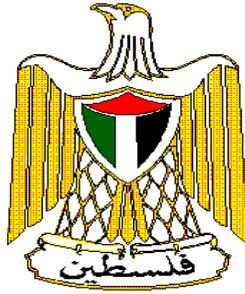


**PALESTINIAN NATIONAL AUTHORITY**



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**DEVELOPMENT OF PILOT AGRICULTURAL EXTENSION  
MODLES**

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**SUBMITTED TO**

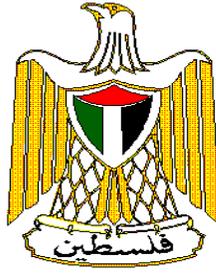
**MINISTRY OF AGRICULTURE**

**PREPARED BY**

**HORIZON FOR SUSTAINABLE DEVELOPMENT**

**RAMALLAH-PALESTINE**

**SEPTEMBER-2011**



## **DEVELOPMENT OF PILOT AGRICULTURAL EXTENSION MODLES**

**PREPARED  
UNDER THE PROGRAMME**

**"IMPROVING LIVELIHOODS IN OCCUPIED PALESTINIAN TERRITORIES- WEST  
BANK DISTRICTS"- MANAGED BY (PARC), FUNDED BY NETHERLANDS  
REPRESTTAIVE OFFICE (NRO)**

## **PREFACE**

Within the framework of the programme "Improving Livelihoods in Occupied Palestinian Territories- West Banks", the study was conducted in the West Bank districts by using different tools of data collections such as: semi-structure interview, brain storming sessions, focus groups. The report provides detailed information of developed pilot extension models, including among other things, their implementation arrangements.

The extension models were developed by contacting all relevant stakeholders, key persons and farmers. The survey was conducted between August and September 2011 by Horizon for sustainable development as a contracted consulting firm.

This study will provide some detailed information concerning two developed pilot extension models based on actual needs of the agricultural sector and different segment of farmers in the West Bank District. The extension models will be applied immediately once they were approved by the MOA. They will help assist the Ministry in diversifying and developing the way the extension services are being delivered to farmers in a more innovative and responsive ways. In this respect, different partnerships arrangements can be made of which Public- Private Partnership and Public-Framers associations partnership. Once the extension models are implemented for around one agricultural season, an end-evaluation will be conducted as to take stock of key success points and for the purposes of implementing the models in a wider scale.

We would like to express our deep appreciation for the invaluable contribution of study team member in collecting, analyzing and developing extension models. We also greatly appreciate for the overall guidance and technical assistance that Mr. Amin ABU-ALSOUND performed for us.

Finally, we would like to take this opportunity to thank the Netherlands Representative Office of Netherlands for funding the development of this important study.

**Mr. Ibrahim Qteshat**

**Director General of Extension & Rural Development**

**Spetmber-2011**

## **ACKNOWLEDGEMENTS**

First of all, we thank the Netherlands Representative Office in Ramallah for their continued support and specifically for funding this programme, which made it possible for this study to be undertaken.

Our sincere appreciation to Mr. Ibrahim Qteshat, Director General of Extension, Mr. Amin ABU-AL:SOUND, the MOA programme Coordinator, and to all who participated in the study conduction and shared information and provided invaluable ideas, but also for their heartiest cooperation during our office visits, focus groups and interviews.

## ACRONYMS

AES	Agriculture Experiment Station
AEZ	Agro-Ecological Zones
FBS	Famer Business School
FFS	Farmer Field School
FO	Farmers' Organization
CBO	Community-Based Organizations
DG	Director General
DAD	District Agricultural Directorate
EO	Extension Officer
ESMS	Extension Subject Matter Specialist
FAO	Food and Agriculture Organization of the United Nations
GDoERD	General Directorate of Extension & Rural Development
GDP	Gross Domestic Product
HRD	Human Resource Development
IPM	Integrated Pest Management
ICARDA	International Center for Agricultural Research in the Dry Areas
IPM	Integrated Pest Management
JRV	Jordan Rift Valley
MOA	Ministry of Agriculture
M&E	Monitoring & Evaluation
NGO	Nongovernmental Organization

oPt	Occupied Palestinian Territories
PARC	Palestinian Agricultural Relief Committee "Agricultural Development Associations"
PNA	Palestinian National Authority
PRDP	Palestinian Reform and Development Plan
SMS	Subject Matter Specialist
USD	United States Dollar
UAWC	Union of Agricultural Work Committees
USAID	United States Agency for International Development
WB	West Bank
WB&GS	WB and Gaza Strip

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## ABSTARCT

This study is intended to identify and develop two applicable extension models, the models primary objectives are to diversify and strengthen rendering agricultural extension services to farmers and other clients as well as improve extension services effectiveness and efficiency.

The extension models are in dire needs because, but not limited to, the following: collaboration between public and private extension providers is limited, there is little coordination of NGOs engaged in agriculture and mainly in agricultural extension services. Also, there are few examples of farmer organizations getting involved in agricultural extension.

The process of developing the two models was conducted in participatory way attended by senior staff and experts from the MOA, NGOs, agricultural councils and farmers associations. Other data for analysis were sourced from the following: Literature reviews, and several semi-structured interviews with key informants form the MOA, NGOs, and farmers associations.

Based on the consultative meetings and workshop made over August and September 2011, for the extension models development, the study team came up with two main ideas regarding extension models, the first entitled of “The public- Cooperative Partnership Model (PCP)”, which is intended to create and forge relationship with public institution through establishing a relationships model between the (MOA) and farmers’ rainfeds crops cooperatives. Under the model framework, approximately (20) rain fed farmers will be served, most probably, in Jenin district areas where rain fed crops are predominant. The area included per farmer should not less than 10 dunum and doesn’t exceed 20 dunum; priority will be given to small farmers and women. An eligible cooperative will be selected according to a set of criteria described in the report contents afterward. Each beneficiary farmer will receive the following farming inputs package: Improved wheat seeds (*Ariel*) around 20 kg\du, Barley (*Baladi*) 18 kg\du, 15 kg\du chickpeas(*Hadas*) and technical know-how package in the form of training, demonstration and extension and advisory services. While the beneficiary farmers’ association is expected to receive a set of field and office equipments in accordance with its actual needs, the farmers association, in its turn, should contribute not less than 50% of the total incurred amount. This

model is supposed to be implemented immediately as the current agricultural season is already commenced.

The second model is “Farmer Services Center Model” “FSC”, it will target olive and olive producers in cluster of villages, through cooperation between the Netherlands Programme, MoA, Olive Council, and cooperative or private sector. The major services to be provided by the FSC are: (1) Introduction of new olive picking tools that will reduce the cost, improve the quality, minimize losses and least damages to the olives trees, (2). Make available spraying against diseases on the olive and fruit trees, this will again encourage farmers to take the necessary measures against diseases at reasonable cost, by using track-mobile motor sprayers services (3) Use of chain saws for pruning and thinning of olive and fruits trees (4) Lab analysis services and facility especially for olive-oil quality, fertilization, soil, insects and animal diseases (5) Extension services to be made available to the farmers, villages and extension workers to transfer extension messages and knowledge and to serve the community at large (6) Provision of training (7) Establish demonstration blocks and pilot farms (8) Encourage using proper plowing machines such as the monoculture machines, chisel, etc. (9) Offer extension and advice to farmers and other stakeholders.

An eligible olive farmers association will be selected and served including its members. The target districts are mainly: Jenin, Nablus and Salfit where Olive trees are predominant. The members farmers included per farmers association are not identified, however, it should not less than 50 farmers; priority will be given to small farmers and women. The eligible cooperative will be selected according to a set of criteria described in the report contents afterward. Each beneficiary farmers association will receive a set of field and office equipments (i.e., PC, harvesters, chain saws, nets-laid- the olive trees, stainless steel tanks, sprayers, plastic boxes) anyway, these equipment will be definitely identified in accordance with the actual needs of selected farmers association prior the commencement of bidding process.

The farmers association, in its turn, should contribute not less than 50% of certain field equipments (to be defined later). The fees and charges for the different services to be delivered by FSC will be fixed and decided upon in agreement between the MoA, Netherlands Programme and the cooperative. The cost of the services should at all cases cover the cooperative

contribution in the cost plus a profit margin, but it should be less than the actual total cost, especially at first year.

This model is supposed to be implemented immediately as soon as the current agricultural season is commenced.

To ensure smooth models implementation, the Netherlands' programme "Improving livelihood in occupied Palestinian territories- West Bank Districts" will make available all needed financial recourses for farming inputs and equipments procurement, besides, the needed coordination, supervisions and implementation arrangements. Meanwhile, the partner organizations and beneficiaries are supposed to execute and adhere to a specific set of technical packages and conditions stipulated clearly in the attached implementation agreement.

**Key words:** *Extension models, Extension services, Rain-fed crop, Agriculture, Palestine,*

## **CHAPTER-1**

### **1-Background:**

The phenomenal growth in agricultural sciences, emergency of information and communication technologies and rediscovery of indigenous knowledge system, globalization of economy, changing structure of rural economy and emerging problems such as climate change have opened up new avenues and challenges in agricultural knowledge management. The complexity involved in generating, processing and sharing of agricultural knowledge demands a continuous search for new methods and approaches for communication and utilization of agricultural knowledge by various stakeholders for augmenting farm production and productivity.

