برنامج الادارة المستدامة والوصول الشامل لمصادر الارض والمياه (بدر)

Inclusive Access to and Sustainable Management Of Land And Water Resources | BAYDAR

Annual Report | N°3

January – December 2019

Submitted By:

Project Management Unit | PMU
Union of Agricultural Work Committees / UAWC

Submitted to:
Netherlands Representative Office / NRO

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1. Project Basic Information

PROJECT IDENTIFICATION

Project title	**Inclusive access to and sustainable management of land and water resources**
Activity number	4000000025
Name of the applicant	UNION OF AGRICULTURE WORK COMMITTEES (UAWC)
Date of the financing agreement	January 31st 2017
Project duration	47 months
Project total budget	15,261,293 $
NRO financial contribution	13,000,000 $

PROJECT LEADER

Institution Name	**Union of Agricultural Work Committees**
Telephone [Office]	+970 2 242 1713
E-mail	Info@uawc-pal.org
Web site	www.uawc-pal.org

PROJECT PARTNERS

Institution Name	**Palestinian Hydrology Groups | PHG**
Institution Name	**Lands Research Center | LRC**
Institution Name	**Economic & Social Development Center | ESDC**

PROJECT ASSOCIATE PARTNERS

Institution Name	**Ministry of Agriculture**

2. Executive Summary

This report covers the main achievements of the project from January-December 2019, as well as the main lessons learned, best practices, risks & challenges, Israeli violations, and the success stories that happened throughout this year.

Socio-economic Impact - Also, this report presents an analytical perspective on the socio-economic impact of the project. The study that targeted a randomly selected 15 locations that showed a high positively socio-economic impact on the direct & indirect beneficiaries.

A full report on the socio-economic impact is annexed.

Potential Effectiveness - According to the perspective analysis of the project objectives indicators, there is high potential to achieve the project short-term outcomes, and a high possibility to be sustainable, which, in turn, ensures achieving the intended long-term project overall objectives.

National Strategic Objective – The project was in line with the Ministry of Agriculture Strategic Plan through the contribution of three strategic objectives out of five. In specific, the project contributed in 19 strategic outputs.

A full table of the project contribution in this National Plan is included in the report.

Seeds Bank - Besides, the Seed Bank contributed significantly in the land development including, but not limited to: 46.5 dunums were cultivated by local seeds, 1,384 male and female farmers were provided with summer and winter local seeds; 2 new agricultural techniques were introduced to 2 agricultural women CBOs; and Hedge Mustard, Lettuce, Garlic and thyme were all planted and reproduced.

Main Facts & Figures - Based on the project record, the project interventions covered all Palestinian governorates in the West Bank. Until December 2019, the project targeted a total of 13,318 direct beneficiaries and developed a total of 38,376 donums while 29,160 M^3 of harvested water from all project interventions.

Best Practices - The report indicated, throughout this years' experience, various best practices including mainly: the community financial contribution, the solar-powered water pump system, the customized reproduction unit for each type of seeds, and others.

Challenges & Obstacles - On the other hands, the project faced many challenges and risks throughout this year. The majority of them were caused by the Israeli Authorities and settlers. They are mainly the Israeli violations & aggression against the project deliverables and farmers' properties. the project farmers and deliverables experienced 5 stop-working order, of them one is an oral order, and 4 aggressions against farmer's properties, as well as cornification actions by Israeli authorities and settlers, of them, 75% of aggressions were focused in [redacted].

In addition, the owners of the Area C lands are facing significant challenges in issuing their Ownership documents from the Israeli Authorities. According to the Israeli regulations and restrictions: "the area C land owner can't register more than 20% of the lands that the farmer-beneficiary owns.

Therefore, the report recommendations focused mainly on the importance of international pressure against Israeli violation & aggression; in addition to other considerable recommendations such as the importance of identifying more innovative & efficient innervations in the future.

SEFSEC study – with regard to the SEFSEC component, the first survey of SEFSEC 2018 was conducted and a draft study was delivered by MAS Research Institute. The second round of SEFSEC survey 2020 is planned to start in March 2020.

Mid-Evaluation Review – Finally, for the period between April-June, 2019, 2 external evaluators, contracted through by the NRO, were mandated to evaluate the project implementation and achievement. The overall results of the review were considerably positive. The review was shared with all partners and discussed during the last steering committee meeting, held in October 2019.

3. Summary of Project Objectives & Main Interventions

3.1. Project Objectives

The project employs three interrelated and complementary components aimed to contribute to the increasing of food security of Palestinians living in the West Bank; It is structured and deals with the following components:

A. Land & Water Resource Development and Access to sustainable agricultural infrastructure.
B. The Development of the Local Seed Bank, to help Palestinian farmers adjust to climate change and to preserve local genetic resources.
C. The Socio-Economic and Food Security (SEFSec) survey, which is conducted by the Palestinian Central Bureau of Statistics (PCBS) with support from FAO and UAWC.

These components reflect a deeper investment into the eradication and fight against food insecurity in the Palestinian context. As it covers a broad scope of activities from providing agricultural infrastructure also to support research into the status and causes of food insecurity with prominent Palestinian research institutions and the FAO. The importance of researching the root causes of food insecurity in the Palestinian context lies in the heart of the efforts to formulate programs and activities that address food insecurity.

3.2. Project Work Packages

☒ Land Development | Reclamation & Rehabilitation
☒ Water harvesting techniques ☒ Agricultural Roads
☒ Enhancing on-farm ISFM, soil productivity, IPM and plant productivity
☒ Integrate climate change principles, practices and establish a knowledge exchange platform
☒ Water Resources ☒ Innovative irrigation Technologies
☒ Lobbying and Advocacy ☒ Women Rights
☒ Internal Staff Capacity Building ☒ Farmers Capacity Building
☒ Seeds Banks ☒ Socio-Economic and Food Security | SEFSEC

3.3. Targeted Governorates:

Project Achievements

- Socio-Economic Impact
- Facts & Figures of Main Achievement
- Map of the Targeted Locations
- Narrative Summary of Main Achievement in 2019
- Achievement Against the Ministry of Agriculture Strategic Plan
- Summary of the Project Results: Main Outputs Progress
- Summary of the Project Results: Results Achievement against results indicators

4. Socio-economic Impact of the Project

Among various project indicators at specific & overall objectives level, direct beneficiaries and different stakeholders were interviewed, different sites were visited in randomly selected 15 locations in 6 Palestinian governorates to study the socio-economic impact of this project.

The study that targeted a randomly selected 15 locations, showed a positive contribution in the intended project impact, including, but not limited to:

Land Development & Protection & Productivity

- increasing of productivity in the targeted lands
- more developed, protected and exploited lands

Economic Benefit & Efficiency

- increasing of average household income;
- reduction in time, costs and resources for access to lands through agricultural roads;
- reduction of time & costs in having access to the needed water;
- more monetary value of lands;
- efficient & effective water distribution processes;
- more revenues from the rehabilitated wells;
- New Industrial Enterprises & Business Lines

Environment & Natural Resources

- more exploitation of natural resources;
- positive environmental impact;

Human Rights

- women became more positively influenced to claim their inheritance rights.
- established a fair Selling price for water;

People Capacity & Institutions

- more touristic places are created;
- enhanced community collective work;
- more confidence in civil local institutions;
- more workers and more created working days;
- more permanent job opportunities;
- more women engagement;
- women became more financially independent and confident in their selves;
- new gained vocational skills;
- Beneficiaries became healthier

Research Valorizations

- University research work became more community-need oriented;

A full report of the project Socio-economic impact is annexed # 2

5. Main Achievement in Figures & Charts

13,318
Beneficiaries

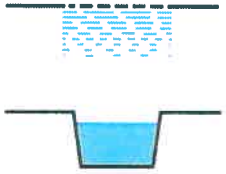
Total # of Direct Beneficiaries from all Interventions

