

Country Name	<b>Strengthening Support System focusing on Sustainable Agriculture in Jericho and Jordan River Rift Valley</b> <b>The Project on Improved Extension for Value-Added Agriculture in the Jordan River Rift Valley</b>
Palestinian Authority	

**I. Project Outline**

Background	<p>In the Jordan River Rift Valley, located in the eastern part of the West Bank, agriculture was the main industry playing an important role in the regional economy and stability. The main problems of the agriculture in this area included poor farming technology, poor water management, salinization of farm land, shortage of fertilizers and chemicals, and limited access to the market due to the control by Israel. Under such circumstances, a JICA technical cooperation project “Strengthening Support System focusing on Sustainable Agriculture in Jericho and Jordan River Rift Valley” (ASAP) was implemented to establish an effective research and extension system as part of the programs to materialize “the Corridor for Peace and Prosperity” concept advocated by the Japanese government in 2006.</p> <p>While ASAP could demonstrate participatory research and extension through the development and operation of five demonstration and agricultural research farms (DARFs) participated by core farmers, there remained issues such as much wider dissemination of agricultural techniques and strengthening of farmers’ responsiveness to the market to improve their profitability. To address these issues, a succeeding technical cooperation project “The Project on Improved Extension for Value-Added Agriculture in the Jordan River Rift Valley” (EVAP) was planned.</p>
Objectives of the Project	<p><b>[ASAP]</b> Through research and extension on cycle-oriented agriculture, water-saving agriculture and soil conservation, the project aimed at establishing a basis for the effective agricultural extension system in the Jordan River Rift Valley through the direct linkage between research and extension, thereby improving agricultural productivity of peasants/small farmers in order to realize “the Corridor for Peace and Prosperity.”</p> <ol style="list-style-type: none"> <li>Overall Goal: To improve agricultural productivity of peasants/small farmers in order to realize “the Corridor for Peace and Prosperity.”</li> <li>Project Purpose: To establish a basis for the effective agricultural extension system through direct linkage between research and extension.</li> </ol> <p><b>[EVAP]</b> Through equipping extensionists with techniques and information for extending value-added agriculture, improving the capacity of the targeted farmers (small and medium-sized farmers and farmers’ organizations) to respond to the market, and equipping the targeted farmers with techniques and information to yield value-added agricultural produce, the project aimed to improve agricultural profitability of the targeted farmers in the Jordan River Rift Valley, thereby facilitating changes in agricultural economy and improving farmers’ livelihoods in the area.</p> <ol style="list-style-type: none"> <li>Overall Goal: (1) Agricultural economy is changed in the Jordan River Rift Valley. (2) Farmers’ livelihoods are improved in the Jordan River Rift Valley.</li> <li>Project Purpose: Agricultural profitability of targeted small and medium-sized farmers in the Jordan River Rift Valley is improved.</li> </ol>
Activities of the Project	<ol style="list-style-type: none"> <li>Project Site: <b>[ASAP] [EVAP]</b> The Jordan River Rift Valley</li> <li>Main Activities: <b>[ASAP]</b> Research and proposals on new promising crops, cycle-oriented agriculture technology/system, water-saving agriculture and soil conservation technology/system, through establishing and operating DARFs; Modifying and improving the existing guidelines, manuals and extension materials; Training for extensionists; Extension activities and training for farmers; Improving the extension system; Small scale production activities focused on women; etc. <b>[EVAP]</b> Development of an extension package; training for extensionists, farmers, and farmers’ organizations; organizing the business forum; provision of market information to farmers’ organizations; implementation of field extension activities; etc.</li> <li>Inputs (to carry out above activities) <b>[ASAP]</b> Japanese Side 1) Experts: (Long-term) 3 persons; (Short-term) 8 persons 2) Trainees received: 3 persons (Japan); 39 persons (Jordan) 3) Equipment: Office equipment; motor vehicles 4) Local cost <b>[EVAP]</b> Japanese Side 1) Experts: 9 persons 2) Trainees received: 18 persons (Japan); 10 persons Palestine Side 1) Staff allocated: 36 persons 2) Offices and facilities: Office space and training facility 3) Local cost Palestine Side 1) Staff allocated: 50 persons 2) Office with facilities</li> </ol>