Agricultural knowledge management involves different players such as farmers, extension personnel, researchers, inputs suppliers, etc. A number of participatory models of knowledge transfer including farmer-led extension have been developed in knowledge generation, process and transfer. These models have strengthened interaction among researchers, farmers and other stakeholders which is crucial in the context of pluralistic extension which has taken a centre stage in several countries. Further, several innovative approaches including reforms in agricultural extension in various countries in the recent past have resulted in successful knowledge management including transfer of technologies at farm level. Hence, a system approach to knowledge generation and sharing has to be institutionalized wherein farmers become partners in an innovation system and not mere recipients of technologies.

The Palestinian Agricultural Strategy "shared vision" stressed the need for the MOA to adopt new technologies and production approaches in farming to meet the challenges of rapidly expanding populations and decreasing availability of agriculturally productive lands and scare water and financial resources.

The international, regional and local changes have strong implications for the Palestinian agriculture production base. Therefore, the role of the extension service is instrumental to assist the producers and others in the value chain to satisfy consumer demand trends and also to face the increasing competitive and emerging challenges in the context of regional and international trade liberalization.

The agricultural extension had done very well in disseminating various technologies to farmers and also trying to link credit institutions to assist farmer groups to improve productivity, income and achieve food sufficiency in different main crops. The extension service providers also play a key role in filling the gap. They have significantly helped in mobilizing farmers into groups, providing credit in cash and at the same time provided technical assistance to farmers

These achievements notwithstanding, the effectiveness of the public extension system, is limited due to quantitative and qualitative limits of available financial and human resources.

The present study will enable the MOA to strategize and take stock of previous and current activities of other extension service providers at local, regional and international levels as to propose and design some innovative extension models.

The intended extension models are supposed to contribute towards setting in place certain arrangements that will provide tailor-made and specialized extension services, increase the extension coverage and encourage farmer participation in technology system in rural areas. A set of main features of developed extension models must be provided such as: applicability, effectiveness & efficiency, sustainability, and tangible impact and effects on target groups.

The Palestinian Ministry of Agriculture (MOA) is seeking to enhance its organizational capacity to better fulfill its institutional mandate in the sector as the main driver for sustainable agricultural development as well as the main providers of agricultural extension services to a wide range of farmers. To do so, the MoA has initiated the present study "*Development of Pilot Agricultural Extension Models*" under the Netherlands Programme "Improving Livelihoods in the OPt in the WB 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 consist of five sub - projects, where each of the five organizations will carry certain activities at different locations aiming at improving livelihood in the oPt in WB.

This program will be implemented in a close cooperation with the Ministry of agriculture who will be responsible for the provision of the extension services to all beneficiaries of the program. The overall objective of this program is to contribute in the improvement of access to food for vulnerable population in rural areas of the WB. Its specific objective (purpose) is to protect and improve access to natural resources in the targeted locations of rural areas in the West-Bank.

The action is targeting 75 locations (villages, small towns) in the Palestinian territories distributed in the WB. Out of them, around 50 locations are either considered as highly vulnerable locations as they are close to the apartheid wall, settlements or located in the Jordan Valley, and the allocated budget for the activities to be implemented in these locations constitutes around 39% of total program's contribution. The program duration is 36 months and the implementation duration for the five NGOs is 30 months.

**Alignment to "Shared vision strategy":** The existing of *appropriate agricultural infrastructure and services* in the oPt. is one of key agricultural strategic goals addressed in the agricultural national strategy "A shared vision". To have the said objectives realized, the following interventions are to be executed: *upgrading the agricultural extension services, plant protection, veterinary medicine and agricultural research*. In line of that, the present assignment aims at upgrading and strengthening the adopted conventional agricultural extension services methods and approaches towards more participative ways in planning, funding and implementation.

The Ministry of Agriculture (MoA) is in the process of improving the performance and efficiency of its agricultural extension services through partnership with farmers associations, NGOs, and private firms. To do so, the MoA is planning to design and construct some pilot extension models of partnership and is looking to start with certain number of key actors involving the agricultural development in Palestine.

The purpose of the present assignment is to design and set-in-place two applicable pilot agricultural extension models with detailing information concerning extension models in terms of its design, main agricultural services, implementation procedures and arrangements, target locations and groups, requirements, etc. Also, to set-out an effective feed-back mechanism, to draw general conclusion about the adoption of the two pilot extension models and how they

would affect the agricultural productivity and farmers income in their respective target locations. So, any developed extension model should have a set of assumptions, principles, and organizational structure for diffusing the results of agricultural research, know-how and modern technologies based on the Palestinian conditions and accumulated experience in this regards.

*The following section will provide detailed information concerning the two developed agricultural extension models:*

## **2. Study objective:**

The objective of the study as indicated by the TOR is to design and develop two Applicable Pilot Agricultural Extension Models in a participatory way with all relevant key organizations for purposes of diversifying the adopted extension methods, enhancing and upgrading the effectiveness and efficiency of the public agricultural extension service system being applied in all oPt areas.

## **3. Methodology**

The following section will clarify in-depth the study methodology that was adopted to realize the assignment set objectives in efficient and effective ways. The following points provide a summary of the utilized methodology.

**a. Literature review:** All of the available literature related to the agricultural extension service approaches, schemes, success case studies, and any innovative methods were reviewed and studied. The literature review addressed and gave more attention to the international, regional and local experiences in the area of model of extension services provision. The desk review also assisted in the design and development of the extension models. A list of the documents reviewed is cited at the end of the study (Annex-3).

**b. Semi-structured interview:** The team leader conducted several semi-structure interviews with key organizations including the MOA, PARC, Palestinian Olive Oil Council and Jenin farmers associations, and Beit Qad Stations. Furthermore, the semi-structure interviews were used also for gathering information; meanwhile, the study team were reviewing documents and developing ideas for the two possible pilot extension models.

**c. Brainstorming Discussion:** a brainstorming session was organized with the participation of all concerned people, *the list of participants is attached at the end of this document*, including the concerned staff from the MOA, NARC, Beit-Qad, Palestinian Olive Oil council, Jenin farmers association, the MOA programme coordinator, and the study team leader from Horizon. In these sessions Horizon gave a brief presentation of the outcomes of the literature review and the main ideas of certain extension models that paved the way towards developing a relevant and applicable pilot extension models. In their turns, the participants and the MOA programme coordinator confirmed the most appropriate extension models including the following information: institutional arrangements, implementation methods, partners, etc.

**d. Extension Model Outline Design:** Based on the literature review, and consultation with the MOA programme coordinator, MOA counterparts – Extension department, and NGOs, Horizon team identified the main sections and contents of the proposed pilot extension models which are incorporated in the study report and the extension model structure. The study team prepared a proposed outline and sent to the MOA for getting its approval before going a head in writing the study contents.

**e. Revision and Reporting:** A thorough analysis and revision of the gathered data, information and feed-back were conducted to arrive at the final form of the two pilot extension models that answered all the questions and issues determined in the study objectives as well as clarification of the model implementation process. All of the study findings and feed-back were consolidated in the study report as to submit and get the final approval of the MOA.

#### **4. Report structure:**

The study report is organized in three main chapters. Chapter one deals with introduction, study objectives, alignment to agricultural national strategy, and applied methodology. Chapter two provides detailed information regarding the developed two pilot agricultural extension models. Chapter three explores the conclusion and recommendations. Other relevant information is cited at the end of the study report such as: implementation agreement, literature reviews, and list of persons interviewed.

## CHAPTER-2

### 2.1. Developed Agricultural Extension Services Models:

Based on several consultative meeting made with key persons and agricultural experts concerning developing pilots extension models, several innovative ideas regarding pilot extension models were indentified and proposed. Due to time and budget constraints, the study team in close collaboration with the MOA programme coordinator have selected the most appropriate models in terms of the following aspects: their applicability, sustainability, measurable impacts within short period of time, responsive to local communities' needs and priorities. The following two models were selected and approved as to be applied during the upcoming agricultural season 2011\2012. While the other proposed ideas of the agricultural extension models will be presented in the conclusion and recommendations chapter.

### 2.2. The public- Cooperative Partnership Model (PCP)

#### BACKGROUND:

Rainfed farming in oPt is the dominant agricultural practice, it is practiced over more than 91% of the cultivated area in the West Bank, 27% of the cultivated area in Gaza Strip and 85% of the total cultivated area in oPt distributed as in table (1) below:

**Table (1): Agricultural areas in West Bank and Gaza Strip/2008** (1000 dunum)

	Rainfed			Irrigated			Total
	West Bank	Gaza Strip	Total	West Bank	Gaza Strip	Total	
Field crops	426.2	32.9	459.1	15	21.2	36.2	495.3
Vegetables	31.6	2.8	34.4	108.3	43.4	151.7	186.1
Fruit trees & olives	1,087.7	9	1,096.7	24.8	50.8	75.6	1172.3
<b>Total</b>	<b>1,545.5</b>	<b>44.7</b>	<b>1,590.2</b>	<b>148.1</b>	<b>115.4</b>	<b>263.5</b>	<b>1853.7</b>

*Source: PCBS/Agric. Stat. 2007-2008*

The total production of the rainfed agriculture is around 283 thousand ton with an average of around 178 kg/dunum.

