-sectors:

- Previous Research and Extension Strategy- 1997
- Current Agricultural Strategy (shared Vision), 2010.
- Previous sub-sector strategies, 1999.

Agricultural Ownership surveys, 2008.

Other relevant policy papers.

All JICA series technical studies conducted in the field of agricultural extension.

The Netherlands Program technical studies: (i) evaluation of the public extension services system in Palestine (ii). Qualification assessment of the MOA staff (iii). The agricultural extension service: a review of global experience and (v) Market demand on extension services.

## **2- Key informants Interviews**

A set of series meetings and interviews will be conducted with MOA key persons, NARC and other relevant stakeholders. The interviews will be done by using structured questionnaire and by undertaking reviews, semi-structure interviews.

## **3- Surveys and technical studies**

The necessity of any field surveys conduction should be determined by the submitted technical approach ensuring the realization of the ultimate objectives and outputs studies.

## **4- Focus groups and workshops**

They will be conducted with all concerned agencies, key informants, and subject matter specialists both at national and local level depending on the study requirements itself, and the submitted and approved technical approach. This type of method plays key role in undertaking further assessment and analysis and substantially assist in generating and incorporating the gathered feed-back information into the contents of technical studies and the extension strategy, as well.

## **5- National workshop**

At the end of the technical studies and strategy formulation, a national platform workshop will be carried out as to present the achieved results, conclusions, and recommendations. Also, it serves as a good tool for results discussions, critical and constructive feed-back information generation as the last step before the official approval and dissemination.

## **Scope of Work**

The consultant, in consultation with the MOA key staff, especially the General Director of Extension and Rural Development, will develop or formulate a strategic plan document indicating clearly; the priority extension programs the necessary human and infrastructure resources capacity building strategy to support these programs a clear strategy to develop/ adapt and disseminate existing and new technologies to farmers and other beneficiaries in support of the country development policies a resources mobilization plan and refining the existing capacity building plan guarantying the successful implementation of the strategic plan.

*Within the framework of this assessment, the strategy formulation will address – among others- the following specific tasks:*

i) Gathering and analyzing policy and strategy documents in agriculture and agricultural research and extension, both national and regional and making sure that relevant issues are addressed in the extension strategic document.

ii) Contacting all stakeholders in agricultural sector development, i.e., academia, policy makers, agricultural research scientists, agricultural research and extension management, extension partners (NGOs, Donors, Farmer organizations, local administrations, etc.) to gather their views and needs on the agricultural extension input to development programs. *It is of great importance to contact especially primary producers / farmers, because the added value of the new extension strategy is that theoretical knowledge will be applied by farmers/producers.*

iii) Developing the agricultural extension strategy basing on already existing documents and agricultural research and extension policies and the data gathered in (i) and (ii) above;

iv) Conducting a stakeholder's workshop to validate the agricultural extension strategy;

v) Produce the final extension strategic plan document.

It is worthy to mention here that the outputs of the technical assistance of the first phase will feed into, synchronize, and pave the way of the second phase which is the agricultural extension strategy formulation. The contracted Team leader must be well acquainted with the results of the developed technical studies as well as the whole process of the first phase. That would contribute substantially towards identifying, building and articulating sections and contents of the extension strategy.

### **Project Deliverables**

Presentation of initial evaluation findings

A presentation of initial evaluation findings for discussion with the MOA team. The MOA senior program coordinator (Mr. Amin ABU-ALSOUND), sharing evaluative materials and discussing any information requiring clarification.

Public Debate

The National Agricultural Extension Strategy (NAES) document finalized through a public debate at the regional and national level, with all stakeholders involved. It should, at least, include the following contents:

- 1. Executive summary**
- 2. Background and The National Context**
- 3. Agricultural Extension in Palestine:**
  - History of extension and its evolution
  - Analysis of current Agricultural extension in Palestine
  - Some examples of extension approaches currently practiced in Palestine.
- 4. SWOT analysis (to be carried out at a regional or national level)**
- 5. National Agricultural Extension Strategy:**
  - Definition of Agricultural Extension
  - Vision of National Agricultural Extension Strategy
  - Objectives of National Agricultural Extension Strategy
  - Guiding principles (i.e., participatory extension, Multi-approach and multi method extension, Demand driven and market oriented extension, Process and results oriented extension, Multi actor extension, Building on already existing initiatives,.....).
- 6. Strategic Axes: (to be defined collectively in participatory way).**

- Agricultural extension methods
- Characteristics of new orientations as regards to decentralized extension
- Roles of different actors in agricultural extension system
- Functional relationship between MOA regional directorates and NARC.
- Coordination, Monitoring and Evaluation

**7. Logical framework on national agricultural extension strategy (including the needed financial resources).**

**8. Appendices**

- TOR
- Summary of field visits
- List of persons interviewed
- List of documents reviewed
- Questionnaire used and summary of results
- Others

## Annex -5: Questionnaire used and its results

اسم المرشد: ----- Name:

Extension field: 1- نباتي 2- حيواني 3- تنمية ريفية 4- غير ذلك -1  
Plant 2- Animal 3- Rural development 4 -others

اهم العصوبات التي تواجهها في عملك كمرشد زراعي: Main problems and obstacles you face as an extensionist

-1  
-2  
-3

لو كنت المسئول الاول عن الارشاد الزراعي في الضفة الغربية ما هي اهم الاجراءات التي ستتخذها لتحسين خدمات الارشاد الزراعي: What are the main activities-intervention you think are needed to improve extension services