	(Jordan) 3) Equipment: Office equipment; machinery and tools for the introduction of new technologies to farmers (screeners, belt conveyors, chopping machines, harvesters, trolleys, tractors, non-destructive reflectometer, incubators, etc.) 4) Local cost	3) Local cost
Project Period	[ASAP] March 2007 – March 2010 [EVAP] September 2011 – July 2015 (Extension period: December 2014 – July 2015)	Project Cost [ASAP] (ex-ante) 430 million yen, (actual) 549 million yen [EVAP] (ex-ante) 350 million yen, (actual) 512 million yen
Implementing Agency	[ASAP] [EVAP] Ministry of Agriculture (MoA)	
Cooperation Agency in Japan	[ASAP] Nippon Koei Co., Ltd. [EVAP] Nippon Koei Co., Ltd.; Appropriate Agriculture International Co., Ltd.	

## II. Result of the Evaluation

### < Constraints on Evaluation >

- After EVAP, “The Project on Improved Extension for Value-Added Agriculture” (EVAP 2) (Technical Cooperation, 2016-2021) is being implemented. Although it is desirable to evaluate the three consecutive projects (ASAP, EVAP and EVAP 2) altogether, we decided to conduct the ex-post evaluation of the first two projects this year (2019), since the time between the end of ASAP and the ex-post evaluation including that of EVAP 2 (to be conducted after 2024) is too long. It should be therefore noted as a constraint on evaluation that the effects we observe in this evaluation include those of EVAP 2 and we cannot separate them from the effects of ASAP and EVAP.

### < Special Perspectives Considered in the Ex-Post Evaluation >

- We evaluated the two projects, ASAP and EVAP, together in the following way: for Relevance, evidence was confirmed for each project, based on which the two projects were evaluated as combined; for Effectiveness/Impact, the status of achievement of the project objectives were judged for each project, based on which the two projects were evaluated as combined; for Efficiency, each project was evaluated, based on which the two projects were evaluated as combined; for Sustainability, the two projects were evaluated as combined.

### 1 Relevance

#### <Consistency with the Development Policy of Palestine at the Time of Ex-Ante Evaluation and Project Completion>

[ASAP] The “Agricultural Medium Term Development Plan 2006-2008” and the “Palestinian Reform and Development Plan (PRDP) 2008-2010” aimed agricultural development in the West Bank, including technical development and extension.

[EVAP] The “National Development Plan” (2011-2013) identified tourism and agriculture as the two sectors with an existing competitive advantage. The “Action Plan of the Agricultural Sector Strategy: A Shared Vision” (2011-2013) emphasized “sustainable agriculture,” and the “Palestinian National Agricultural Extension Strategy” (2012; effective in 2015) put focus on providing extension to farmers’ organizations.

#### <Consistency with the Development Needs of Palestine at the Time of Ex-Ante Evaluation and Project Completion >

[ASAP] There was a need for agricultural development through strengthening the extension system in the Jordan River Rift Valley as mentioned in “Background” above. Also, at the time of ex-ante evaluation, the National Agricultural Research Center (NARC) of MoA was expected to work in collaboration with extensionists at governorate-level experimental farms managed by respective Departments of Agriculture (DoA). However, NARC’s activities were greatly constrained due to limited operational funds, and there was no functional mechanism to coordinate research and extension activities. In addition, researchers of NARC and Subject Matter Specialists (SMSs) of the General Directorate of Extension and Rural Development (GDERD) of MoA had a weak relationship to cooperate with each other in agricultural extension issues. The contents of this project was to address such issues.

[EVAP] The need for agricultural development through strengthening the relationship between research (NARC) and extension (GDERD) continued at the time of project completion.

#### <Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

[ASAP] In July 2006, the Japanese government advocated the “Corridor for Peace and Prosperity” as a medium- and long-term initiative for the coexistence and co-prosperity of Israel and Palestine. This initiative aims to strengthen the economic and social infrastructure of the Jordan Valley in order to support the Palestinian economy smoothly, and in August of the same year, JICA formulated the “Jericho Regional Development Program” based on this initiative. The program is comprised of three sub-programs: Government Administration and Social Service; Agriculture, Agro-industry and Distribution; and Tourism and Urban Environment. ASAP was considered to play an important role as a major cooperation project in the “Agriculture, Agro-industry and Distribution” sub-program.