***Field crop rainfed farmers are characterizes/challenged by the following:***

- Dependence on fluctuated rainfall with frequent droughts and climate change effects such as heat waves, strong wind and frost
- Low productivity, with high potential for production and productivity increase
- Labor intensive with low inputs use
- Relatively high rate of women and small farming involvement all through the value chain
- Limited application of new technologies and innovation
- Weak post harvest facilities
- Low returns per unit of land and working days compared to other agricultural practices
- Not attractive to investment, input suppliers and other services providers
- Reduction of the rainfed planted areas in oPt as a result of Israeli measures, urbanization, fragmentation and common title to land, high commercial value of the lands, and absentee farmers
- Weak services and service providers mainly extension, technology transfer appropriate equipments and tools

**RATIONALE:**

The rationale behind proposing and designing such model is to demonstrate and forage professional relationships between public institutions and cooperatives as a pilot Public-Cooperative Partnership Model. Moreover, provide more responsive agricultural extension and advisory services to farmers by encouraging farmers to use and adopt improved farming inputs and modern technologies. It also aims at contributing towards up-scaling and adopting such innovative model in other potential rain fed crops areas.

oPt is far from being self sufficient in field crops as the self sufficiency ratio does not exceed 15% in good rainy years. Yet the productivity is low depending on the fluctuated rainfall and the technological practices applied by the farmers. As shown by several research and pilot projects results in oPt, countries of the region and ICARDA a great potential do exist to increase the productivity and ultimately the profitability and the livelihoods of field crops farmers, when applying the proper technologies, taking the right decision in addition to providing the enabling environment and proper tools.

Agricultural extension, knowledge and technology transfer are key and prerequisites for farmers to respond and adopt the appropriate technologies and practices. At present the extension and technologies transfer services are either inefficient, not coordinated or mostly lagging behind. It is becoming very evident and clear that MoA extension cannot and should not deliver all kinds of extension to all farmers. The new agricultural strategy “A Shared Vision” emphasizes the high priority that should be given by the government bodies to farmers associations, cooperatives and boards, the strategy also emphasizes the need for clear division of labor between MoA and other institutions to reap the maximum of the strengths and comparative advantage of each institution. Also the strategy calls for enhancing the productivity of the field crops, upgrading extension and agricultural research.

*This PCP model will have major impact at farmer and national levels including:*

- Livelihoods of field crops growers and their families will be improved through increased production, productivity, profitability and providing additional jobs
- Better management of the resources available
- Quality and timely delivery of services
- Better ownership and sustainability of the good practices and use of resources

#### **MODEL OBJECTIVES:**

- To achieve optimal partnership between the public sector institution(s) involved in agricultural extension and technology transfer with farmers cooperation
- To respond to farmers needs and priorities in a participatory manner with due attention to women, poor and small farmers
- Establish a show case that can be replicated and disseminated in other areas
- Ensure sustainability and ownership by farmers and their cooperatives
- Improve production, productivity and profitability of the farmers
- Mitigate and minimize the negative impacts of climate change and drought

#### **MODEL DESCRIPTION**

The ultimate extension model aims at establishing a relationships model between public institution (MOA) and cooperatives (Rainfed farmers cooperative). Under the framework of this

model partnerships approximately (20) rain fed farmers will be served, most probably, in Jenin district areas where rain fed crops are predominant. The area included per farmer should not exceed 20 dunum; priority will be given to small farmers and women. An eligible cooperative will be selected according to a set of criteria described in section (7). Each beneficiary farmer will receive the following farming inputs package: Improved wheat seeds (amber, Ariel) around 15 kg\du, Barley 15 kg\du, 15 kg chick peas\du), in addition to, 40 kg fertilizers (super phosphate), 1 liter pesticides, 1 liter herbicides, and technical know-how in the form of training, demonstration and extension and advisory services.

The list of beneficiaries will be identified and selected in close collaboration with the respective cooperatives. Next, once the MOA purchased and distributed farming inputs on farmers, the latter must cultivate their lands according to the model conditions set forth in the agreement that will be signed by beneficiary farmers and their cooperative and on other hand, by the cooperative and the MOA representative in the target district.

The extension model implementation will be executed between November and July 2012. It will be implemented by the cooperative and their members and supervised by a local coordinator in the target district, in addition to, the MOA programme coordinator overall supervision and guidance. Once the model accomplished, the extension model will be evaluated against its tangible impacts and benefits. If the extension model was successful and valuable then a recommendations for up scaling it will be made.

The PCP will seek maximum participation and optimal partnership so as to efficiently and effectively respond to the target groups needs and priorities. Major interventions include but not limited to the following:

- ***Institutional support to the selected cooperative***, to better perform its duties and responsibilities, the cooperative management and staff will receive proper training and certain equipments will be made available as needed.
- ***Provision of inputs and supplies such as:***  
Seeds, fertilizer, pesticides and herbicides, machinery and aggregates
- ***Delivery of extension and technology transfer services including:***

Extension sessions and campaigns, demonstrations and farmers training

- *Dissemination to other farmers, extension workers and cooperatives outside the targeted cooperative and project area.*

*The most appropriate technological package will include:*

- Kind and time of ploughing
- Amount of seeds and time of seeding
- Kind, amount and time of applying manure and fertilizers
- Proper amounts of pesticides and herbicides, timing and safe use
- Post harvest treatment including cleaning, packing fumigation and storing

### **THE PRINCIPLES:**

- PCP model will adopt a participatory approach by partnering public-cooperative actors, where the roles and responsibilities of each partner will be clearly identified at the onset of the process.
- The model and its activities will respond to the beneficiaries' immediate priorities and align with the new agricultural strategy.
- The suggested new technologies and interventions should be accessible and financially feasible to farmer.
- Special emphasis and attention will be given to small farmers and women.
- Any inputs or equipments made available to the cooperative should be dealt with in the most efficient manner.
- Total farmers to be included are 20 farmers while the area included per farmer should not exceed 20 du. priority will be given to small farmer and women. Farmers who own more than 20 du. should apply the recommended technical package on the whole holding and get the service at market price (cost plus) for the areas over the 20 du.
- Extension, technology transfer and training services will be delivered for free, while seeds, fertilizers, chemicals, equipments and machinery will be delivered in accordance with certain formula adopted by the PMU in consultation with the beneficiaries.

- As much possible and appropriate, use the available and existing services.
- Cost sharing and financial procedures should be clarified and adopted at the inception of the work.

### **TARGET LOCATIONS AND GROUPS:**

One site will be selected in the high lands with extensive field crops growing, preferably with an established agricultural cooperative and willingness of the cooperative management and members to cooperate with the project. To ensure targeting the small farmers and women, the project will include only 20du. in its supported activities and priority will be given to woman farmer.

### **SELECTION CRITERIA OF THE COOPERATIVE:**

*Major selection criteria for the cooperative will be:*

- Working in the field of field crops production for at least the last three years
- Registered officially, and has at least 30 members
- % of women members in the cooperative
- Active and has achieved some successes in serving member farmers
- Applying transparent financial and audit system with no debt for the last year
- Has office, meeting rooms and storage space
- Readiness and willingness to share costs with the project

### **EXPECTED OUTPUTS AND POTENTIAL BENEFITS:**

As a result of the project activities and interventions, following are the expected outputs (results) that will materialize during or after the implementation.

- Farmers capabilities and performance, to produce field crops improved
- Cooperative capacity, efficiency and performance enhanced
- Around one thousand farmers in Jenin and neighboring governorates improve the productivity by 10% an estimated increase in production of around 525 tons
- Immediate beneficiaries of around 20 farmers will improve the productivity by 30% or equivalent to 32 tons of increase in the production

- Additional jobs and sources of income will be created mainly to deliver new services such as harvesting and spraying
- Better and efficient management of the resources available mainly rainwater

## **MANAGEMENT AND INSTITUTIONAL ARRANGEMENTS**

A Project Management Unit (PMU) will be established for the overall supervision of the project and to ensure quality and timely delivery of the inputs and the achievement of the output in most efficient and effective manner.

The PMU will consist of a representative of the MoA, the programme coordinator, the extension officer in the governorate, representative from one NGO active in the area, manager of the cooperative and representative from the beneficiaries. The PMU will meet on monthly basis or when required, the financial management and procedures will be adopted by the PMU.

The Ministry of Agriculture mainly through the General Directorate of Agricultural Extension and Rural Development will be the major partner to the selected cooperative. Both partners will be working together in the design, implementation and monitoring and evaluation of the activities.

MoA will deliver technical support and know how, make available certain equipments and machines when available and provide part time extension worker to work with the cooperative. The selected cooperative will assist in the management and financial procedures, arrange for sessions and events to be held, make space available to the extension worker in addition to storage facility for the inputs, equipments and produce, arrange for tax refunding and act on behalf of farmers when needed.