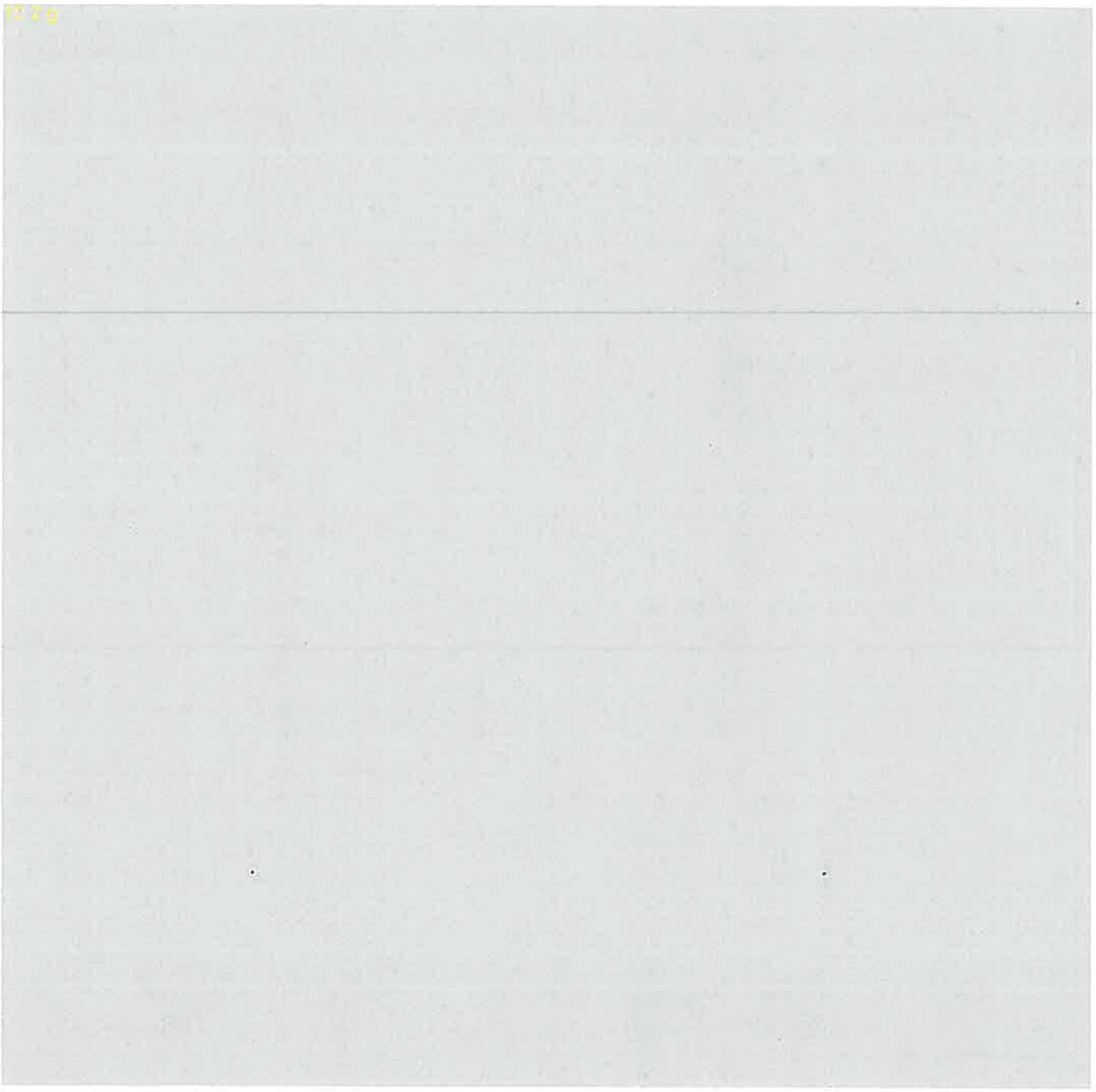
38,376
Dunums

Total # of Benefitted Donums from all Interventions

29,160
M^3

Total # of M^3 of Harvested Water from all Project Interventions





7. Narrative Summary of Main Achievements in 2019

The following paragraphs display the progress in the implementation of activities of the project according to component over the reporting period.

Component A:

Land & Water Resource Development and Access to Sustainable Agricultural Infrastructure:

Specific Objective 1: *"Improve inclusive, sustainable agricultural production through land resource management, enhancing ISFM"*

The main achieved activities in 2019 are:

- **Improve inclusive sustainable agricultural production through land resource management, enhancing ISFM, and creating platform knowledge of climate change adaptation:**
- **Land Reclamation and land Rehabilitation:**

  650 Dunums Heavy works activity performed by UAWC, LRC and ESDC consortium members, works include levelling (bulldozer, large and small hammer), retaining walls with a total of 40785 m^2 were built. Furthermore, cisterns were completed for selected farmers in the communities with a total capacity of 5,614 cm. in Parallel to that work 1,277 dunums fenced, more than 401 dunums of reclaimed land were ploughed and cleaned, 973 dunums are cultivated by seedling and 414 intercropping dunums planted by seeds.

- **Construction of agriculture roads:**

  The works for the opening, construction and rehabilitation of 72 km of agricultural roads were completed and handed over to the concerned local authorities and MoA accordingly and this will improve the access of farmers to their lands

- **Smart Land Reclamation through Demonstration Farms:**

  Three pilot demonstration farms are constructed. This is a pilot intervention that aims to seedless grapes which are characterized by early production.

- **Enhancing on-farm ISFM, soil productivity, IPM and plant productivity:**

  One hundred soil samples had been collected for farmers who benefited from previous phases of NRO land development project and soil analysis (soil texture, pH, EC, CEC, NPK, Ca, Mg, Na, CaCO3) were conducted in [redacted] soil laboratory with the standard analytical method. Studying both physical and chemical properties and correlation and analysis of soil properties with the soil fertility status by soil interpretation and Formulation recommendations for using fertilizer to improving the productivity towards prosperous agricultural development of soil fertility. Soil assessing for soil fertility to determine soil fertility levels and make appropriate nutrient management decisions, and fertilizer recommendations to increase yields, reduce production costs.

  And during that, for each soil sample information were collected by described the site name, soil depth, name of the farmer, past cropping, management history, and crops. In addition to the collection of production data from the farmer directly, and detection of the problems in the fields through personal observation as well as through questions. The results and recommendation of soil fertility and nutrient components were also circulated to some farmers, each according to his soil analysis.

More details on the study and its results are in the Annex # 3

Specific Objective 2 *"Improve efficient collective water resource management and increase inclusive access to water resources to enhance the productivity of the agricultural lands*

The main achieved activities in 2019 are:

- Improve efficient collective water resource management and increase inclusive access to water resources to enhance the productivity of the agricultural lands
  - Installation of 13,585 ML of irrigation networks and main Pipes to reduce the losses of the water and connect newly irrigated land. The pipes connected with the water sources.
  - 5 Circular, Steel reservoirs water tank with capacity 1000 m^3/tank are constructed to improve in the irrigation water management and improvement in the production of the crop.
  - 2 Circular, Steel reservoirs water tank with capacity 500 m3/tank constructed
  - 4 springs are rehabilitated
  - 10 composting units are distributed to the farmers
  - Install 2 solar energy systems for irrigation water pumping.

- [redacted]

  - Two filtration pits and did water filtration tests have been excavated. The tests revealed that filtration through the soil profile was slow and got steady after sort time, nearly 130 minutes.
  - The potential seepage area of the western edge of the dam lake has been excavated and realized that the conglomerate zone doesn't reach the lower elevation of the lake floor, we then covered the zone with clay and compacted it to ensure it is not causing seepage.
  - It is realized that the water intake in the dam lake is nearly clogged and filled with sedimentation. The level of sediments is almost 1.5 m already and therefore, we replaced the intake with a more reliable one.
  - It is still needed to install the logger to monitor the water level variation automatically.

A full study of the above accomplished activities is annexed # 5

Specific Objective 3 *"Working with different Stakeholders including the PA, consortium member organizations, and civil society organizations, to promote and lobby for an inclusive and sustainable Agricultural Policy.*

The main achieved activities in 2019 are:

1. Women Integration

In light of increasing the women role and involvement in Women Cooperatives as well as their role in the Palestinian society, the following activities have been accomplished in 2019:

- ***Women Committees**: 11 women committees have been formed in order to promote the right of inheritance.*

- ***Right to Heritance**:*
  - *60 sessions have been held with the participation of 314 women from different locations*
  - *3 campaign in this topic have been conducted in three governorates: [redacted]*
  - *Participating in the women campaigns to raise their awareness on inheritance rights, with the participation of more than 500 farmers*

- ***Advocacy & Lobbying Training for Women****: 362 women attended 160 training hours have in the field of Communication, Advocacy & Lobbying*
- ***Establishing a fair Selling price for water***
  Throughout the project life, many endeavours have been conducted in order to established a fair price for water. In 2018, a ministerial council decision number # 4[1] is approved regarding the bylaws of the Water Users Associations. This law, according to the head of the Palestinian Water Authority[2], contributes to the establishment of water price of water. Following this law, the law regarding the price of water is in its final stage of ministerial council approval. According to the head of the Palestinian Water Authority, it is expected to endorse this law by the end of the year 2020.

Component B: The Development of the Local Seed Bank, to help Palestinian farmers adjust to climate change and to preserve local genetic resources.

The main achieved activities in 2019 are:

- *46.5 dunums were selected and cultivated as reproduction units during 2019, geographically distributed between [redacted] for reproducing summer and winter crops, where about 20 crops were reproduced in sufficient quantities.*
- *Local seeds were provided to 123 LWRM program beneficiaries. More focus will be given to this activity in the coming seasons.*
- *601 male and female farmers were provided with summer and winter local seeds, bringing the total number of project beneficiaries to 1384 male and female farmers.*
- *TV spots were prepared and published for the winter season 2018-2019. A documentary film was prepared on the seed bank, and 13 awareness workshops were held for school students on local seeds and their importance in addition to 5 practical training sessions.*
- *2 new agricultural techniques were introduced to 2 agricultural women CBOs.*
- *Conducting an extensive field survey and mapping of local seeds: 5 items were collected during 2019 (beans, white micromeria, lettuce, garlic, thyme) and 4 during 2018 (chamomile, saffron, cucumber, parsley) which are important to collect, in addition to two items (carrots, sage) in 2017 out of 10 items required. 7 other items not highly requested*

[1] The law is available at the following link:
http://www.pwa.ps/userfiles/server/law/%D9%86%D8%B8%D8%A7%D9%85%20%D8%AC%D9%85%D8%B9%D9%8A%D8%A7%D8%AA%20%D9%85%D8%B3%D8%AA%D8%AE%D8%AF%D9%85%D9%8A%20%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87.pdf
[2] The interview was held on February 25, 2020 to discuss the Fair Price of Water project indicator.

were also collected these are: coriander, beets, cumin, Hedge Mustard, black carway, anise and Rocca.

- *Hedge Mustard, Lettuce, Garlic and thyme were all planted and reproduced.*

- *Eight new interns were trained at the Seed Bank and its units:*

- *13 master students' theses were followed. Defence sessions will be held for a number of student of the first group during this semester and the titles of the second group theses will be discussed for approval.*
- *4 staff members were trained at . " in the Netherlands.*

- *UAWC Head participated in a conference in France, and participated in a conference in Morocco in 2019.*

A detailed report of Seed Bank Achievement in 2019 is annexed # 4

Component C: The Socio-Economic and Food Security (SEFSec)

- The first round of the survey was conducted by PCBS, and the results were delivered to MAS to prepare the study
- The final draft of the analytical study is delivered by MAS.
- The second survey 2020 is expected to start on March 2020, and the Data Analysis is expected to be finalized by PCBS by August, 2020

Project Mid-term Review

For the purpose of reviewing the project interventions and achievement so that providing feedback & recommendations as well as generate knowledge, identifying the lessons learned & best practices, and sharing them with the partners, a mid-term project review was conducted by 2 external evaluators for the period from April-June, 2019. The report results were considerably positive that were presented and discussed with project partners during the steering committee meeting, in October 2019.