[EVAP] At the Japan-Palestinian High-Level Consultation in July 2010, based on the above “National Development Plan,” seven priority areas for the three years (small and medium-sized enterprises support/trade facilitation, agriculture, tourism, local administration, finance, water supply and sewage, health) were agreed.<sup>1</sup> The agriculture sector was one of them, and this project was positioned as a core project in the agriculture sector.

#### <Evaluation Result>

[ASAP] [EVAP] In light of the above, the relevance of ASAP and EVAP as combined is high.

<sup>1</sup> ODA Country Data Book 2012.

## 2 Effectiveness/Impact

### <Status of Achievement of the Project Purpose at the time of Project Completion>

**[ASAP]** At the time of project completion, the DARFs were operated by both researchers and extensionists, according to the method of participatory research (applied research) and extension on cycle-oriented agriculture, water-saving agriculture, and soil conservation developed by ASAP. Also, the variety of extension activities such as farmers' field days, training, and information leaflets was enhanced, and the number of extension activities exceeded the expected target. Therefore, it is concluded that the Project Purpose was achieved, i.e., the basis for the effective agricultural extension system through the direct linkage between research and extension was established by the end of the project period.

**[EVAP]** The project introduced the EVAP Extension Package in four cycles of extension activities, each of which was targeted to around three to seven farmer groups. Between the baseline survey and the endline survey of each cycle, the net benefit of the target small and medium-size farmers was increased, and the average increase rate was 24.2% at the time of the project completion, which was more than the target indicator 20%. Therefore, it is concluded that the Project Purpose was achieved, i.e., the agricultural profitability of targeted small and medium-sized farmers was improved by the end of the project period.

### <Continuation Status of Project Effects at the time of Ex-post Evaluation>

**[ASAP]** The activities by NARC and GDERD at the five DARFs did not continue after ASAP completion due to the lack of budget to purchase inputs. However, MoA has formulated many new DARFs, when financial support from donor organization is available, in areas other than the location of this project's DARFs after the project completion. It should be emphasized that the concept of DARF aiming at the collaboration between testing/research on and extension of latest agricultural technologies was first introduced by ASAP and this concept is now spread to all over West Bank. In addition, currently, NARC and GDERD are trying to collaborate without additional funds from donors, for example, conducting workshop by NARC researcher for the extensionists, and having technical meetings between researchers at NARC and extensionists at GDERD for each sub-sector, etc. At the same time, however, the responsibility and workflow between NARC and GDERD are not clear enough, and thus there is a room to further improve the collaboration between research and extension.

Considering above situation, it is concluded that the project effects have partially continued, i.e., the basis for the effective agricultural extension system through the direct linkage between research and extension established has been maintained, but extra budget and structural change of MoA are required to promote further collaboration between research and extension.

**[EVAP]** The EVAP Extension Package developed in EVAP is currently implemented in the entire West Bank, with the support of on-going project EVAP 2. Furthermore, GDERD started to implement the EVAP Extension Package by its own cost from 2018. It can be said that the EVAP Extension Package is now adopted by MoA as an official method of extension in a sustainable way and such adoption can be regarded as a continuation and further expansion of the effects of this project.

After the completion of EVAP, the various technologies introduced by EVAP have been introduced to more and more new farmers through EVAP 2 and the implementation of the EVAP Extension Package by MoA's own effort. We can see from the statistics that every year, a number of farmers have introduced the new technologies and this gave farmers additional benefit in a continuous manner.

Therefore, it is concluded that the project effects have continued, i.e., the agricultural profitability of targeted small and medium-sized farmers has been improved. These targeted farmers include not only those farmers who were targeted at EVAP during the project implementation but also new farmers who introduced technologies introduced by EVAP after the completion of EVAP because this means that the effect of EVAP has been continuing till today by being spread to more farmers.

### <Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

**[ASAP]** Although a few crops such as watermelon and zucchini show a little decline in productivity during 2015-2018 due to weather reasons, all the other crops show the increasing or the same productivity during this period. Also, most of the crops show the increasing total yield in the same period. It is reasonable to assume that ASAP contributed to this achievement through introducing new techniques such as compost making, irrigation technique, grafted seedlings, use of farm records, etc. Also, technologies introduced by ASAP contributed not only to increase the quantity of the crops but also the quality. The increase in the quality and quantity of agricultural products led to an increase in farmers' income. Although comprehensive statistics were not available, the available data (based on DoA's survey of several representatives of agricultural cooperatives) shows an increase in the total farm profit of peasants/small farmers in the Jordan Valley during 2015-2018.