-1  
-2  
-3

الملحق الثاني: نتائج استطلاع موظفي الارشاد الزراعي في وزارة الزراعة extensionists survey Results of the

النسبة Percentage	عدد المجيبين Number of respondents	التخصص Field
%48	11	ارشاد نباتي Plant extensionist
%17	4	ارشاد حيواني Animal extensionist
%35	8	غير ذلك: مدراء دوائر، Director of

		extension department
100	23	Total المجموع

أهم الصعوبات التي يواجهها المرشدين الزراعيين Main problems and obstacle facing extensionist

النسبة percentage	المشكلة – obstacle problem
%87	عدم توفر الإمكانيات اللوجستية للقيام بمهام العمل ( سيارات، اتصالات، ...) Lack of equipments and tools mainly vehicles, telecommunication, etc
%52	مشاكل ادارية تتعلق بعدم التسكين، غياب الأمن الوظيفي، تداخل الصلاحيات، غياب نظام للحوافز، ضعف العلاقة بين المدراء والمرشدين managerial problems such as lack of incentives, lack of communications with directors, lack of job security (extensionist on temporary contracts), unclear job description,
%30	عدم وجود استراتيجيات واضحة ذات أهداف محددة، وغياب متابعتها، وعدم توفير موازنة لتنفيذها lack of strategic planning, lack of extension, lack of monitoring and evaluation
\$30	عدم توفير موازنة للإرشاد الزراعي في الإدارة العامة بالوزارة وفي مديريات الزراعة lack of extension budget
%26	عدم مواكبة التطورات العلمية العصرية ( ربط المرشد الزراعي بالتقنيات الحديثة، عدم وجود محطات تجارب،...) , lack of means to acquire new knowledge , weak connections to research stations,
%26	عدم توفير المواد العلمية وادوات اللازمة للتدريب lack of training tools, equipments to train staff and farmers
%28	عدم كفاية الدورات المتخصصة ذات نوعية مطلوبة lack of specialized training opportunities
%17	عمل المرشدين الزراعيين بأعمال أخرى غير افرشاد الزراعي extensionist are overwhelmed with office and managerial activities rather than extension
%17	ضعف العلاقة والاتصال مع مراكز الأبحاث weak connections with the research stations and centers
%17	صعوبة قبول المزارع لتعليمات المرشدين، (كاستخدام المبيدات) farmers are unwilling to accept new ideas
%13	قلة الخبرة لدى بعض المرشدين lack of practical experience for the extensionist
%9	عدم توفير بعض المواد بسبب ارتفاع اسعارها ولدواعي امنية lack of key training

	materials mainly fertilizers due to security concerns by the Israelis
%9	ضغط العمل الذي يقع على عاتق المرشدين لقلّة عددهم Low number of extnesionst

إجراءات لتحسين خدمات الإرشاد: activities and interventions to improve extension

النسبة % of respondents suggesting it	الإجراء activity-intervention
%74	توفير متطلبات العمل والخدمات اللوجستية ( مواصلات، إتصالات،.....) provision of tools and equipments mainly vehicles and telecom tools
%74	تدريب وبناء قدرات مرشدين متخصصين اداريا وفنيا وتأهيل مهندسين زراعيين intensive and specialized training for estnesionsts
%69	توفير موازنة خاصة بخطة الإرشاد وتوفير التمويل للإرشاد ( ايام الحقل، مشاهدات، محاضرات) provision of budgets for famers training, demos, field visits,
%52	أحداث تطوير اداري يتضمن: تحديد المهام بشكل واضح والفصل بين دور المرشد واي عمل آخر، التدرج الوظيفي، استحداث دوائر فنية جديدة، الربط بين مراكز الإرشاد والمرشدين مباشرة، organizational issues: clear job descriptions, direct linking between extensionist and research stations, reduce administrative tasks of the extensionist.
%39	تطوير مراكز البحوث وتعزيز العلاقات مع الجامعات ونشر المعلومات الجديدة enhance linkages with universities, research centers, and database relevant to extension.
%34	أرشاد وتوعية في التسويق الزراعي: التركيز على المحاصيل التصديرية المبكرة، تحديد المنتج مباشرة من الوزارة، توعية المزارعين بأساليب التعبئة والتدرج، تحديد المساحات المزروعة حسب احتياج السوق، فتح اسواق للتصدير intensive marketing training including selection of crops, packaging, standards, market needs, assessment of potential markets
%30	زيادة عدد المرشدين المتخصصين في الفروع الزراعية المختلفة increase the number of specialized extensionist
%22	توفير مواد علمية ووسائل الإرشاد provision of training tools
%22	وضع خطة واضحة الأهداف وإشراك المرشدين والمديريات في كافة مراحلها preparation of extension plan in full coordination with the MOA and its directorates

%17	توفير حوافز ومكافآت للمرشدين الزراعيين incentive systems to extensionist
%17	تعزيز الإتصال بين المرشد والمزارع وتوفير وسائل توصيل المعلومات لهم enhance contacts between extensionist and famers
%9	تعزيز الرقابة والمتابعة على الدوائر والأنشطة control over extension departments
%9	إعداد بنية تحتية للمديرية ( مختبرات فحص ) infrastructures mainly labs
%9	إعداد معايير وضوابط لبرامج الإرشاد including criteria for the design implementation and evaluation of extension programs
%9	مراعاة ظروف المحافظات وتقسيم المناطق داخل المحافظة جغرافيا إلى مناطق إرشادية design extension programs tailored to the needs of each محددة location rather than central design –one size fits all.
%4	تفعيل دور الإعلام الزراعي بشكل أفضل targeting agriculture stakeholders