8. Project Achievement Against the Ministry of Agriculture Strategic Plan 2017-2022

#	Strategic Indicator	Unit	Target	The Project Contribution	%
	Strategic Objective II: Natural and agricultural resources sustainably managed and better adapted to climate change				
1.1	Volume of water available to farmers and livestock breeders from traditional and non-traditional sources increased and more efficiently managed.				
1	Water wells constructed	Cistern	1,693	284	17%
2	Agricultural pools and tanks constructed	Pool	55	18	32%
3	Water transmission and distribution systems, as well as water treatment systems constructed.	ML	76,000	24,585	32%
6	Irrigation canals created	Canal	3	8	267%
1.2	Area of land cultivated or protected from degradation expanded annually.				
1	Lands rehabilitated and reclaimed.	Donum	13,000	2,615	20%
2	Retaining walls built.	M2	350,000	123,357	35%
3	Seedlings of fruit trees have been planted	Seedling	4,000,000	38,349	1%
6	Training courses implemented in the field of agricultural land rehabilitation andits evaluation, as well as in use of fertilizers and soil fertility.	Session	6	102	1693%

#	Strategic Indicator	Unit	Target	The Project Contribution	%
1.3	Farmers across all governorates access their lands and water resources easily and freely.				
1	Agricultural roads of 6 meters width opened and spread with needed materials	KM	114	270	236%
5	Side channels constructed.	M	2,700	Already included in the open road deliverables	
6	Concrete culverts installed	culvert	72		
1.4	Administrative and technical procedures that enhance the management of and protect designated agricultural lands (including forests, rangelands, and natural reserves) adopted and enforced by governmental organizations and local authorities.				
2	Land suitability map on a scale of 1/10000.	Map		1	
3	Land use map for the study area, on a scale of 1/10000.	Map	1	1	100%
1.5	Climate-smart and adaptive, biodiversity-protecting and desertification-combatting agricultural policies and technologies promoted and enforced.				
7	Seed conservation and extraction units established	Unit	1	1	100%

#	Strategic Indicator	Unit	Target	The Project Contribution	%
Third strategic objective: Increased agricultural production, productivity, and competitiveness in local and international market, along with their contribution in gross domestic product and food security					
2.1	Agricultural production technologies, cultivars and dynasties used by farmers and producers improved.				
8	Agricultrual Demonstrations	Demonstration	42	9	21%
9	Agricultural bulletins prepared and disseminated.	Bulletin	15	2	13%
16	Local Seeds Reproduction produced new varities	Variety	20	10	50%
2.3	Cost of agricultural production, in both plant and livestock sub-sectors, is more competitive.				
3	Demonstration conducted compost	Demonstration	50	10	20%
Fourth strategic objective: Female and male farmers and entrepreneurs access quality agricultural services needed for increasing value along agricultural value chains improved.					
4.1	Agricultural extension and veterinary services, research, insurance and financial services, as well as business development services continuously developed and expanded.				
12	Officer trained in field crops and seed production	Person	45	14	31%

9. Achievement of Project Results

9.1. Summary of Main Outputs Progress

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Overall Objective 1: Improve sustainable access and management of land and water resources for food production of Palestinian agricultural producers, including smallholders, and their organizations, and promoting women's land rights.							
Result 1.1. | **Land Reclamation**	dunum	2,000	418	1,963	98%	36.94	2%
Stone Retaining walls	m²	140,000	47,997	123,357	88%	16,643.18	12%
Cisterns	m³	16,000	5,260	15,601	98%	399.04	2%
Result 1.1. | **Land Rehabilitation**	dunum	1,000	237	652	65%	347.99	35%
Result 1.1. | **Water harvesting techniques**	dunum	600	0	600	100%	0.00	0%
Result 1.2. | **Agricultural Roads**	km	300	73	271	90%	29.42	10%
Result 1.3. | **Enhancing on-farm ISFM, soil productivity, IPM and plant productivity**							
Studying Soil Fertility and Crop Requirements	sample	100	47	100	100%	0.00	0%
Crop suitability map	dunum	200	195	195	98%	5.00	3%
Establishing 4 experimental pilots with 100 dunum	pilot	4	4	4	100%	0.00	0%
Training for Beneficiaries Farmers	Session	150	210	210	140%	0.00	0%
Result 1.4. | **Integrate climate change principles, practices and establish a knowledge exchange platform**							
Conducting environmental awareness and practical training for farmers, University students and volunteers	hr	480	262	432	90%	48.00	10%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Training on Organic Agricultural Farming, Breeding and Pruning of trees.	hr	200	38	98	49%	102.00	51%
Support Master Level university students who want to do research in the field of ISFM, Climate change, IPM and other topics relevant to the agricultural	study	8	5	5	63%	3.00	38%
Smart Land Reclamation through Demonstration Farms (seedless grapes), climate change smart management	Farm	3	3	3	100%	0.00	0%
Watershed Management (Stone Block constructions, Retaining wall, Machinery work activities)	dunum	1.000	0	1.000	100%	0.00	0%
Overall Objective 2: Improve efficienct collective water resource management and increase inclusive access to water resources to enhance the productivity of the agricultural lands							
Result 2.1. | **Increase Availability of Water Resources**							
Install (33,000) m of Irrigation networks and Supply Pipes	m	33.000	15.585	24,585	75%	8.415.00	26%
Online booster water pumps for irrigation purposes	unit	8	3	7	88%	1.00	13%
Construct (6) Circular, Steel Balance Water Tank with capacity 1000 m3/tank	tank	6	5	6	100%	0.00	0%
Construct (9) Circular, Steel Balance Water Tank with capacity 500 m3/tank	tank	9	2	5	50%	4.50	50%
Rehabilitaion (8) springs	spring	8	4	8	100%	0.00	0%
Rehabilitation / construction of 4 earth ponds with capacity 1500 m3 each	pond	4	0	4	100%	0.00	0%
Rehabilitation / construction (20) Cisterns (200 m3 each)	cistern	20	5	17	85%	3.00	15%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Result 2.2. | **Implement innovative irrigation technologies, while using opportunities for using renewable energy sources**							
Install 3 solar energy system for irrigation water pumping	unit	4	1	4	100%	0.00	0%
Construct artificial groundwater recharge wells	well	2	0	2	100%	0.00	0%
Establish a Learning Space for Solar Energy Use in Water Pumping for User Association	Unit	1	0	1	100%	0.00	0%
Operating rain-fed cisterns with mobile Solar energy	Unit	3	0	3	100%	0.00	0%
Create 30 Units for compost use	Unit	30	10	10	33%	20.00	67%
Result 2.3. | **Improve technical and financial management of water resources by different stakeholders.**							
supply farmers with tools and equipment for irrigation water scheduling and	Tool	80	0	80	100%	0.00	0%
Conduct training for farmers and stakeholders Water Resource Management, Water Efficiency, Optimum use of water, and crops requirement	hr	200	0	200	100%	0.00	0%
Overall Objective 3: Working with different Stakeholders including the PA, consortium member organizations, and civil society organizations, to promote and lobby for an inclusive and sustainable Agricultural Policy.							
Result 3.1. | **Lobbying and advocacy activities are conducted to promote farmers rights and environmental awareness**							
Volunteer work, Awareness campaigns and celebrations are conducted annually to commemorate Land Day, Environmental Day, Womens Day and	day	4	2	4	100%	0.00	0%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Conducting an annual conference for all farmers leaders and setting strategic priorities for farmers	Conference	4	1	3	75%	1.00	25%
Provide legal assistance for farmers through the collaboration with a lawyer	Days	240	167	250	104%	0.00	0%
Help 100 marginalized farmers in area C register their land	farmer	100	6	66	66%	34.00	34%
Raise the Awareness of farmers in area C for the importance to register their land	Campaign	1	1	1	100%	0.00	0%
Conduct annual Summer camps for youth to raise their awareness on environmental issues	Campaign	4	1	3	75%	1.00	25%
Result 3.2. | **Build the capacity of consortium member organizations**							
Upgrading Partner organizations in ISO 9001/ 2015 through capacity building	system	1	0	0	0%	1.00	100%
Certified Internal Auditor training/ one from each institution	training	4	0	4	100%	0.00	0%
Conduct training of trainers for partners and Organizations (ToT) related to (soil conservation and management, Water Harvesting Tech., Farm	training	3	0	3	100%	0.00	0%
Providing the Partner organizations with electronic archiving system	Institution	4	0	4	100%	0.00	0%
Gradually transferring the Partner organizations into electronic Project Management and M&E System	System	1	1	1.00	100%	0.00	0%
Result 3.3. | **Help Women Claim their rights in Land ownership**							
Community Level awareness raising sessions on women's rights	session	40	28	60	150%	0.00	0%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Train Women in local communities on Advocacy and Communication Skills	hr	150	93	160	107%	0.00	0%
Help Women in local communities share their experiences and encourage other women to claim their inheritance rights by creating women solidarity	Group	15	11	11	73%	4.00	27%
Women Solidarity Groups conduct Campaigns in their local communities to advocate for women land rights	campaign	5	3	3	60%	2.00	40%
Result 4.1. | **Local seed bank is able to conserve and breed local seed verities in sufficient Quantities to meet local demand**							
Upgrade breeding and reproduction units to improve local seeds	nursery unit	1	0	1	100%	0.00	0%
Renting 30 dunums annually for two seasons	dunum	100	50	95	95%	5.50	6%
Develop The existing Laboratory and Storage Units at UAWC's seed bank	unit	1	0	1	100%	0.00	0%
Equippe the drying unit at the local seed bank	unit	1	0	1	100%	0.00	0%
Establish a new support unit of the local seed bank in the North of the West	branch	1	0	1		0.00	0%
Result 4.2. | **Plant 5000 Donums with Rain fed local Seeds**							
Provide 300 Farmers and beneficiaries of LWRM program with training on intercropping techniques and Management of Local Seeds	benef.	300	124	174	58%	126.00	42%
Distribute Local Seeds to 1000 Beneficiary Farmers	benef.	1,000	830	1,292	129%	0.00	0%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Result 4.3. | Promote The Use of local Seeds among Farmers							
Conduct an Awareness raising Campaign on Local Seeds, and the importance of local seeds							
Workshop	workshop	20	7	24	120%	0.00	0%
Radio & TV spots	spot	7	0	7	100%	0.00	0%
# of reached participants (disaggregated by Gender)	publication	4	2	2	50%	2.00	50%
Introduce new agricultural techniques through two pilot projects for small scale farmers and women CBOs							
Numbner of Pilot Projects	project	2	1	2.0	100%	0.00	0%
Result 5.1. | Introduce new seeds for preservation to increase the available options for local farmers							
Extensive field survey and mapping of local seeds is done	survey	10	6	10	100%	0.00	0%
Testing, reproducing and preserving identified crops to be available for	crop	10	4	8	80%	2.00	20%
Result 5.2. | Cooperation with Local academic institutions is strengthened							
Provide internship for 15 agronomist graduates in the Seed Bank's Units	graduate	15	5	14	93%	1.00	7%
30 Masters Students Receive with dissertations relevant to local crops	student	30	15	28	93%	2.00	7%
30 academic papers on issues relevant to local seeds are produced	paper	30	0	0	0%	30.00	100%
Result 5.3. | Capacity Building							
Number of Trainees (external participation)	trainee	15	3	13	87%	2.00	13%