Therefore, it is concluded that the Overall Goal was achieved, i.e., the agricultural productivity of peasants/small farmers was improved in 2015, five years after completion of ASAP or thereafter, to realize the "Corridor for Peace and Prosperity."

**[EVAP]** On average, the profit of medium or small farmers who were targeted by the EVAP Extension Package is increasing every year by 6%. This is because techniques and methodology introduced by EVAP helped farmers to reduce expenses, increasing productivity, and improving quality.

Therefore, it is concluded that the Overall Goal was achieved, i.e., the agricultural economy has been changed, and farmers' livelihoods have been improved in the Jordan River Rift Valley to the time of ex-post evaluation, and they are likely to be improved by 2020, five years after project completion.

### <Other Impacts at the time of Ex-post Evaluation>

**[ASAP] [EVAP]** No negative impacts of the project in both projects have been observed. On the contrary, according to DoA, the activities of the project reduced pollution, especially when using agricultural waste such as silage and compost.

Regarding gender issues, studies under EVAP found that there existed a clear information gap between male and female farmers that caused less participation of female farmers in crop/livestock planning activities. In response, the project, and then the succeeding extension activities by the Palestinian side, urged the participation of both sexes in agricultural work, and the identification of the powers of each gender in all agricultural operations. Since in the rural community, men tend to take the lead in their family, there had been only a limited number of female farmers' participation in extension activities before the project. However, the recognition of the importance of the work by women in the farm through the project strengthened their role and position in the family as well, and the introduction of modern

techniques and new practices reduced women's burdens by facilitating their work.

Other positive impacts than already mentioned include the following. The treated waste water produced by Jericho Waste Water Treatment Plant, which was constructed by "Jericho Wastewater Collection, Treatment System and Reuse Project" (2011), a JICA Grant Aid project, is utilized by dates farmers in the Jordan Valley. There is a synergy effect between the JICA's Grant Aid Project and Technical Cooperation Projects.

<Evaluation Result>

[ASAP] [EVAP] Therefore, the effectiveness/impact of ASAP and EVAP as combined is high.

[ASAP] Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results																																																																																																											
(Project Purpose) To establish a basis for the effective agricultural extension system through the direct linkage between research and extension.	Indicator 1: The demonstration and agricultural research farms are operated by both researchers and extension agents.	<p>Status of the Achievement: achieved (partially continued) (Project Completion)</p> <ul style="list-style-type: none"> <li>Five DARFs were established (Jericho, Auja, Jiftlek, Ein el Beida, and An Nassariya). Activities were carried out by task forces consisting of researchers, SMSs, extensionists, and Demo farmers.</li> </ul> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> <li>The five DARFs are used by farmers for their production activities but not for research and extension due to lack of funding to maintain them as DARFs.</li> <li>Many new DARFs have been created all over West Bank with the support of donor organizations. In 2019, at least three of them are used for field trials and dissemination on export items (e.g., pepper), zucchini, and in vitro fertilization (IVF).</li> </ul>																																																																																																											
	Indicator 2: Variety and number of extension activities are increased as the result of a wide range of research and through the collaboration between research and extension.	<p>Status of the Achievement: achieved (continued) (Project Completion)</p> <ul style="list-style-type: none"> <li>Farmers field days: the targets set by the project team were 12 farmers field days and 24 field visits; the actual were 47 farmers field days and visits (864 attendants for reference), including 21 farmers field days (413 attendants for reference). These were carried out in collaboration between research and extension.</li> <li>Training for farmers in a variety of issues ranging from agricultural technology and income generation to livelihood improvement.</li> <li>Extension materials: Farmer's information leaflets, containing extension material as messages and compiled as Farmers-Guide manual, were distributed to farmers in the target area.</li> </ul> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> <li>Type of major extension activities: Field day, workshop, training, etc.</li> </ul> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Approximate number of extension activities/events carried out</th> <th colspan="3">Approximate number of farmers reached (participated)</th> </tr> <tr> <th>2016</th> <th>2017</th> <th>2018</th> <th>2016</th> <th>2017</th> <th>2018</th> </tr> </thead> <tbody> <tr> <td>Modern irrigation techniques for crops</td> <td>1</td> <td>2</td> <td>2</td> <td>23</td> <td>52</td> <td>55</td> </tr> <tr> <td>Silage Manufacturing</td> <td>1</td> <td>0</td> <td>1</td> <td>17</td> <td>0</td> <td>20</td> </tr> <tr> <td>Natural pastures</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>20</td> </tr> <tr> <td>Fighting Pests &amp; Diseases Option</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>40</td> <td>0</td> </tr> <tr> <td>Irrigation networks diagnostics</td> <td>2</td> <td>1</td> <td>0</td> <td>25</td> <td>12</td> <td>0</td> </tr> <tr> <td>Compost Manufacturing</td> <td>2</td> <td>1</td> <td>0</td> <td>35</td> <td>25</td> <td>0</td> </tr> <tr> <td>Use tools to produce clean dairy products</td> <td>1</td> <td>1</td> <td>1</td> <td>15</td> <td>18</td> <td>13</td> </tr> </tbody> </table>		Approximate number of extension activities/events carried out			Approximate number of farmers reached (participated)			2016	2017	2018	2016	2017	2018	Modern irrigation techniques for crops	1	2	2	23	52	55	Silage Manufacturing	1	0	1	17	0	20	Natural pastures	0	0	1	0	0	20	Fighting Pests & Diseases Option	0	2	0	0	40	0	Irrigation networks diagnostics	2	1	0	25	12	0	Compost Manufacturing	2	1	0	35	25	0	Use tools to produce clean dairy products	1	1	1	15	18	13																																													
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<sup>2</sup> \* 1 dunum = 1,000 m<sup>2</sup> = 0.1 ha