The Netherland programme will provide technical assistance, financial support and training as deem necessary and in line with the model requirements, while other NGOs will provide support, cooperate and coordinate with their ongoing and future activities of relevance.

## **TIME FRAME;**

It is expected that PCP model will be endorsed during September 2011, soon after that the agreement will be signed between MoA and the selected cooperative. The project lifespan is

around 10 months and will last until July 2012. This will perfectly coincide with the planting season, which normally starts during November while the harvest takes place during June.

**IMPLEMENTATION PROCEDURES:**

Activity	Responsibility	2011				2012							
		9	10	11	12	1	2	3	4	5	6	7	
In close cooperation and coordination with MoA (HQ and field office), the programme coordinator, identify the cooperative, beneficiary farmers, and areas	D.G of Extension and Programme Coordinator	—											
Conclude agreement with the cooperative defining roles, responsibilities, rights and obligation of each party involved	MoA/ D.G Extension, Cooperative Manager and Programme Coordinator		—										
Assign the extension officer who will be the field coordinator, he will be provided with the proper training directly by the programme coordinator and other departments in the MoA	D.G of Extension Agricultural Director of Agriculture in the Governorate		—										
Purchase and make available the commodities, services and equipments required	Cooperative mgt Programme Coordinator MoA?		—										
Conduct the launching workshop, extension and awareness campaigns	D.G Extension ,Programme Coordinator & Cooperative mgt		—										
Implement the farm activities	Cooperative & Extension Officer			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Implement post harvest activities	Cooperative & Extension Officer											.....	.....

## **FEES AND CHARGES ON THE SERVICES PROVIDED:**

Bearing in mind the risks and uncertainties farmers' affordability and the national interest. Following is the level of support that will be provided to the beneficiary farmers by the Netherlands programme:

- Extension and training: 100%
- Seeds: 100%
- Office equipments 100%
- Field equipments 50%

*While the following inputs and activities should be performed and provided by the beneficiaries' farmers*

- Ploughing: 100%
- Manure 100%
- Sowing 100%
- Harvesting 100%
- Postharvest treatment: 100%
- Fertilizers: 100%
- Herbicides and pesticides: 100%

## **FINANCIAL RESOURCES:**

Financial resources needed to implement the interventions will be made available from the following major sources:

### ***1. Farmers***

- Family and paid labor
- Part of the input costs (seeds, herbicides, pesticides, and fertilizers)
- Costs of harvesting, packing, transportation, cleaning in accordance to certain formulas to be agreed upon with the project partners
- Returned seeds to the cooperative

### ***2. Netherlands Programme***

- Contribute to the purchase of inputs, machinery and equipments

- Extension sessions, campaigns and training
- Institutional and human resource development
- Technical advise

### 3. Ministry of Agriculture:

- Agricultural extension mainly through making available one extension worker to the cooperative for certain days every week
- Training and advise
- Make available certain machines and equipments for the cooperative

#### Number of farmers, average areas, needed seed quantity and total amount

Crops	Seed\du	Average cultivated areas\du	No. of farmer	Needed Quantity\ kg	Unit Price (NIS)	Total amount (NIS)
Wheat (Cultivar Ariel)	22	15	8	2640	2	5280
Barley (Baladi)	18	15	8	2160	2.2	4752
Chickpeas (Hadas)	15	15	4	900	7	6300
<b>Sub-total amount (NIS)</b>						<b>16332</b>
<b>Sub-total amount (US\$)</b>						<b>4536.67</b>

#### Requested financial resources form the Netherlands Programme:

Item	Unit	Unit Price\NIS	Quantity	Total Cost	Total cost	Programme contribution (US\$)
				NIS	US\$	
<b>Staffing:</b>						
<b>Extension Officer</b>	Month	720	10	7200	<b>2000.00</b>	<b>2000.00</b>
<b>Field Visits &amp; Training</b>	Session	400	4	1400	<b>388.89</b>	<b>388.89</b>
<b>Seeds</b>						0
Wheat (areil)	Kg	2	6000	12000	3333.33	0
Barely	Kg	2.2	5400	11880	3300.00	0
Chickpeas	Kg	7	4500	31500	8750.00	0
<b>Sub-total</b>				<b>55380</b>	<b>15383.33</b>	<b>15383.33</b>
<b>Fertilizers:</b>						0
<i>Super phosphate</i>	kg	3.2	7500	24000	6666.67	0
<i>Ammoniac</i>	kg	3.2	10500	33600	9333.33	0

<b>Sub-total</b>				<b>57600</b>	<b>16000.00</b>	<b>0</b>
<b>Fungicides</b> (Folicur 250 EC)	kg	140	20	<b>2800</b>	<b>777.78</b>	<b>0</b>
<b>Herbicides</b>						0
Alpper supper	Liter	55	20	1100	305.56	0
Topic	Liter	800	20	16000	4444.44	0
Lantigran	Liter	120	20	2400	666.67	0
Select super	Liter	70	20	1400	388.89	0
<b>Sub-total (US\$)</b>				<b>20900</b>	<b>5805.56</b>	<b>0</b>
<b>Ploughing &amp; Harvesting</b>	dunum	10	300	<b>3000</b>	<b>833.33</b>	<b>0</b>
<b>Office Equipments</b>						0
PC	Unit	800	1	2880	800.00	0
Printer (all-in-one)	Unit	500	1	1800	500.00	0
Desk office	Unit	250	1	900	250.00	0
Chair office	Unit	250	1	900	250.00	0
Waiting chairs	Unit	30	4	288	80.00	0
PC desk	Unit	80	1	288	80.00	0
Cupboard	Unit	350	1	1260	350.00	0
<b>Sub-total (US\$)</b>				<b>8316</b>	<b>2310.00</b>	<b>2310.00</b>
<b>Contingencies</b>	Lump sum			<b>1800</b>	<b>500</b>	<b>500</b>
<b>Grand Total</b>				<b>151880</b>	<b>42188.89</b>	<b>21082.22</b>

### **THE POTENTIAL FOR SCALING UP OF THE PCP:**

The up scaling and replication of the model constitute a major ingredient and prerequisite to ensure sustainability, equity and to achieve proper partnership between public sector and cooperatives, this will materialize through the following:

1. Beneficiary farmers who own more than 20 du. Should include the additional area and adopt the recommended package at their full expenses the project will support 20 du. Maximum.
2. The project farms will serve as demonstration blocs for other farmers in the same village.
3. Field visits for farmers from other villages will be conduct to discuss with the beneficiary farmers the experiences and lessons learned.

4. The cooperative capabilities will be strengthened and its performance will be enhanced to support more farmers and to deliver required services.
5. As the profitability of the farmers will improve, they will apply, replicate and if possible increase the areas under production

## **SUSTAINABILITY OF THE INTERVENTIONS**

The sustainability of the activities and results will be better ensured through:

- The involvement of key stakeholders mainly the cooperative and its members at all stages of the process.
- Cost sharing of the beneficiaries mainly in applying new technologies (improved seeds, machines.....etc.)
- Pay back certain portion of the production such as seeds to be used in the next season by other farmers
- Making available certain tools, machines and inputs that can be used by the coop. to serve other farmers and constitute a source of income to coop.
- Training of cooperative staff on management and accounting
- Clear division of labor and partnership between MoA and cooperatives as a basis for future cooperation and replication of activities

## **MONITORING AND EVALUATION OF THE PCP MODEL:**

Several parameters and indicators will be developed in order to assess, examine, monitor and evaluate the efficiency, effectiveness, impact, relevance, sustainability and lessons learned of the interventions and the PCP model as such. This will include but not limited to the following:

- Number of farmers participated, their land area, gender, income...etc
- Present technologies and practices applied by farmers
- Present returns/ du
- New technologies and practices adopted and applied by the farmers
- Changes in production, productivity, costs and returns
- Impact on institutions, environment and livelihood

- Sustainability and ownership of the PCP components and interventions
- Replicability and dissemination potentials to other groups and areas

It is important to identify and monitor the situation and the status of the above parameters and indicators before, during and after the interventions on targeted and not targeted farmers.

## **CHAPTER-3**

### **3.1. Farmer Services Center Model (FSC model)**

#### **BACKGROUND**

Providing farmers with the appropriate technologies and services are major factors for improving agriculture production, productivity and profitability. The technology and knowledge transfer and the services delivery system in oPt is characterized by the following:

- Mostly of low and variable quality
- High and fluctuated prices and cost due to additional margins charged by Israeli dealers
- Lack of service providers at village level and remote areas
- Unclear division of labor between public, NGOs and private sector
- Charity mentality of providing services without consideration to sustainability
- Limited facilities and means available to public sector extension and technology transfer system
- Weak cooperatives and farmers collective and group work
- Certain technologies are mostly not adopted by farmers, as they are not feasible to be applied by individual farmers but by group of farmers and sometimes group of villages especially in case of disease control.