Action	Unit	Overall Planned until December 2020	Accomplished in 2019	Actual Progress until December 2019	% of acheivement	Remaining	%
Number of internal days training	day	5		2	40%	3.00	60%
Participate in international and national conferences and workshops on local seed preservation and production	participant	9	2	9	100%	0.00	0%
Result 5.4. | Produce Morphological classification manual for local crops							
Produce Morphological classification manual	manual	1		0.3	25%	0.75	75%
Conduct 2 Workshops to discuss the draft manual on Local crops morphology and promote the manual among agronomists	workshop	2		0.0	0%	2.00	100%
Designing and print the manual	copy	2,000		0.0	0%	2,000.00	100%
Objective 6 | To provide data related to the food security situation in Palestine at household level, in continuity with the previous surveys, allowing trend analysis.							
SEFSEC Survey first round for 2018	survey	1	1	1.0	100%	0.00	0%
SEFSEC Survey second round for 2020	survey	1	0	0.0	0%	1.00	100%
Conducting a Workshop & Conference	event	1	0	0.0	0%	1.00	100%
Potato Trails	lumpsum	1	0	0.0	0%	1.00	100%
Overal M&E							
Socioeconomic Study and Description for Activities	studies	20	0	0.0	0%	20.00	100%

9.2. Project Results Achievement against results indicators

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
Overall Objective I: Land & Water Development						
Result 1.1: Conduct land development and land reclamation initiatives for 3000 Donums						
Indicators						
3000 dunums benefited from the leveling/ machinery work	dunum	3,000	2,615	87%	385	13%
150,000 meter square retaining walls built	m^2	150,000	123,357	82%	26,643	18%
12,000 cubic meters communal cisterns	m^3	12,000	16,045	134%	0	0%
3,000 dunums ploughed	dunum	3,000	1,968	66%	1,032	34%
3,000 Dunums Cleaned	dunum	3,000	1,625	54%	1,375	46%
3,000 dunums Planted With Seedlings	dunum	3,000	1,109	37%	1,891	63%
1,500 Donums Planted With Intercropping seeds	dunum	1,500	683	46%	817	54%
3,000 Donums Fenced	dunum	3,000	1,579	53%	1,421	47%
50,000 Working Days are created through the implementation	day	50,000	43,774	88%	6,226	12%
Total number of beneficiaries for each activity	benef.	NA	345			
Total number of beneficiaries for each activity (Male)	benef.	NA	310			
Total number of beneficiaries for each activity (Female)	benef.	NA	35			
6 donums on Average are ready to be planted per household	dunum	6	8	126%	0	0%
100% of Reclaimed land has access to Water Resources (Wells, Springs, and irrigation systems)	dunum	2,000	1,963	98%		
Result 1.2: Opening agricultural roads to improve access to agricultural lands						
At least 300 KM newly opened agricultural roads	km	300	271	90%	29	10%
30,000 dunums have new access by the newly opened roads	dunum	30,000	38167.32	127%	0	0%
12,000 working days are created (disagregated by gender)	day	12,000	5,513	46%	6,487	54%
Total number of beneficiaries for each activity	benef.	NA	9,863			
Total number of beneficiaries for each activity (Male)	person	NA	8,266			
Total number of beneficiaries for each activity (Female)	person	NA	1,597			

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
Result 1.3: Enhancing on-farm ISFM, soil productivity, IPM and plant productivity						
Number of farmers who received training.	benef.	0	56			
Number of farmers who received training. (Male)	benef.	NA	56			
Number of farmers who received training. (Female)	benef.	NA	0			
Number of guidance visits by agricultural engineers to farmers	visit	100	0	0%	100	100%
Result 1.4: Integrate climate change principles, practices and establish a knowledge exchange platform						
Number of Training hours	hr		530			
500 farmers, studnets and volunteers received training.(disagregated by gender)	benef.	500	421	84%	79	16%
farmers, studnets and volunteers received training (Male)	benef.	NA	206			
farmers, studnets and volunteers received training (Female)	benef.	NA	215			
1000 donums which benefited from Watershed Management	dunum	1,000	1,000	100%	0	0%
8 studies conducted	study	8	5	63%	3	38%
Smart Land Reclamation through Demonstration Farms (seedless grapes), climate change smart management	Farm	3	3	100%	0	0%
Result 2.1: Increase availability of Water Resources through the installation of main water pipes, construction of steel water tanks, rehabilitation of springs...etc. tp provide inclusive access to water resources for marginalized communities.						
Number of cubic meters of water provided	m^3	NA	25,215			
Price decrease in water costs						
Number of farmers benefited from enhanced agricultural water systems (disagregated by gender)	benef.	NA	824			
Male	benef.	NA	660			
Female	benef.	NA	164			
Number of dunums benefited from the new access of water supply systems	dunum	NA	3,274			
Number of working days created (disagregated by gender)		NA				
Male	day	NA	1,788			
Female	day	NA	0			

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
Result 2.2. | Implement innovative irrigation technologies, while using opportunities for using renewable energy sources						
Number of farmers benefited per type of initiative (F/M)	benef.	NA	491			
Male	day	NA	423			
Female	day	NA	68			
Number of dunums benefited per type of initiative	dunum	NA	1,932			
Number of workdays created (disagregated by gender)	day	NA	1,424			
Male	day	NA	1,396			
Female	day	NA	28			
Quantity of Compost produced.	compost	30	10	33%	20	67%
Quantity and value of Electricity Produced	kw	NA	825			
Quantity of Harvested Water	m^3	NA	0			
Water User Associates are able to manage the water supply systems effectively						
Result 2.3. | Improve technical and financial management of water resources by different stakeholders.						
Water User associations display an understanding of Key Financial and operational issues.						
# of farmers supplied with equipment (F/M)	day	NA	175			
Male	day	NA	125			
Female	day	NA	50			
Result 3.1. | Lobbying and advocacy activities are conducted to promote farmers rights and environmental awareness						
5 issues concerning farmers lobied with the government to take action on.	issue	5	2	40%	3	60%
40 Farmers committees are established in different areas.	committee	40	76	190%	0	0%
At least 70% of Farmers committees participate in the conference.	committee	28	76	100%	0	
At least 30% of the farmers committees are women	committee	12	26	34%		
40 new localities entered in the database	locality	40	31	78%	9	23%

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
Help 100 marginalized farmers in area C register their land	farmer	100	66	66%	34	34%
Result 3.2. | Build the capacity of consortium member organizations						
Number of trainings conducted.	training	NA	17			100%
Evaluation of Each training.	result	NA	Satisfied			
Transfer of partners into Electronic management and M&E sytem	action	1	1			
All partners are upgraded to ISO 9001/2015	adopted	4	0	0%	4	100%
All partners reduce their paper work by at least 40%	electronic	40%	50%			
Result 3.3. | Help Women Claim their rights in Land ownership						
500 Women Targeted with sessions.	women	500	640	128%	0	0%
20 Women Solidarity Groups formed.	group	20	11	55%	9	45%
25% of targeted women claim their land rights after the training	claim	125	345	276%		
Overall Objective II - Seed Banks						
Result 4.1. | Local seed bank is able to conserve and breed local seed verities in sufficient Quantities to meet local demand						
# of Local Seeds that are well preserved.	seeds	10	45	450%	0	0%
# or Weight of Each Kind of Seed Provided for local farmers	weight	NA	20			
Quality of Preserved seeds According to conservation standards.	(1-5)	NA	4			
Result 4.2. | Plant 5000 Donums with Rain fed local Seeds						
# of Trained Farmers (disaggregated by Gender)	farmer	300	17	6%	283	94%
Male	farmer	NA	16			
Female	farmer	NA	1			
Knowledge of farmers in Local Seeds management and farming	(1-5)	NA	Excellent			
# of Beneficiaries (Disaggregated By Gender)						
Male	benef.	NA	909			
Female	benef.	NA	475			

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
# of Donums Planted	dunum	5,000	6,263			
Productivity Per Donum	KG/dunum	NA	Results are not available now			
Quantity of Produced Seeds.	KG	NA	1,500			
Result 4.3. | Promote The Use of local Seeds Among Farmers						
# of reached participants (disaggregated by Gender)	participant	NA	894			
Male	participant	NA	169			
Female	participant	NA	725			
Knowledge of participants on the Importance of Local Seeds, and the Dangers of Synthetic Biology and GMO's	(1-5)	NA	4			
# of Beneficiaries (disaggregated by Gender)						
Male	benef.	NA	0			
Female	benef.	NA	33			
Productivity of new agricultural Techniques	(1-5)	NA	Results are not available now			
Local Seed Bank achieves 5 Tons of Produce Sales	ton	5	Results are not available now			
Local Seeds Bank achieves 700 Kg of Seeds Sales	kg	700	290	41%	410	59%
Local Seeds Bank Achieves 150,000 Seedlings Sales	seedling	150,000	4,400	3%	145,600	97%
Result 5.1. | Introduce new seeds for preservation to increase the available options for local farmers						
# of new Local Seeds that are Identified.	seed	NA	10			
At least 70% of New Local Seeds are well preserved in Local Seed Bank	seed	7	20			
Result 5.2. | Cooperation with Local academic institutions is strengthened						
15 Agronomists are trained (at least 60% Female)	agrnimist	15	14	93%	1	7%
Male	benef.	6	3	50%	3	50%
Female	benef.	9	11	122%	-2	-22%