(Based on interviews by DoA with several representatives of agricultural cooperatives in the area)

Source: Project Completion Report; DoA in Jericho, Nablus, and Tubas; GDERD

**[EVAP] Achievement of Project Purpose and Overall Goal**

Aim	Indicators	Results																																																																																										
(Project Purpose) Agricultural profitability of targeted small and medium-sized farmers in the Jordan River Rift Valley is improved.	Indicator: The net benefit of the target small and medium-size farmers is increased by 20% at the time of the project completion.	<p>Status of the Achievement: achieved (continued) (Project Completion) Total incremental benefit through adoption of the recommendable technologies by the end of April 2015 was estimated at NIS 4,250,872. Compared with the respective baseline data, the increment of farmer's income reached 24.2% on average. (Ex-post Evaluation)</p> <table border="1"> <thead> <tr> <th rowspan="2">Recommendable technologies</th> <th colspan="3">Number of farmers who newly apply technologies</th> <th colspan="3">Incremental benefit by adopting the technology (NIS/ dunum*)</th> </tr> <tr> <th>2016</th> <th>2017</th> <th>2018</th> <th>2016</th> <th>2017</th> <th>2018</th> </tr> </thead> <tbody> <tr> <td>Water saving irrigation</td> <td>17</td> <td>42</td> <td>42</td> <td>200</td> <td>200</td> <td>200</td> </tr> <tr> <td>Grafted seedling application Tomato</td> <td>5</td> <td>12</td> <td>12</td> <td>5,000</td> <td>5,000</td> <td>5,000</td> </tr> <tr> <td>Grafted seedling application Cucumber</td> <td>5</td> <td>7</td> <td>10</td> <td>3,900</td> <td>3,900</td> <td>3,900</td> </tr> <tr> <td>Compost</td> <td>5</td> <td>5</td> <td>5</td> <td>200</td> <td>200</td> <td>200</td> </tr> <tr> <td>Introduction of new crops</td> <td>10</td> <td>13</td> <td>15</td> <td>2,500-5,000</td> <td>2,500-5,000</td> <td>2,500-5,000</td> </tr> <tr> <td>Artificial insemination</td> <td>15</td> <td>15</td> <td>15</td> <td>300</td> <td>300</td> <td>300</td> </tr> <tr> <td>Silage making and utilization</td> <td>15</td> <td>15</td> <td>20</td> <td>135</td> <td>135</td> <td>135</td> </tr> <tr> <td>Maize crop residue</td> <td>15</td> <td>15</td> <td>20</td> <td>200</td> <td>200</td> <td>200</td> </tr> <tr> <td>Bulk procurement</td> <td>25</td> <td>25</td> <td>15</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Use of farm records</td> <td>5</td> <td>8</td> <td>8</td> <td colspan="3">Improve decision making and farm management and increase 10% -20% of total profit (information from MoA).</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>117</b></td> <td><b>157</b></td> <td><b>162</b></td> <td><b>-</b></td> <td><b>-</b></td> <td><b>-</b></td> </tr> </tbody> </table>	Recommendable technologies	Number of farmers who newly apply technologies			Incremental benefit by adopting the technology (NIS/ dunum*)			2016	2017	2018	2016	2017	2018	Water saving irrigation	17	42	42	200	200	200	Grafted seedling application Tomato	5	12	12	5,000	5,000	5,000	Grafted seedling application Cucumber	5	7	10	3,900	3,900	3,900	Compost	5	5	5	200	200	200	Introduction of new crops	10	13	15	2,500-5,000	2,500-5,000	2,500-5,000	Artificial insemination	15	15	15	300	300	300	Silage making and utilization	15	15	20	135	135	135	Maize crop residue	15	15	20	200	200	200	Bulk procurement	25	25	15	N/A	N/A	N/A	Use of farm records	5	8	8	Improve decision making and farm management and increase 10% -20% of total profit (information from MoA).			<b>TOTAL</b>	<b>117</b>	<b>157</b>	<b>162</b>	<b>-</b>	<b>-</b>	<b>-</b>
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Source: Project Completion Report; DoA in Jericho, Nablus, and Tubas