#### **TARGET LOCATIONS AND SELECTION CRITERIA**

The model will be applied all over oPt and can be limited to certain crops such as olive, sheep or herbs or could serve group of crops at village, cluster of villages, governorate or even national level. This project will start on cluster of villages and for one commodity at the first year, according to achievements and lessons learned, it will expand to cover more commodities and villages. The Netherlands Programme will support the pilot implementation of the model, through assisting one cooperative to establish FSC and to concentrate on olive and olive oil at the initial stage. The targeted cooperative and its location will be identified in accordance with the selection criteria.

**SELECTION CRITERIA:**

*The cooperative will be selected according to the following criteria:*

- Working primarily in the field of olive and olive oil for at least three years, with proven good achievements and records
- Valid registration with at least 50 olive farmers as members
- Number of villages covered by the services of the cooperative
- % of women members and their representation in the management
- % of cost sharing when buying inputs, equipments and machines
- Has office, meeting room and storage space
- Ownership of modern olive press
- Applying transparent financial and audit system with no debt

**MODEL OBJECTIVES:**

The overall objective of the model is to efficiently and effectively deliver agricultural services to farmers; specifically the model will achieve the following objectives:

1. Deliver appropriate technologies to farmers that will contribute to improving productivity, decreasing costs and improving quality of the products and by-products
2. Creation of jobs, improving and generation of income
3. Phasing out certain activities from the public sector to farmers' organizations & private sector.
4. Upgrading the capabilities of the farmers and other stakeholders
5. Develop a model that can be replicated in other areas
6. Encourage diversification and improve the efficiency of the resources used in agriculture i.e. inputs, water, labor, etc.

**RATIONALE:**

Agricultural services are provided by several stakeholders without clear division of labor or responsibilities among them, which impact negatively at farmer and the nation at large. Public sector services mainly the extension and technology transfer are not focused and spread then, private sector concentrates in delivering input- intensive services, with minimal risk and guaranteed profitability

The new Agricultural Strategy (A Shard Vision) emphasizes the importance of the extension, technology transfer and the delivery of appropriate agricultural services and promotes partnership and cooperation between institutions active in agricultural sector.

Despite the fact that olive trees occupy around 50% of the total agricultural area in oPt, the productivity and profitability is low when compared to other countries, and the potentials of improvements mainly through agronomical and post harvest treatment are high. Farmers are not applying the right and proper practices due to lack of knowledge, availability of the services, affordability or need to work in groups.

The model proposed services will enable farmers to use modern farm machinery and equipment without burdening each farmer or group of farmers in owning expensive farm machinery and equipment. Agricultural mechanization services reduce farming time and enable farmers to plow, harvest and store their farm produce in optimal periods of each season thereby increasing productivity and production volume. These agricultural machinery rental centers could also have middle level technical advisors who will consult farmers on the different activities of farming and livestock raising.

*The application of the FSC model will have the following impact:*

- Better access to more appropriate services
- Promotion of group and collective work spirit and culture
- Improved productivity, production, quality and ultimately the livelihood of farmers and other operators
- Establishment of a model that can be up scaled and replicated
- Better partnership between different stakeholders being government, semi government, NGOs or private sector

## **MODEL DESCRIPTION AND PRINCIPLES**

The second model is “Farmer Services Center Model” “FSC”, it will target olive and olive producers in cluster of villages, through cooperation between the Netherlands Programme, MoA, Olive Council, and cooperative in the area or private sector. The major services to be provided by the FSC are: (1) Introduction of new olive picking tools that will reduce the cost, improve the

quality, minimize losses and least damages to the olives trees, (2). Make available spraying against diseases on the olive and fruit trees, this will again encourage farmers to take the necessary measures against diseases at reasonable cost, by using track-mobile motor sprayers services (3) Use of chain saws for pruning and thinning of olive and fruits trees (4) Lab analysis services and facility especially for olive-oil quality, fertilization, soil, insects and animal diseases (5) E-extension services to be made available to the farmers, villages and extension workers to transfer extension messages and knowledge and to serve the community at large (6) Provision of training (7) Establish demonstrations blocks and pilot farms (8) Encourage using proper plowing machines such as the monoculture machines, chisel, etc. (9) Offer extension and advice to farmers and other stakeholders.

One eligible olive farmers associations will be selected and served including its members. The target districts are Jenin, Nablus and Salfit where Olive trees are predominant. The members farmers included per farmers association are not identified, however, it should not less than 50 farmers; priority will be given to small farmers and women. The eligible cooperative will be selected according to a set of criteria described earlier. Each beneficiary farmers association will receive a set of field and office equipments (i.e., PC, harvesters, chain saws, nets-laid- the olive trees, stainless steel tanks, sprayers, plastic boxes) anyway, these equipment will be definitely identified in accordance with the actual needs of selected farmers association prior the commencement of bidding process.

The farmers association, in its turn, should contribute not less than 50% of certain field equipments (to be defined later). The fees and charges for the different services to be delivered by FSC will be fixed and decided upon in agreement between the MoA, Netherlands Programme and the cooperative. The cost of the services should at all cases cover the cooperative contribution in the cost plus a profit margin, but it should be less than the actual total cost, especially at first year.

*Detailed arrangements between the partners should include but not limited to the following:*

- Registration and legal entity (ownership of the FSC)
- Contribution, roles and responsibilities of each partner
- Ownership of assets, financial and managerial procedures, and fees and charges applied

## **MAJOR SERVICES TO BE PROVIDED BY THE FSC ARE:**

1. Introduction of new olive picking tools (i.e., electronic harvester, plastic boxes, nets-laid-the olive trees) that will reduce the cost, improve the quality, minimize losses and least damages to the olives trees
2. Make available spraying against diseases on the olive and fruit trees, this will again encourage farmers to take the necessary measures against diseases at reasonable cost, by using track-mobile motor sprayers services
3. Use of chain saws for pruning and thinning of olive and fruits trees
4. Lab analysis services and facility especially for olive-oil quality (stainless steel tanks), fertilization, soil, insects and animal diseases
5. E-extension services to be made available to the farmers, villages and extension workers to transfer extension messages and knowledge and to serve the community at large
6. Provision of training
7. Establish demonstrations blocks and pilot farms.
8. Encourage using proper plowing machines such as the monoculture machines, chisel, etc.
9. Offer extension and advice to farmers and other stakeholders

## **EXPECTED OUTPUTS AND POTENTIAL BENEFITS:**

Several direct and indirect outputs and benefits will be resulted from the implementation of the FSC model among the major outputs are the following:

- Technology and knowledge transfer system to farmers and other operators enhanced
- Production, productivity and profitability of farmers and other operators improved
- Public, semi governmental and private sector partnership promoted
- New income generation and jobs creation possibilities made available to farmers and rural community
- Olive and olive oil council and cooperatives capacities, capabilities, income opportunities and sustainability improved

## **INSTITUTIONAL ARRANGEMENTS**

The FSC will be managed and operated on commercial or private business basis, the Netherlands programme, MoA and others support will be delivered in order to assist FSC start up phase and

to share certain risks and uncertainties. At the initial stage of implementation Netherlands programme coordinator and the G.D of Extension and Rural Development will start dialogue and negotiations with the potential implementers or owners mainly cooperatives working in field of olive and olive oil and interested private sector investors. A memorandum of understanding or agreement between the concerned parties identifying activities, tasks, timing, roles and responsibilities of each party and work modality will be conducted.

A working group consisting of G.D ERD, programme coordinator, olive and olive oil council, potential cooperative and private sector will be established to agree on and initiate the business strategy and plan.

It is expected that the Netherlands support will last until July, 2012 during which the programme coordinator will act as the facilitator of the work and coach the management of the FSC. Project Management Unit (PMU) will be established to ensure proper management, oversight and smooth implementation of the activities, it will meet once a month or when needed, members of the committee are representatives of the immediate stakeholders mentioned before.

**IMPLEMENTATION PROCEDURES:**

Activity	Responsibility	2011				2012						
		9	10	11	12	1	2	3	4	5	6	7
Finalize and endorse the FSC model	D.G of Extension and Programme Coordinator	■										
Negotiate with relevant stakeholders and conclude MOA/ agreement with the implementer/ owner	D.G of Extension and Programme Coordinator	■										
Complete the process of registration and getting the needed approvals and licenses		■										
Identify purchase and acquire the equipments, inputs and machines			■									
Train the operators, staff and farmers	The MOA programme coordinator, extension officer			■	■	■	■	■	■	■	■	■
Establish the necessary structure and infra structure				■								
Purchase the needed equipments and inputs	The MOA programme coordinator			■								
Conduct extension and promotion campaigns	The cooperative, extension officer			■	■	■	■	■	■	■	■	■

## **THE PARTNER ORGANIZATIONS:**

A group of institutions will partner together in order to achieve the tasks and objectives of FSC, despite the fact that the owner (cooperative) will resume the overall responsibility of management and administration, but others such as MoA and Netherlands Programme will be involved as they contribute with their input to support the FCS.