	Project Plan		Achieved	%	Remaining	%
	Unit	# of Unit				
30 Masters Students are supported (at least 60% Female)	student	30	28	93%	2	7%
Male	benef.	12	11			
Female	benef.	18	17			
30 academic papers on issues relevant to local seeds are produced	paper	30	1	3%	29	97%
New Specialization is Accredited by MoEHE	program	1		0%	1	100%
Result 5.3. | Capacity Building						
# of trainings Conducted.	training	NA	4			
# of Trainees (disaggregated by gender)	trainee	NA	13			
Male	benef.	NA	6			
Female	benef.	NA	7			
# of Trainees who pass the Post Test	trainee	NA	0			
Result 5.4. | Produce Morphological classification manual for local crops						
A Morphological classification manual is produced covering at least # verities of local crops	manual	1	0	25%	1	75%
2 Workshops are conducted and the recommendations of the Workshops are incorporated into the manual	workshop	2	0	0%	2	100%
# of copies of the manual that are circulated	manual	NA	0			
Overall Objective III - Food Security						
Objective | To provide data related to the food security situation in Palestine at household level, in continuity with the previous surveys, allowing trend analysis.						
The Underpinning Causes of Food Security are Identified	study	NA				
Data Related To food Security on the HH level are provided	study	Na				

10. Assessment of Project Partner Performance

Assessment Performance Indicators

The performance of the project partners, including PHG, LRC and ESDC, is evaluated based on the following five criteria:

1. The qualification of the project team
2. The quality of the deliverables
3. The quality of the delivered reports
4. Following-up with sub-contractors & farmers
5. The efficiency in conducting the project activities
6. Commitment & readiness to the monthly technical meeting

Assessment Methodology

The assessment passed two major steps; they are:

- Discussing the 5 performance indicators against the partner's performance,
- Reviewing the comments of the Monitoring & Evaluation Officer

Assessment Findings Against the Performance indicators

1. The Qualification of the Project Team

PHG: The PHG team including the technical officer and supervisors are qualified enough, specifically in the water field of work, in conducting the allocated interventions and activities. However, the PHG team don't have enough experience in following-up performing the agricultural roads component.

LRC: The LRC team including the technical officer and supervisors are qualified enough, specifically in the Soil Analysis, preparing the Soil Erosion Risk Map, Crop Suitability, as well as in the field of reclamation, rehabilitation, agricultural roads components. However, LRC doesn't have a specialized team in the field of water.

ESDC: The ESDC team including the technical officer and supervisors were not qualified enough in conducting the allocated activities, more specifically in the reclamation, rehabilitation as well as in agricultural roads. However, the ESDC team was qualified in Solar Energy Use in Water Pumping and Mobile Solar Energy.

2. The Quality of the Deliverables

3. The Quality of the Delivered Reports

By the end of each month, project partners deliver monitoring reports that include all achievement of the project deliverables and expenses in figure basis. Besides, a technical report is delivered. The report included the following titles: the status of the schedule, Lesson Learnt, Best Practices, Challenges, Risks Responses, Israeli Violations, Success Stories, Potential Effectiveness of the Project, Potential Sustainability, Recommendations

In overall, the project partners delivered the monitoring reports on quality and on time. However, the institutions don't give an in-depth analysis of the potential effectiveness, impact and sustainability so that supporting the Project Management Unit in taking the right preventive and corrective action on time. Therefore, PMU tries to analyze the potential effectiveness, impact and sustainability through the partners' feedback during the monthly technical meeting, the discussion with partners during the field visits, as well as through the monitoring visits reports, conducted by the project M&E officer.

4. **Following-up with sub-contractors & farmers**

Background

Under a fully supervision & follow-up of the project team, around 40% of the project budget is allocated for external sub-contractors, and about 25% is paid to the farmers to cover different expenses of reclamation and rehabilitation actions. This considerable work requires intensive monitoring and following-up by the field supervisors.

5. **The efficiency in conducting the project activities**

In overall, all partners conducted the project activities efficiently. In other words, the activities are completed in less time & costs.

6. **Commitment & readiness to the monthly technical meeting**

In overall, all partners attended all technical meeting altogether. During these meeting sessions, all partners presented the progress, challenges; lessons learned, best practices, as well as discussing the upcoming actions.

Project Lessons Learned | Best Practices | Challenges | Risks | Israeli Violations | Recommendations | Success Stories

11. Main Lessons Learnt

The Lessons Learned	Description	Recommendation for the Future
Notifying the external contractors about our estimation for the project lose to avoid withdrawal	*For external out-sourced activities, we usually accept the lower financial offer that meets the required acceptance criteria. Some of the financial proposals we have received are under the actual costs, according to our estimation, that caused an actual financial loss for the external contractor. In this case, we accept the offer as it is the lowest, but finally, we made great efforts to follow-up and keep the contractor completing the work as required.*	*Our recommendation is to NOTIFY clearly to the subcontractor about the potential loss and that the actual estimation is under the financial proposal. Therefore, the contractor can decide either to continue or to withdraw. Another Recommendation in this regards is not to accept any financial proposal that is under the actual expenses and reasonable profit. This will protect the project from delivering the work with low quality and saving the team efforts and follow-up time.*
The Actual Costs of Cisterns & Pumps are higher than allocated	*Due to price increasing and lack of workers, the allocated budget of the Cisterns & Water Pumps is lower than budget allocations. This resulted in over expending.*	*Increasing the financial allocations for Water Cisterns & Pumps in the future*

A more contribution role of the Local Municipality Council in coordination between farmers	*Currently, and under the full supervision of the project team, farmers are for carrying out some tasks including land levelling, ploughing, cleaning, building retaining walls, etc. therefore, farmers may individually contract external suppliers to do some of these work. In this case, some farmers don't have a list if the best external suppliers (in terms of credibility, efficiency, costs, etc..).*	*Farmers recommend giving a more responsibility role for the local Municipality Council in their village so that help in coordinating and selecting the best individual contractors to deliver the work efficiently and with the required specification.*
The high costs of Reclamation interventions	*The reclamation intervention costs, in comparison with its benefit, is high at the expenses of other interventions.*	*It is recommended to identify most efficient reclamation interventions with lower costs and efforts. Besides, the community co-financing for the reclamation may be increased to be not less than 30-40% in the next phases*
Sub-contracting Restrictions	*Currently, specifically in the Contract Agreement, no legal item restricts the sub-contracting regulations; therefore, the external contractors have the right and flexible to sub-contract any other contractors.* *In this case, the project team are more preoccupied in ensuring the quality of the sub-contractors so that achieving the work within the required acceptance criteria and specifications*	*It is recommended to include a clear statement in the Contract Agreement, asking from the main contractor to disclose clearly and getting approval on all other sub-contractors with whom the main contractor will work with, within the Contract scope of work.*