**3 Efficiency**

**[ASAP]** The project cost exceeded the plan, while the project period was as planned (ratio against the plan: 128% and 100%, respectively). The Output of this project was produced as planned. Therefore, the efficiency of the project is fair.

**[EVAP]** Both the project cost and the project period exceeded the plan (ratio against the plan: 146% and 118%, respectively). The project period was extended by an additional six months to allow the continuation of project activities over the next crop season to achieve the Project Purpose. The Output of this project was produced as planned. Therefore, the efficiency of the project is fair.

**[ASAP] [EVAP]** The efficiency of ASAP and EVAP as combined is fair.

**4 Sustainability**

<Policy Aspect>

**[ASAP] [EVAP]** In the "Palestinian National Agricultural Extension Strategy" (PNAES, 2016-2019), implementation of the EVAP Extension Package is officially adopted as an extension method by MoA. The annual extension strategic work plans of GDERD also include activities for the EVAP Extension Package, and the necessary budget is secured according to the plan. Also, the "National Agricultural Sector Strategy" (NASS 2017-2022) emphasizes the importance of agricultural research and extension. The policy priorities in NASS include "Strengthening the role of applied research in official research centers and universities in developing extension services for both plant and livestock agriculture" as well as "Agricultural extension and veterinary services, research, insurance and financial services, as well as business development services continuously developed and expanded."

<Institutional Aspect>

**[ASAP] [EVAP]** The organizations responsible for agricultural extension in the Jordan River Rift Valley include MoA and DoA. Under MoA, different General Directorates including GDERD (17 staff members are allocated) and General Directorate of Research and Agricultural Technology Services (NARC; 45 staff members), as well as regional branches (DoA; ranging from 3 to 41 staff members), play their respective roles. There are highly qualified agricultural extensionists at MoA, but MoA needs to review the organizational and

administrative structure (e.g., clarification of the division of responsibility and workflow between NARC and GDERD) in order to enhance further collaboration and synergy effect between research and extension. Also, at the DoA level, there are not enough extensionists compared to the international criteria considering the number of farmers. It is desirable that one extensionist is responsible for about 800 agricultural households in international standards, while at MoA, one extensionist is responsible for about 1,200 agricultural households, which is too many.

#### <Technical Aspect>

**[ASAP] [EVAP]** While, Manuals and guidelines developed by the projects are properly utilized, and the experiences of extensionists who worked in EVAP are successfully being transferred to other governorates in EVAP 2. Also, the equipment and tools provided by the project are appropriately utilized and maintained. Therefore, it can be said that there are qualified extensionists and researchers. On the other hand, while new staff can learn extension method from the experienced staff as on the job training (OJT) when they visit farmers together, there are no set training programs such as for the newly assigned extensionists and annual training plan.<sup>3</sup> Further development of their skills is necessary.