### **Following are the roles of each of the partner organization:**

#### ***1. Ministry of Agriculture/D. G of Extension and Rural Development***

- Deliver guidance, advise, training and extension
- Make available certain equipments & machine to be used or managed by the FSC
- Assist in the registration and formal procedures
- Participate in the PMU
- Participate in the pricing of services to be delivered by FSC to farmers

#### ***2. The Netherlands Programme***

The programme especially at the inception phase of FSC will act as coach to facilitate the work and to ensure the timely delivery of the inputs and requirements; in addition, the programme will perform the following:

- Provide technical and professional support to FSC
- Assist in the establishment & registration procedures & provide managerial support
- Contribute financially to procure certain services, inputs and equipments
- Coordinate with other institutions and stakeholders

#### ***3. Olive and olive oil council***

- Participate in the preparatory work
- Deliver technical support
- Assist in raising funds and pricing of services delivered by FSC
- Coordinate with other stakeholders
- Consider cost sharing or partnering with FSC

#### ***4. Olive cooperative***

The cooperative will be the major stakeholder, as it will fully or partially own FSC, and manage the business, more specifically it will:

- Provide the facilities, staff and finance needed

- Deliver extension & training to the farmers in cooperation with other institutions
- Conduct registration and establishment procedures

### **TIMEFRAME**

The draft of the model will be discussed during the third week of August, while it is expected to be endorsed during the second half of September, 2011. The project lifespan will be around 10 months and will terminate in July 2012.

### **MONITORING OF FIELD DEMONSTRATIONS & THEIR PARAMETERS**

Several parameters and indicators will be developed in order to assess, examine, monitor and evaluate the efficiency, effectiveness, impact, relevance, sustainability and lessons learned of the interventions and the FSC model as such. This will include but not limited to the following:

- Nature and quality of the services delivered
- Number of farmers benefited from the services
- Change and impact on productivity and quality
- Cost of the services delivered
- Number of part time and fulltime jobs created
- Farmers satisfaction with services provided
- Number of villages covered

### **FINANCIAL RESOURCES**

Several institutions will contribute financial resources to finance the model interventions as follows:

#### ***1. The cooperative***

- Part of the purchase costs
- Management and administration of FSC
- Maintenance and running costs

#### ***2. The Netherlands Programme***

- Contribute to purchase costs of certain items
- Extension sessions, campaigns and training
- Institutional support
- Technical advise

### 3. Ministry of Agriculture

- Make available some machines and equipments, where possible;
- Deliver extension services, advise and training to farmers and beneficiaries.

#### REQUESTED FINANCIAL RESOURCES FROM THE NETHERLANDS PROGRAMME:

Item	Unit	Unit Price\NIS	Quantity	Total Cost	Total cost	Programme contribution
				NIS	US\$	US\$
<b>Staffing:</b>						
<b>Extension Officer</b>	Month	720	10	<b>7200</b>	<b>2000.00</b>	<b>2000.00</b>
<b>Field Visits &amp; Training</b>	Session	400	4	<b>1400</b>	<b>388.89</b>	<b>388.89</b>
<b>Farming equipment</b>						0
Chain saws	Unit	1800	4	7200	2000.00	2000
Back Sprayer	Unit	500	4	2000	555.56	556
Machine sprayer	Unit	1500	4	6000	1666.67	1667
Plastic boxes	Unit	1	1000	1000	277.78	278
Manual pickling tool	Unit	500	10	5000	1388.89	1389
Agrotechic pickling tool	Unit	2500	4	10000	2777.78	2778
Nets-laid- the olive trees	m2	10	100	1000	277.78	278
Trailer	Unit	13000	1	13000	3611.11	3611
Stainless steel tanks (500 Liter)	Unit	2500	2	5000	1388.89	1389
Stainless steel tanks (2000 liter)	Unit	5600	2	11200	3111.11	3111
<b>Sub-total</b>				<b>61400</b>	<b>17055.56</b>	<b>17055.56</b>
<b>Office Equipments</b>						0
PC	Unit	800	1	2880	800.00	800.00
Printer (all-in-one)	Unit	500	1	1800	500.00	500.00
Desk office	Unit	250	1	900	250.00	250.00
Chair office	Unit	250	1	900	250.00	250.00
Waiting chairs	Unit	30	2	288	80.00	80.00
PC desk	Unit	80	1	288	80.00	80.00
Cupboard	Unit	350	1	1260	350.00	350.00
<b>Sub-total (US\$)</b>				<b>8316</b>	<b>2310.00</b>	<b>2310.00</b>
<b>Contingencies</b>	Lump sum			<b>1800</b>	<b>500</b>	<b>500</b>
<b>Grand Total</b>				<b>80116</b>	<b>22254.44</b>	<b>22254.44</b>

## **FEES AND CHARGES ON THE SERVICES PROVIDED**

The fees and charges for the different services to be delivered by FSC will be fixed and decided upon in agreement between the MoA, Netherlands Programme and the cooperative. The cost of the services should at all cases cover the cooperative contribution in the cost plus a profit margin, but it should be less than the actual total cost, especially at first year

## **THE POTENTIAL FOR SCALING UP OF THE SERVICES:**

In light of the experiences and lessons learned during the implementation, the feasibility and demand for the service, the cooperative will consider extending the services to cover more activities, diversify the services and may be including services for other commodities such as sheep, cereals, other fruits and vegetables. Moreover, the model could be replicated and adopted by other cooperatives in other areas or for different commodities.

## **THE SUSTAINABILITY ASPECTS:**

*The sustainability of the model will be ensured through:*

- Running FSC as a commercial and profitable business will ensure additional income to the cooperative and to enable it sustain the services;
- The partnership arrangements between the cooperative, MoA and the olive council will ensure the harmony, consistency and complementarity among the three institutions;
- Providing the FSC and the cooperative with initial support will help the cooperative to deliver the services at affordable costs by the farmers and create the demand in the future;
- The training of FSC and cooperative staff will enable them to better manage and control the work and its quality;
- The quality of services delivered and its effects and impact on farmers' returns and profits will encourage the same farmers and others to use the services in the future

## CHAPTER-4

### 4.1.Conclusions

- There is a dire need for diversifying and upgrading adopted methods and approaches of agricultural extension services in Palestine by all means possible. The extension services can be seen not only as source of information but also as technology transfer motivator besides setting in place an innovative method for agriculture.
- Delivering extension services in partnership with farmers associations, cooperatives, NGOs and private sector is a strongly recommended idea and it is the best way a head towards improving agricultural extension services' outreach, coverage and its effectiveness and efficiency.
- In Palestine, the agricultural extension services provided to farmers in farm machinery services and improved seeds multiplication aspects are limited and poor, they still need more emphasize and development.
- The best way of improving the extension services and ensure better sustainable development in Palestine is to develop and adopt a Pluralism Agricultural Extension System.
- Involving farmers associations, NGOs and private sector in providing extension services can contribute towards reducing the financial burden of the extension services beard by the MOA, which consequently, improving the agricultural extension services' coverage and outreach.
- The relationship between key actors involved in the agricultural sector development in Palestine is poor due to lack of collaboration in setting farmers' priorities of extension and following-up of extension plans at both national and local levels.
- Palestinian farmers are considered small and scattered in deferent agro-ecological zones over all of the West Bank. Therefore, they cannot be reached and served individually in adequate and frequent manner.
- There is limited effort exerted by the MOA and concerned agencies in developing and making available needed resources for upgrading extension services and support implementation of innovative agricultural extension models.

## 4.2.Recommendations

- The two developed pilot extension methods should be implemented as soon as possible so that their impacts evaluation can be studied and assessed at the end of the upcoming agricultural season. If the generated results were wealthy and success then the extension models are encouraged to be scaled up and expanded.
- The MOA and other interested organizations must exert special efforts and make available all needed resources to have these models implemented in a proper way and time.
- The only way of improving extension service in Palestine is to have a pluralistic extension system by having different kinds of partnership agreements where all key partners can play and contribute in providing effective agricultural extensions services based on their own comparative advantages.
- Any developed extension models should be designed in accordance with the predominant conditions of different agro-ecological zones and actual needs of different farmers segments. For instance, the existing crops patterns and farmers conditions in Jenin dislike what exist in Hebron and Jordan valley areas & vice versa.
- The livestock subsector needs a special extension models as it has different farmers segments and different needs and priorities services.
- As mentioned earlier in Chapter-2, several ideas were raised up during the study conduction period regarding development of innovative agricultural extension models. The main ideas can be summarized as follows:
  - ✓ *Public- Specialized Council Partnership Model (PSCP)*: The idea of this model is to provide the newly established agricultural councils with some qualified extension officers. In their turn, they will provide, in a regular and continuous basis, a complete tailor-made extension programme to affiliated cooperatives and their members in different target production regions. Further, they will offer training, and contribute towards strengthening institutional and capacity building of respective councils, cooperatives and farmers. To have this model implemented properly, it is strongly

recommended to provide beneficiaries (cooperatives and farmers) with tailor-made farming inputs and office equipments. The recommendation is to start with the Grape and Olive Oil Councils as they serve the two most important cultivated crops in the WB districts.