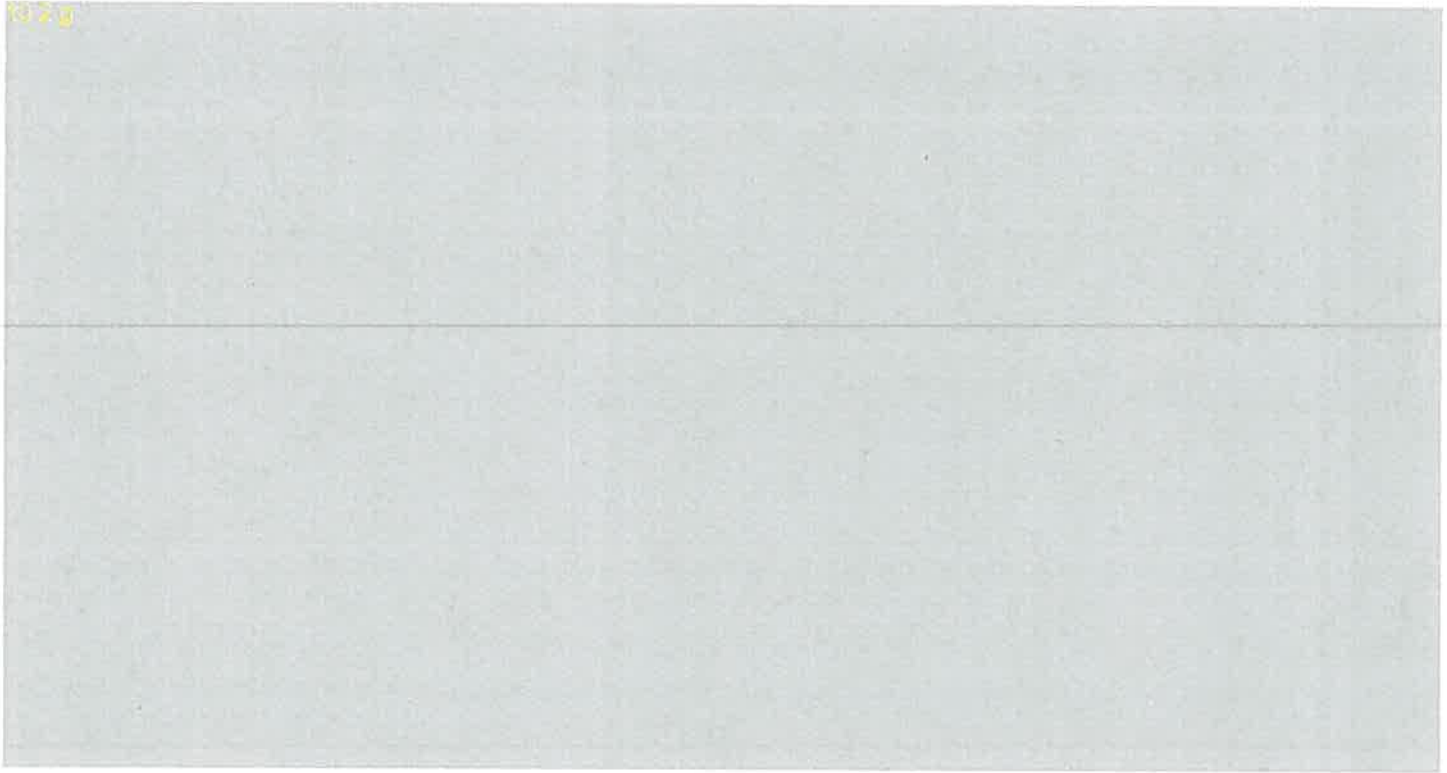
12. Main Best Practices

Title Best Practice Title	Description
Collective Reclamation vs Individual	*Even we are working on a collective basis and coordinating with Agricultural Committees; we found out that the individual reclamation agreement with individual beneficiary farmers is more efficient than the collective approach in terms of following-up and beneficiary commitment. While the involvement if the Municipality council in the process is recommended.*
Community Co-financing Contributes lead to more project Sustainability & Ownership	*Even the community contribution is already stated in the Grant Agreement document; we would emphasize this crucial practice that guarantees the seriousness and committeemen of the beneficiary, that will, in turn, contribute to keeping this project more sustainable.*
Steal Tank Roof vs Polyester	*We recommend roofing the water tanks with steal ceiling instead of polyester as the later one is more adaptive to the climate change and more lifespan*
Solar-Powered Water Pump Systems is an effective and efficient practice	*We found that the pilot Solar-Powered Water Pump Systems that we have installed in many locations are very efficient and effective practice and contributed to unintended positive impact at the community. We recommend expanding the practice in other places in Palestine.*
Customized Reproduction Unit	*From the Seeds Bank experience, the creation of a specialized seed reproduction unit that is customized for each seed type is a recommended practice.*
Various ways of Seeds Extraction & Separation	*From the Seeds Bank experience, found that each seed has a unique and different way for extraction and separation. Following the right way will result in producing seeds with more quality and in less time and efforts.*
Excellent Selection of Seeds Bank Intern leads to Good Results	*At the Seeds Bank, high-level criteria were followed to select the interns. Therefore, the interns were highly qualified in conducting the required assignments*

13. Main Challenges

Lack of Expertise in the Seeds fields	*Palestinian Local Market*	*The Seeds Bank faced considerable challenges in finding qualified experts in many seeds field of expertise.*

14. Main Risks Responses



15. Main Israeli Violations & Aggressions

15.1. Stop-Work Order, and to damage all established properties

Date	Governorate	Location	Description
January 13, 2019			A stop-work order was issued to continue working on an Agricultural Road, and to damage the opened road
February 11, 2019			A Stop-work order were issued to continue working on cistern building, retaining walls, and planting seedlings. The order includes damaging all the mentioned properties.
February 19, 2019			A stop-work order was issued to continue working on the Agricultural Road. The order includes damaging all the mentioned properties.
September 24, 2019			An oral stop-work order was issued to continue working on the Agricultural Road by Israeli settlers & Israeli soldiers.
December 4, 2019			The Israeli Archaeology Authority gave the contractor a stop-work order and another order to demolish the wall and the pool umbrella that the project built.

15.2. Violence & Aggressions & Properties Confiscation

Date	Governorate	Location	Description
January 7, 2019			50 olive seedlings were chopped down
June 11, 2019			Parts of the opening road was damaged by the Israeli authorities. Later on, the farmer recover the damaged parts and open it again.
September 19, 2019			On area of 68 donums, the settlers installed again an iron gate at the entrance of the land. The farmers removed it again but they expected that settlers will come back again to remove it.
October 20, 2019			Oral warning by Israeli settlers to prevent farmers from working in the reclaimed land while they were building their retaining walls in the reclaimed land.

16. Main Success Stories

Governorate	
Project Intervention	☒ Agricultural Road
Description	- The location, where the agricultural road was opened, became as touristic circuits for the residence of the surrounding villages and other places. - Some of the landowners, where the agricultural road was opened, became encouraged to start to rehabilitate and reclaim their land around the opened roads and covering their expenses.

Governorate			
Specific Location	10 2 g	**Project Intervention**	☒ Agricultural Road
Description	- Through opened road, the uncontrolled disposal of waste was stopped. This location was an unhealthy place that caused different diseases specifically the cancer		

Governorate	
Specific Location	10 2 g **Project Intervention** ☒ Land Reclamation
Description	10 2 g was threatened by confiscation by Israeli authorities; specifically, it is located alongside the surrounding settlement. According to the technical estimation, the land was significantly unable to be reclaimed due to the high rate of rocks. The project team decided to protect the land and reclaim it. Now the land is not only reclaimed, and it became high-value crops (cash crops). It was planted with different crops such as Avocado, Annona, Citrus, Almond trees, and Guava trees). Over and above, new families became encouraged and started to reclaim their lands and plant it due to this success story.

Seed Bank Component

Project Intervention	☒ Produce new local seeds
Description	New different local verities have been produced by the Seeds Banks including Local Black Carrot, Local White Cucumber, Local Yellow Lettuce, etc..

Project Intervention	☒ Produce new medical seeds
Description	through this project, new medical seeds have been produced by the Seeds Banks

17. Main Recommendations

Based on the project experience and monthly reports as well as the discussed points during the monthly technical meeting and steering committee meetings, here a list of recommendations for the next phase of the project.

More Innovative & Efficient Interventions in the future

Even though the various current interventions have high potential to achieve short-term outcomes and long term impact & sustainability, the project team recommend considering different innovative & efficient interventions in the future, including the reclamation interventions and others.

Operational Recommendations:

Minimizing the actual supporting documents for the land development intervention

Regarding the Land reclamation interventions, and specifically the required supporting official documents, more precisely the "Ownership Document" that each beneficiary shall present, it is recommended to consider an official document, issued by the Palestinian Authorities supported by Municipality / Municipality Council, as sufficiently reliable proof to proceed with the land development actions. It should be emphasized that some "ownership Document" needs a lot of time and efforts to be issued by different authorities. Besides, and regarding the rehabilitation interventions, only an official document, issued by the Municipality / Municipality Council is enough to for the intervention.

Contribution of Agricultural Road is guaranteed ahead

For the efficiency, and based on some cases the project faced when the beneficiaries cancelled the financial contribution, it is recommended to ensure the community contribution before any preparatory actions so that saving the time and efforts.

More restrictions on the sub-contracting procedures in the Contract Agreement
As some sub-contractors, who work on behalf of the main contractor, were not evaluated by the bidding committee, and therefore the team invest considerable time and efforts to follow-up with them to achieve the deliverables in compliance with the required specification and acceptance criteria, it is recommended to include a clear statement in the Contract Agreement, asking from the main contractor to disclose clearly and getting approval on all other sub-contractors with whom the main contractor will work with, within the Contract scope of work.

Annex

- (1) Map of Targeted Location
- (2) Socio-Economic Study of the Project
- (3) Study on Enhancing on-farm ISFM, Soil Productivity, IPM and Plant Productivity
- (4) Seeds Bank Main Achievements
- (5) 10.2.g Study
- (6) Sample Photos of Photos of Project Interventions & Success Stories

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Annex (2)

Socio-economic Impact of the Project

Introduction

Among various project indicators at specific & overall objectives level, direct beneficiaries and different stakeholders were interviewed, different sites were visited in randomly selected 15 locations in 6 Palestinian governorates to study the socio-economic impact of this project.

Audio and video registrations, as well as photos of the visited locations, are available with PMU once requested.

17.1. Selected Indicators

In addition to the following indicator, the project focus on studying the impact level either intended and unintended consequences of this project

- *% increase in productivity in the targeted lands*
- *% increase in HH average income*
- *# of workers & created working days*
- *reduction % in time, costs and resources for access to lands through agricultural roads*
- *Establishing a fair Selling price for water*
- *increase in the ratio of women who claim their inheritance rights in the targeted areas*
- *% of beneficiaries who are aware and able to use new sustainable methods for ISFM, IPM and adaptive to climate change techniques*
- *# of Local Seeds identified & Productivity of Local Crops*

17.2. **The selected locations are**

Governorate	Location Ref. #	Locations	Type of Intervention	Date of Interview & Visit
	1		Agricultural Road	February 18, 2020
	2		Well Rehabilitation & Land Rehabilitation	February 18, 2020
	3		Water Harvesting	February 18, 2020
	4		Seeds	March 11, 2020
	5		Land Reclamation	March 11, 2020
	6		Land Reclamation	March 11, 2020
	7		Land Reclamation	February 20, 2020
	8		Land Reclamation & Agricultural Road	February 20, 2020
	9		Land Reclamation & Agricultural Road	February 20, 2020
	10		Water Springs Rehabilitation	February 25, 2020
	11		Water Network & Steel Tanks	March 12, 2020
	12		Meeting with Women to discuss the Heritance Rights	March 19, 2020
	13		Land Reclamation	March 3, 2020
	14		Agricultural Road	March 3 2020
	15		Solar Panel & Water Network	March 9, 2020

17.3. The Study Findings

17.3.1. Land Development & Protection & Productivity:

1. **% increase in productivity in the targeted lands & % increase HH average income**

   As the real productivity of the lands need between 3-4 years, all the visited recalaimed and rehabilitated lands have high potential of productivity as interviewed farmers have already planted them, while some of lands became actually productive, specifically from the intercropping, as confirmed by the interviewed farmers. The Women Society of 10.2.a is now benefitting from the production of the rehabilitated lands & Thyme seedlings their receive from the project. They started to sell the Thyme (Za'atar) production and use it in their income-generating restaurant on which 13 women depend financially to help their families. 10.2.e confirmed that his monthly revenue, from the small shop, the only income source for the family was only 1,500 ILSm while the monthly income doubele.