#### <Financial Aspect>

**[ASAP] [EVAP]** For research, there is no budget for any research projects other than the running cost of NARC (around 4.6 million NIS every year in 2016, 2017 and 2018). Therefore, research activities depend on the donors' projects, which is not sustainable on its own. For extension, GDERD started to implement the EVAP Extension Package by its own cost from 2018. Accordingly, the annual budget of GDERD increased from around 4 million NIS in 2016 and 2017 to around 4.15 million NIS in 2018. The decentralized petty cash system, which was established in June 2019 with the support of EVAP 2 enabled the payment procedure to be completed more smoothly. It can be said that a high level of financial sustainability is maintained as for the extension activities adopting the EVAP Extension Package. At the same time, salaries of researchers and extensionists are not good enough. Only 60% of the salaries had been paid to civil servants for six months until September 2019, especially due to the recent fiscal crisis following Israeli policy change on tax refund to the Palestinian Authority. After that, however, the original amount including the past unpaid portion is paid.

#### <Evaluation Result>

**[ASAP] [EVAP]** In light of the above, some problems have been observed in terms of the institutional, technical, and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through ASAP and EVAP as combined is fair.

#### 5 Summary of the Evaluation

ASAP achieved the Project Purpose of establishing the basis for the agricultural extension system linked with research by the time of project completion. The project effects continued except for the DARFs established under ASAP (while new DARFs have been established after the project), and the Overall Goal of improving agricultural productivity of peasants/small farmers was achieved. Built upon achievements of ASAP, EVAP established the EVAP Extension Package and achieved its Project Purpose of improving agricultural profitability of small and medium-sized farmers who adopted the disseminated agricultural technologies, and then achieved the Overall Goal of changing the agricultural economy and improving farmers' livelihood in the Jordan River Rift Valley.

Regarding the sustainability of both projects, some problems were observed in the institutional, technical, and financial aspects mainly due to the organizational structure not optimized for direct collaboration between research and extension, lack of personnel at the governorate level, and budget, while the relevant policy is well secured including the policy to officially adopt the EVAP Extension Package. As for the efficiency, the project cost of ASAP and both the project cost and the project period of EVAP exceeded the plan.

Considering all of the above points, the project (ASAP and EVAP as combined) is evaluated to be satisfactory.

### III. Recommendations & Lessons Learned

#### Recommendations for Implementing Agency:

- MoA is recommended to review the current responsibility and workflow between NARC and GDERD as soon as possible, in order to achieve more efficient and effective cooperation between the two functions. This will enhance the quality of both research and extension, by causing synergy effect each other.
- GDERD is recommended to strategically utilize the training programs provided by donor organizations (including JICA projects), and train the trainers for specific subjects within MoA as soon as possible. This will make it possible to set a training program for the new extensionists without an extra budget.
- MoA is recommended to allocate budgets to the five DARFs that are not currently used due to lack of budget for purchasing agricultural inputs and to use them as a place for capacity development.

#### Lessons Learned for JICA:

- While the decentralized petty cash system that MoE established is an effect of EVAP2, it is also an effective way to enhance the financial sustainability of effects of ASAP and EVAP at its regional branches. Previously, the payment of meeting expenses and transportation cost, etc., for the EVAP Extension Package implementation by MoA had problems, since DoAs did not have enough knowledge to follow the MoA Headquarters' rules and collect necessary documents for the payments. Many payments were stuck due to this problem, and the EVAP Extension Package implementation by MoA was stopped for several months. To solve this payment problem, a decentralized petty cash system was established. The decentralized petty cash system accelerates the process of payments for extension activities at the DoA level. Now a certain amount of petty cash was distributed to each DoA, and instead of getting approval from the Headquarters for each payment, the head of DoA can approve the payment under 1,000 NIS for the extension activities. In order to sustain the project effects even after the project is completed, it is worth considering to change the administrative system to the more suitable one. This lesson can apply to any projects that introduced a new package of activities that should be continued after project completion.

<sup>3</sup> MoA is now planning for training needs assessment for the MoA staffs with GIZ support.



DARF at Jericho (at the survey)



DARF at Auja (at the survey)



EVAP Package Extension Activity



EVAP Package Extension Activity