- ✓ *Engaging unemployed fresh agricultural graduates in agricultural production:* This can be done by training and providing for instance, subsidized farming inputs, financial assistance, preferential loans, supervision and technical assistance to be provided by the ministry SMSs in the respective district to some motivated fresh agricultural graduates. The idea is to cultivate and produce some promising cash crops (i.e., high value crops, herbs). At the end, a pool of qualified extension officers is trained, motivated and ready to produce high value crops in a professional way. This is to some extent, an application for the market-driven extension approach.
- ✓ *Public-Private Partnership:* Public-private partnerships are to be promoted as a constructive means of enhancing the production of goods, services and technologies that would not otherwise be produced by either sector acting alone.
- ✓ *Transfer of Technology Models:* This approach is in dire need for introducing and adopting modern & innovative technologies at farm level for improving farm productivity and agricultural generated income.

## **Annes-1: List of persons interviewed**

### **Annex (1-1)- List of Persons Interviewed-August-2011**

<b>#</b>	<b>Name</b>	<b>Position</b>	<b>Organizations</b>	<b>Mobile</b>
1.	Dr. Ismail Daiq	Minister of Agriculture	MOA	--
2.	Ibrahim Eqteeshat	G.D. Director of extension	MOA	0598-93.10.78
3.	Amin ABU-ALSOUD	The MOA programme Coordinator	MOA	0599-67.61.61
4.	Abedullah Lahlouh	D.G. of Policy and Planning	MOA	0599-257.807
5.	Dr. Mohammed Abedallatif	Programme Manager	PARC	0599-290.241
6.	Nabeeh Al-Deeb	Chairman of Olive Oil Council	POOC	0599- 411.000

## Annex (2)- List of workshop attendances -August-2011

#	Name	Position	Organizations	Mobile
1.	Dr. Walid Abed rabbo	Team Leader	Horizon	0599.25.55.65
2.	Amin ABU-ALSOUD	The MOA programme Coordinator	MOA	0599-67.61.61
3.	Nabeeh Al-Deeb	Chairman of Olive Oil Council	POOC	0599- 411.000
4.	Ahmed Fathi	Director of Qalqilia Agr. Directorate	MOA	0598-93.10.89
5.	Ibrahim Al-Hamad	Director of Salfit Agr. Directorate	MOA	0598-93.10.86
6.	Wajdi Bsharat	Director of Jenin Agr. Directorate	MOA	0598-93.10.86
7.	Mohammed Fatayer	Director of Nablus Agr. Directorate	MOA	059-93.10.91
8.	Majdi Odeh	Director of Tubas Agr. Directorate	MOA	0598-92.81.70
9.	Mamoon Tayeh	Deputy Dir. of Tulkarem Agr. Directorate	MOA	0598-95.57.40
10.	Mohammed Abid	Director of Beit Qad Station	MOA	0599-703.737
11.	Ashraf Barakat	Head of Horticulture Section	MOA	0568-600.552
12.	Walid Lahlouh	Head of Protection Section	MOA	0599-87.20.20
13.	Dr. Aziz Bargothi	Researcher	NARC	0598-934.193

14.	Hashim Abu- Al Hassan	Director of Jenin Association	Jenin Association	0598-921.752
15.	Rola Tamimi	Director of Field Crops Department	MOA	0599-943.221
16.	Rawan Marmash	The Programme Admin. Offer	MOA	0599-943.221
17.	Reem Mara'i	Agronomist	MOA	02-240.66.40

### **Annex (3): List of documents reviewed**

- Central Bureau of Statistics, 2011, Ramallah- Palestine
- Palestinian Ministry of Agriculture (MOA), National Agricultural Strategy "Shared Vision", 2011
- MOA, Netherlands Programme, "Assessment of the Public Agricultural Extension System of Palestine & Recommendations for Improvements, May-2011
- MOA, Netherlands Programme, "Qualification Assessment of the MOA Staff Working in the Extension Service", May-2011
- MOA & JICA, 2007, "The project for Strengthening Support System Focusing on Sustainable Agriculture in the Jordan River Rift Valley", Baseline Survey Report, Nippon Koei Co., Ltd., August- 2007.
- MOA & JICA, 2009, " The project for strengthening support system Focusing on sustainable Agriculture in the Jordan River Rift Valley", Progress report-5, Nippon Koei Co., Ltd., September 2009.
- MOA, 2010, a study on "the 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.

## **Annex-(4): Implementation Agreement**

### **(1)- THE PUBLIC- COOPERATIVE PARTNERSHIP MODEL (PCP)**

## اتفاقية تعاون لتحسين إنتاج بذار القمح والشعير

الفريق الأول: وزارة الزراعة / السلطة الفلسطينية

بواسطة \_\_\_\_\_

الفريق الثاني: جمعية \_\_\_\_\_

بواسطة رئيس الجمعية \_\_\_\_\_

بما أن الفريق الأول يهدف إلى تنمية وتطوير القطاع الزراعي في ضوء ما جاء في إستراتيجية التنمية الزراعية الفلسطينية "رؤية مشتركة" من خلال تشجيع المزارعين وتنظيماتهم على تبني التقنيات الملائمة لتعزيز الإنتاج، والإنتاجية والربحية، وتطوير نماذج للشراكة الفاعلة بين القطاعات ذات العلاقة، وتحقيقاً لأهداف المشروع الهولندي في تصميم وتبني نماذج إرشادية ريادية يمكن البناء عليها والاستفادة من نتائجها من أجل نشرها وتعميمها في مناطق أخرى.

وحيث أن الفريق الثاني يسعى إلى خدمة مصالح وتحسين أوضاع المزارعين الأعضاء والإسهام بشكل مباشر بتحقيق الأهداف الوطنية الزراعية. وبشكل خاص في مجال إنتاج القمح والشعير.

### فقد اتفق الفريقان على البنود والأسس التالية:

1. تعتبر مقدمة هذه الاتفاقية جزء لا يتجزأ منها وبنداً من بنودها.
2. يشكل النموذج الإرشادي \_\_\_\_\_ المرفق بهذه الاتفاقية المرجعية لهذه الاتفاقية.
3. يلتزم الفريق الأول بتقديم الدعم الفني من خلال التدريب والإرشاد، ودعم مالي من خلال تزويد الفريق الثاني بجزء من المعدات، بذار، أسمدة ومبيدات، ونقل التكنولوجيا. خلال الموسم الزراعي 2011 - 2012 وذلك لدعم زراعة ما مساحته \_\_\_\_\_ دونما من القمح والشعير وفقاً لما تقرره لجنة إدارة المشروع وطبقاً للأسس التي تعتمدها.
4. يلتزم الفريق الأول بتقديم التدريب الخاص بالإدارة والمحاسبة لموظفي الجمعية، وتوفير مرشد زراعي متخصص للإشراف على العمل ومساعدة الجمعية.
5. يلتزم الفريق الثاني بتقديم جميع المستندات والوثائق التي يطلبها الفريق الأول أو من يفوضه، ومنها (سند ملكية الأرض أو عقد الأجرة ومخططها التنظيمي، إثباتات العمليات الزراعية، مستندات شراء المستلزمات الزراعية، ... الخ).
6. يتعهد ويلتزم الفريق الثاني، بالاستمرار في المشروع بهدف تحسين إنتاج بذار القمح والشعير وذلك خلال كامل الموسم الزراعي، مع مراعاة إشراك فئات المزارعين الصغيرة والنساء.

7. يتعهد ويلتزم الفريق الثاني، بتقديم كافة المعلومات الخاصة بالمشروع للفريق الأول، وتسهيل دخولهم إلى مواقع تنفيذ المشروع.
8. يلتزم الفريق الثاني بتقديم المساعدة بالإجراءات الإدارية والمالية المتعلقة بالمحاضرات التدريبية والورشات التدريبية، و توفير أماكن تخزين للمعدات والمواد المستعملة للمشروع، وعمل الترتيبات اللازمة نيابة عن المزارعين بخصوص الضرائب حيثما لزم ذلك.
9. تتم عملية شراء مدخلات الإنتاج بالتعاون المشترك بين الفريقين من خلال تشكيل لجنة مشتركة لتحديد المواصفات والإشراف على عملية الشراء.
10. يلتزم الفريق الثاني بتقديم التقارير التالية:
- **التقرير الأول** - تقرير الإنبات: بعد زيارة كافة مواقع تنفيذ المشروع، يذكر الطرف الثاني أسماء المزارعين ومواقعهم والمساحات ونوعية البذار وجميع العمليات الزراعية المنفذة ( عمليات تحضير الأرض، التسميد، الرش).
  - **التقرير الثاني** - تقرير النمو: بعد زيارة كافة مواقع تنفيذ المشروع، يتضمن حالة النمو، نسبة الأمطار، عمليات الرش ومكافحة الآفات الزراعية، تقدير نسبة الإنتاج في كل المواقع.
  - **التقرير الثالث** - ما بعد الحصاد: بعد زيارة كافة مواقع تنفيذ المشروع، حيث يتضمن التقرير كميات الإنتاج، الإشراف على الحصاد وعمليات ما بعد الحصاد، والكميات المسترجعة، واليات توزيعها.
11. يتعهد ويلتزم الفريق الثاني بتطبيق وممارسة نظم الإدارة الحديثة، نقل المعرفة، وتوجيهات وتعليمات الفريق الأول الخاصة بإدارة العمل، وبمرجعية الإشراف الفني والإداري للفريق الأول خلال مدة هذا العقد، وذلك في إطار متابعته لتطوير مشروعه (تحسين إنتاج بذار القمح والشعير) من حيث تحضير الأرض، اختيار البذور، التسميد، مكافحة الآفات الزراعية، الحصاد، ومعاملة المحصول بالتقنيات الحديثة، تخزين المحصول، ومن ثم نشر البذور المحسنة، ذلك كله تحت إشراف الفريق الأول وفقا لآليات محددة.
12. يتم تقديم الدعم المالي من قبل الفريق الأول بناء على الآليات والتعليمات التي تقرها لجنة إدارة المشروع.
13. في حال نشوب أية إشكالية أو خلاف بين الفريقين؛ أو في حالة حلول ظرف طارئ، فتشكل لجنة تحكيم من ثلاثة أشخاص يختار كل فريق ممثل عنه ويتفق الفريقين على الثالث.
14. يقر الفريق الثاني فور توقيعه على هذه الاتفاقية إقرارا تاما ونهائيا انه بحال اخل أو قصر بتنفيذ أي بند أو شرط من بنود هذا العقد، يكون للفريق الأول الحق بالرجوع عليه بكامل المصاريف والمبالغ التي