2. **Protected & Exploited Lands**

   According to the Israeli law, the land that is not exploited and not used by its owner/s for more than 10 years, it will be transferred to a State Lands, in other words, it is actually confiscated by the Israeli authorities. On the other hand, the lands that are bordering the Israeli settlements are also exposed and threatened to be confiscated by the settlers. By the land development interventions, the lands became more exploited by the beneficiaries than before, and then more protected from confiscation orders. 10.2.g that was a military area, is an example, of who the project intervention help the montain owner recover their own land and develop it 10.2 , confirmed that before the land development, no boby could reach it due to the permenant exisiting of Israeli military, while now, it became a touristic place where his family and other family visit it frequently. According to him, the price of the land incresed from JOD 20K/donum to not less tha USD 100K. In addition, other owners of the whole mountain started to recover their lands and exploit them.

3. ***More Reclaimed & Rehabilitated Lands***

The land development interventions for 3,000 donums by this project, influenced positively other farmers to reclaim and rehabilitate their lands. Specifically, that some locations, where lands are developed, became connected with water, electricity. Each visited farmer, whose lands were reclaimed, confirmed that other neibouring farmers started to reclaim their lands from their own.

17.3.2. *Economic Benefit & Efficiency*

4. ***More Monatory Value of Lands***

According to the interviewed beneficiaries, the price of reclaimed & rehabilitated lands as well as served by the agricultural roads increased between 300-500%. For example the donum price of 102 g *increased from JOD 20K to JOD 100K as confirmed by* 102 e

5. ***Reduction % in time, costs and resources for access to lands through agricultural roads***

According to the interviewed farmers, the opening agricultural roads contributed to decreasing the time, efforts and costs to have access to the lands and develop it efficiently. Some of the interviewed beneficiaries said that time is decreased between 300-500%. For example, heavy machinery such as bulldozers, tractors, etc. can currently be accessed to the lands to reclaim and rehabilitate them. Besides, the delivery and provision of the lands with needed water, seeds, seedlings other tools are now more efficient. A farmer from 102 g *pointed out another impact of the open road through the ability of the whole family for visiting their lands with the car. In contrast, before the road open, the farmer was using animals to arrive at the land alone. This, according to the farmer, fosters the affiliation of the whole family to their lands that they had not been able to visit before.*

6. ***Reduction of time & costs in having access to the needed water***

According to the many direct beneficiaries interviewed, the time & costs in having access to the required water is decreased significantly. The situation before was catastrophic according to them: each farmer had to wait for his/her turn for a period

from around 6-10 hours until he/she can get some of the needed quantity of water. This drained not only the time and efforts but contributed to the low quality of the crops as some of them lack the water in a specific time. Now, with the installed water network while each farmer has his/her full control on the water through installed water switch & counter, the farmer selects the right time to for irrigation without waiting.
The interviewed farmers from [redacted] confirmed that they were waiting more than 12 hours to irrigate the tomato crop. The problem is that the right time to irrigate such crop is either in the early morning or just before the sunrise. Now, such a crop receives the needed quantity of water at the right time so that increasing its quality and production quantity.

7. ***More revenues from the rehabilitated wells***
Upon the rehabilitation of wells, owners started to get revenues from water selling for other farmers. This contributed to solving the farmers' problem of water shortage and increased the income of well owners and workers who deliver such services.

8. ***Efficient & Effective Water Distribution Processes***
According to the farmers, the water distribution became more efficient and effective thank to water cisterns and networks. Before the project intervention, the farmer was waiting his/her turn for a long time to get his/her share of the water. The delivered quantity of water may be not all needed, and the irrigation time, where the water arrives according to his/her turn, maybe not suitable for the crops. After developing the water cisterns and networks, where each farmer has his/her stopcock water, farmers have more control over both: the quantity and time of irrigation according to the actual and specific needs of the plant/s. Therefore, the established water network decreased the costs and time, as well as contributed to increasing the quality of production as each plant has its specific time of irrigation.

9. ***New Industrial Enterprises***
Through the new agricultural roads, new industrial plants are established alongside the open agricultural roads. This contributed to employing new workers. For example, in [redacted], and after opening an agricultural road, a solar panels company is established to serve the community including farmers. Also, a poultry farm is established alongside the open road of the location as mentioned above.

10. New Business Lines

Through the land development, some beneficiaries, specifically in the south of the West Bank where farmers focus more on animal production, added the agricultural production to their business lines.

17.3.3. *Environment & Natural Resources*

11. More Exploitation of Natural Resources

The natural resources including rainwater, solar energy, and others are more exploited for the benefit of the developed lands. The rainwater is now reserved in the rehabilitated and constructed wells, while the solar energy is exploited to pump the water to the established steal tanks as the case of

12. Positive Environmental Impact

The project experienced two significant interventions that have a positive environmental impact on the locations and residents. A 6 km of agricultural road was a ***waste dump*** *in Now, the waste dump is eliminated and the road is used by farmers as well as by other beneficiaries. Besides, A reclaimed land village was planned to be a* ***waste dump*** *by the neighbouring quarries, while with the reclamation intervention, this project is eliminated and protected the environment in this location as well as protecting the neighbouring residents from the negative impact such as related diseases impacted by the Quarries waste.*

17.3.4. *People Capacity & Institutions*

13. More Touristic Places

Some of the developed lands became a touristic place for the beneficiaries and their families. Beneficiaries created small parks in the lands in which families spend the weekend vacation as observed and confirmed by the interviewed farmer of

Besides, the water intervention in , baceme a trouristic line, visited by hundered of visitors. According to confirmed that the council receive frequesntly many requests from Universities and school to visit the locations and walk there. Accordingly, the local municipality assigned a taff member to follow-up and guide these groups in thois locations.

14. Enhanced Community Collective Work

By its nature, land development required more collaboration with different stakeholders as well as collective work actions. Farmer beneficiaries coordinated among themselves to make the work more efficient and effective. This approach enhanced the culture of collective work and considered the general interest at the expense of individual ones.

15. The Confidence in Civil Local Institutions is strengthened

This project increased the level of confidence of beneficiaries in their civil and local institutions, specifically that the project field supervisors, as well as technical managers of the project, worked closely with the beneficiaries in high transparency, with fairness, and in a professional way. As a result, some interviewed farmers confirmed other farmers, who couldn't benefit from this project, decided to solicit other land development opportunities where the majority of them succeeded in their endeavours.

16. More workers & created working days

According to the project record sheets, 43,774 working days are created until December 2019, which represents 88% of the expected number until the end of the project. Of them, 5,421 workers benefitted from the land development interventions specifically land reclamation & rehabilitation, and agricultural roads opening.

17. More Permanent Job Opportunities

Through land development, many farmers decided to leave working in the surrounding Israeli colonies and decided to work back to their lands. This created permanent job opportunities for them and their families.

18. More Women Engagement

By this project, and in comparison to other phases, women became more engaged at different levels. More than 10% of the applicants for land development specifically those who apply for lands reclamation & rehabilitation interventions.

This encouraged more women to claim their right of inheritance so that practicing their rights in using and benefiting from their lands.

19. Women became more financially independent and confident in their selves

Through the project interventions specifically for the benefit of women's land development, women beneficiaries admitted that they became more economically independent and confident in their abilities to managing, following-up and got income from their developed lands.

20. Beneficiaries became healthier

Thank to land development, some beneficiaries became healthier as they follow-up their lands. [redacted] *confirmed that she became healthier as she needs to follow-up her lands including ploughing, cleaning, plantings seeds & seedlings, and harvesting.*

In this regards, and as farmers no longer use ppesticide and chemical fertilizers, the crops are more organic and healthier for farmers themselves and consumers.

21. New Gained Vocational Skills

Through the land & water development, some beneficiaries gained new vocational skills and revenues; of them, the skills of retaining walls building.

17.3.5. Human Rights

22. Land Tenure Rights are Realized

According to many beneficiaries, land development actions facilitated the realization of land tenure rights, specifically for women. Besides, as the farmers became more aware of how to collect their land and property documents. According to many beneficiaries, land development actions facilitated the realization of land tenure rights, specifically for women. Besides, as the farmers became more aware of how to collect

their land and property documents, they also became more aware of how to legally follow-up the violation actions by Israeli authorities against their lands including stop-work order, damaging all properties, etc.

23. ***Other Women became more positively influenced to claim their inheritance rights***

In addition to the various sessions to encourage women to claim their inheritance rights, the actual success stories of women who claimed their rights and benefitted from the land development interventions inspired and influenced other women to claim their land inheritance rights. [redacted] *confirmed that aftr the awareness sessions attended by 25 women, majority of them started actually reclaim their rights from their relatives, and some of them have acctually succeceded in getting her rights*

Research Valorisation

24. ***University research work became more community-need oriented***

The agreements with different Palestinian Universities to conduct specific research thesis in topics of high priority for the Palestinian community specifically in the field of agriculture contributed to increasing the effectiveness of this research for the interest of the agricultural sector and farmers.

Sample Photos of the socio-economic study

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Annex (3)

Study on Enhancing on-farm ISFM, Soil Productivity, IPM and Plant Productivity

Result 1.3

Enhancing on-farm ISFM, soil productivity, IPM and plant productivity.

100 soil samples had been collected, by Land Research Center, for farmers whom benefited from previous phases of NRO land development project and soil analysis (soil texture, pH, EC, CEC, NPK, Ca, Mg, Na, CaCO3) were conducted in 10.2 g soil laboratory with the standard analytical method. studying both physical and chemical properties and correlation and analysis of soil properties with the soil fertility status by soil interpretation and Formulation recommendations for using fertilizer to improving the productivity towards prosperous agricultural development of soil fertility. Soil assessing for soil fertility to determine soil fertility levels and make appropriate nutrient management decisions, and fertilizer recommendations to increase yields, reduce production costs.

And during that, for each soil sample information were collected by described the site name, soil depth, name of the farmer, past cropping, management history, and crops. In addition to the collection of production data from the farmer directly, and detection of the problems in the fields through personal observation as well as through questions. The results and recommendation of soil fertility and nutrient components were also circulated to some farmers, each according to his soil analysis.