دفعها، وحقه بمطالبته بكافة الأضرار التي لحقت به جراء ذلك، دون أي إنذار أو تبليغ، ولل فريق الأول سلوك طريق القضاء أو التحكيم أو أي طريق قانوني يرتئيه ليحصل حقوقه المالية منها والمعنوية.

تم التوقيع على هذه الاتفاقية من قبل الفريقين في \_\_\_\_\_ يوم \_\_\_\_\_ م بعد قراءتها وتفهم مضمونها.

فريق ثاني

\_\_\_\_\_ جمعية

رئيس الجمعية / \_\_\_\_\_

فريق أول

وزارة الزراعة

\_\_\_\_\_ / \_\_\_\_\_

**IMPLEMENTATION AGREEMENT**

**(2)- FARMER SERVICES CENTER MODEL**

## اتفاقية إنشاء مركز خدمات للزيتون وزيت الزيتون

**الفريق الأول:** وزارة الزراعة ومجلس الزيت الفلسطيني مجتمعين.

بواسطة \_\_\_\_\_:

**الفريق الثاني:** \_\_\_\_\_

بواسطة \_\_\_\_\_

بما أن الفريق الأول يهدف إلى إنشاء مركز خدمات يعني بتنمية وتطوير القطاع الزراعي في ضوء ما جاء في إستراتيجية التنمية الزراعية الفلسطينية "رؤية مشتركة" من خلال تشجيع المزارعين وتنظيماتهم على تبني التقنيات الملائمة لتعظيم الإنتاج، والإنتاجية والربحية، وتطوير نماذج للشراكة الفاعلة بين القطاعات ذات العلاقة، وتحقيقاً لأهداف المشروع الهولندي في تصميم وتبني نماذج إرشادية ريادية يمكن البناء عليها والاستفادة من نتائجها من أجل نشرها وتعميمها في مناطق أخرى.

وحيث أن الفريق الثاني يتوفر عنده شروط إنشاء المركز، ويسعى إلى تلبية مصالح وتحسين أوضاع المزارعين الأعضاء ولإسهام بشكل مباشر بتحقيق الأهداف الوطنية الزراعية. وبشكل خاص في مجال الزيتون وزيت الزيتون.

### فقد اتفق الفريقان على البنود والأسس التالية:

15. تعتبر مقدمة هذه الاتفاقية جزء لا يتجزأ منها وبنداً من بنودها.
16. يشكل النموذج الإرشادي \_\_\_\_\_ المرفق بهذه الاتفاقية المرجعية لهذه الاتفاقية.
17. يلتزم الفريق الأول بتقديم الدعم الفني من خلال التدريب والإرشاد، والدعم المؤسسي من خلال المساعدة في عملية تسجيل المركز، ودعم مالي من خلال تزويد الفريق الثاني بجزء من المعدات ومدخلات الإنتاج وبعض الخدمات. وذلك خلال فترة إنشاء المركز، لدعم تغطية الحاجات الزراعية بما يتعلق بالزيتون وزيت الزيتون في منطقة \_\_\_\_\_ والقرى المحيطة بها، وفقاً لما تقرره لجنة إدارة المشروع وطبقاً للأسس التي تعتمدها.
18. يلتزم الفريق الأول بتقديم التدريب الخاص بالإدارة والمحاسبة لموظفي المركز، وتوفير مرشد زراعي متخصص للإشراف على العمل ومساعدة الفريق الثاني.
19. يلتزم الفريق الثاني بتسجيل المركز ومتابعة إجراءات تأسيسه، وتقديم جميع المستندات والوثائق التي يطلبها الفريق الأول أو من يفوضه، ومنها (سند ملكية المركز أو عقد إيجار، أوراق ثبوتية بتسجيل المركز ككيان قانوني، مساهمة كل عضو مشارك ومسؤوليته ودوره، وملكية الموجودات، والإجراءات المالية والإدارية، والرسوم والمصروفات... الخ).

20. يتعهد الفريق الثاني بتقديم الخدمات اللازمة للمزارعين في منطقة \_\_\_\_\_ وجميع تجمع القرى المجاورة، حيث تشمل هذه الخدمات على ما يلي:

- تعريف المزارعين على أساليب قطف الزيتون الحديثة، التي تقلل التكاليف وتزيد من جودة زيت الزيتون.
- توفير خدمة تأجير معدات رش الكترونية متنقلة لحماية أشجار الزيتون والفواكه من الأمراض للمزارعين، وذلك بأسعار معقولة تكفل تشجيع المزارعين على استخدامها.
- تقديم خدمة المنشار الكهربائي لتقليم وتشذيب أشجار الزيتون والفواكه للمزارعين.
- توفير خدمات فحص جودة زيت الزيتون، والأسمدة، والتربة، والحشرات والأمراض.
- عقد دورات تدريبية في مجال الزيتون وزيت الزيتون.
- تقديم خدمات إرشادية للمزارعين وأصحاب العلاقة الآخرين في نفس المجال.
- أي خدمات أخرى يجب توفيرها للمزارعين.

21. يتعهد ويلتزم الفريق الثاني، بالاستمرار في المشروع بهدف تحسين إنتاج الزيتون وزيت الزيتون وذلك خلال كامل الموسم الزراعي، مع مراعاة إشراك فئات المزارعين الصغيرة والنساء.

22. يتعهد ويلتزم الفريق الثاني، بتقديم كافة المعلومات الخاصة بالمشروع للفريق الأول، وتسهيل مهمة الفريق الأول مع تسهيل دخولهم إلى مواقع المشروع.

23. يلتزم الفريق الثاني بتقديم المساعدة بالإدارة وإجراءات المحاسبية المتعلقة بالمحاضرات التدريبية والورشات المنعقدة، و توفير أماكن تخزين للمعدات والمواد المستعملة للمشروع، وعمل الترتيبات اللازمة نيابة عن المزارعين بخصوص الضرائب حيثما لزم ذلك.

24. تتم عملية شراء المعدات والمواد اللازمة لعمل المركز بالتعاون المشترك بين الفريقين من خلال تشكيل لجنة مشتركة لتحديد المواصفات والإشراف على عملية الشراء.

25. يتعهد ويلتزم الفريق الثاني بتطبيق وممارسة نظم الإدارة الحديثة، نقل المعرفة، وتوجيهات وتعليمات الفريق الأول الخاصة بإدارة العمل، وبمرجعية الإشراف الفني والإداري للفريق الأول خلال مدة هذا العقد.

26. يقوم الفريق الثاني بالمساهمة بإنشاء المركز وإدارته، وتحمل تكاليف الإدارة والصيانة لضمان الاستمرارية.

27. في حال نشوب أية إشكالية أو خلاف بين الفريقين؛ أو في حالة حلول ظرف طارئ، فتشكل لجنة تحكيم من ثلاثة أشخاص يختار كل فريق ممثل عنه ويتفق الفريقين على الثالث.

28. يقر الفريق الثاني فور توقيعه على هذه الاتفاقية إقرارا تاما ونهائيا انه بحال اخل أو قصر بتنفيذ أي بند أو شرط من بنود هذا العقد، يكون للفريق الأول الحق بالرجوع عليه بكامل المصاريف والمبالغ التي دفعها، وحقه بمطالبته بكافة الأضرار التي لحقت به جراء ذلك، دون أي إنذار أو تبليغ، وللفريق الأول سلوك طريق القضاء أو التحكيم أو أي طريق قانوني يرتئيه ليحصل حقوقه المالية منها والمعنوية.

تم التوقيع على هذه الاتفاقية من قبل الفريقين في \_\_\_\_\_ يوم \_\_\_\_\_ م بعد قراءتها وتفهم مضمونها.

فريق ثاني

فريق أول

وزارة الزراعة ومجلس الزيت الفلسطيني

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