Activity 1.3.2

Improving production of the farmers through studying soil fertility for their land and defining the crop requirement.

32 soil samples had been collected for new beneficiaries from NRO land reclamation project and soil analysis (soil texture, pH, EC, CEC, NPK, Ca, Mg, Na, , CaCO3) were conducted in Hebron university soil laboratory with the standard analytical method. studying both physical and chemical properties and correlation and analysis of soil properties with the soil fertility status by soil interpretation and prepared advises about the conditions and the characteristics of the soil as well as the content of nutrients fertility of the newly reclaimed land, in addition, to explain types, amounts, and time of fertilizers addition, which determine the suitable fertility management for cultivation in the newly reclaimed lands.

The results and recommendation of soil fertility and nutrient components were also circulated to some farmers, each according to his soil analysis.

Activity 1.3.3

Soil Erosion Risk Map, and Crop suitability map for Almond and Grapes were prepared for 217.70 dunums. Soil Erosion Risk Map and Suitability map was prepared by collecting 16 soil samples and analysis to define the factors and limitations for both maps. Since soil erosion risk map shows that 45 dunum of the study area has low risk for erosion, 77 dunum moderate and 95 dunum has a high risk for soil erosion. And for suitability for almond and grapes plantation, the study shows that 43.76 dunum which represent 20.10% of the study area is *marginally suitable S3* for almond and 49.76 dunum which represent 22.85% is marginally suitable S3 for grapes, which means this Land has severe limitations for sustained application of the land utilization for these crops.

Activity 1.3.4

Establishing 4 experimental pilots with 100 dunum total area, using anti-erosion technology (Improving fruit trees management, Inter-cropping, agro-forestry, green manure application and soil cover interventions).

4 experimental pilots with 100 dunom total area were selected and designed using anti-erosion technology (Improving fruit trees management, Inter-cropping, agro-forestry, green manure application and soil cover interventions) as the following:

Experimental I: using anti-erosion technology (Improving fruit trees management).

Target area / Site selection: Anti-erosion protection in 25 dunom of reclamation area which usually exhibits to erosion phenomena were selected in

Baseline data/soil analysis: several soil analyses were conducted to determine the most suitable technique.

Experimental design: Completely randomize design was used in this experiment.

Experimental II: Inter-cropping

Target area / Site selection: Inter-cropping 25 dunoms cultivated by fruit trees with different varieties of legumes to use it as comparative demonstration site were selected in

Baseline data/soil analysis: several soil analyses were conducted to determine the most suitable crop.

Experimental design: Completely randomize design was used in this experiment.

Experimental III: Agro-forestry

It combines shrubs and trees in agriculture and forestry technologies to create more diverse, productive, profitable, healthy, ecologically sound, and sustainable land-use systems which will provide advantageous over conventional agricultural,

Target area / Site selection: 25 dunoms of land use management system in which trees or shrubs are grown around or among crops and pastureland site were selected in [illegible].

Baseline data/soil analysis: several soil analyses were conducted to determine the most suitable WHT affected on the vegetation cover and biodiversity during the coming period.

Experimental design: Completely randomize design was used in this experiment.

Experimental IV: Green manure application and soil cover interventions.

Through green manure application like common/better vetch, which creates by leaving uprooted or sown crop parts to wither on a field with 25 dunum area.

Target area / Site selection: 25 dunoms sites were selected in Idna.

Baseline data/soil analysis: several soil analyses were conducted to determine the most suitable crop.

Experimental design: Completely randomize design was used in this experiment.

Activity 1.3.5 .

Conduct training for beneficiary farmers on (**soil conservation** and **management**, **Water Harvesting Tech, Farm Management**).

The Land Research Center conducts specialized training courses in soil conservation and management, Soil Harvesting Techniques, and Farm Management through, where a total of 120 training hours (75 training hours in [illegible], 45 training hours in [illegible]) -

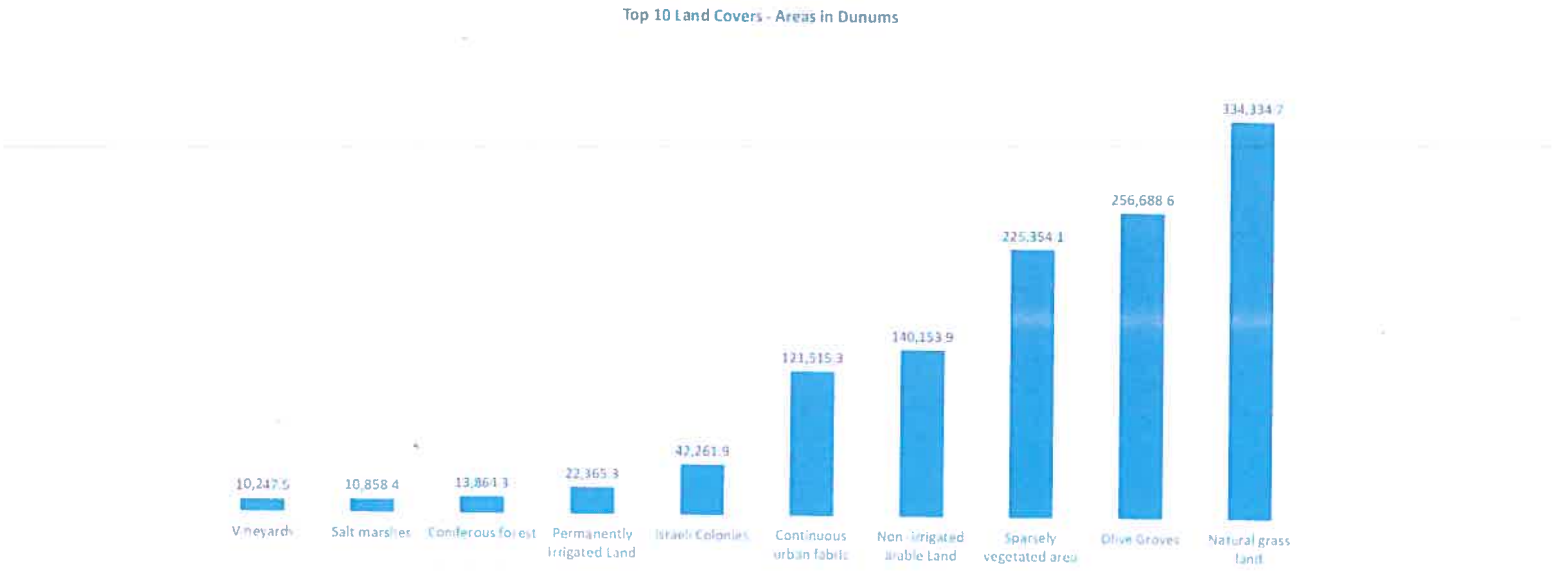
during the period from 15/10/2019 to 14/11/2019 - distributed over 24 days (15 days in [redacted] and 9 days in [redacted]), so that each subject was implemented 5 hours Training and each site 3 training courses (15 hours / site). The distribution of these sites in the Hebron Governorate was such that the training included the sites of [redacted]. And the distribution of sites in the [redacted] to include the sites of [redacted].
since (579) men and women farmers (33 females, 546 males) had been attended the training courses and most of them benefited from the integrated land reclamation activity, agricultural land rehabilitation activity, and valley rehabilitation activity in the [redacted].

Activity 3.1.6
Update the National Database with new localities and provide GIS training for partners
During the program life cycle, the following activities were achieved:

1. **Identify Program Targeted Communities**: the database activity coordinator in cooperation with program implementation team (NGO's team and Program Management Unit - PMU) identify the 74 program targeted communities with a total of 1,223K dunums.

De hieropvolgende pagina 74 verwijderd, want integraal niet openbaar (10.2.g)

2. **Land Cover Analysis**: the CORINE land cover classification system (till level three classification) was used to analysis all the targeted communities using a detailed mapping scale (1:5000). Resent available aerial photographs, 10cm pixel size 2018 aerial photographs, was utilized to delineate and analysis the land cover. The highest 10 classifications areas of the land cover illustrated in the below chart.



3. **Land Suitability Analysis:** for all uncultivated areas (open spaces, sparsely vegetated area and natural grass land) in the targeted area, a land suitability analysis was conducted, the total area was around 559,896 dunums (46% of the total targeted area). These areas were classified as follows: 166,324 dunums as suitable for reclamation (Hill farming), 348,005 dunums as suitable for rangeland and 45,567 dunums as suitable for forestation.

Map3: Land suitability analysis of the targeted area

4. **Socio-Economic and Potential Development Opportunities:** for the 74 targeted communities, a community profile was prepared, these profiles consist: community general information (location, borders, climate data, geo-political data and general land cover data), community local council, history, population, education, economy, agriculture, infrastructure and natural resources, working institutions, SWOT analysis, implemented projects and community evaluation and potential development opportunities and recommendations. It is worthy to indicate that, these profiles were developed in both Arabic and English languages.

5. **Mapping program activities and Israeli Practice Cases:** all program on the ground implemented activities were mapped to illustrate the exact location and activities distributions. Moreover, all Israeli practices against program implementation were also mapped.

Annex (4)

Seed Bank

Reporting period" 1/1/2019 – 31/12/2019

Local Seed Bank's most significant achievements of 2019, each is a success and a challenging story:

1) Development of reproduction and breeding units:

Reproduction units are considered the essential units of the Seed Bank, as they are the main source of seeds, the bank's valuable asset. Through years of past and current experiences gained by working with male and female farmers, in addition to external training sessions for the Seed Bank team at companies specialized in seeds production, the units were significantly developed and shifted from conventional production to intensive and environmentally smart production that is compatible with the need of each variety. Among these techniques are protected cultivation inside greenhouses using pollinators, cultivation in cages, intensive cultivation in open units and also small tunnels in addition to the establishment of permanent reproduction units for medicinal plants.

2) Higher seeds quality:

High standards are used before the introduction of samples to storage units to ensure a large, viable and robust seed that will grow to become a strong and weather-tolerant "mother seedling", which is the basis for easier marketing and gaining people's trust in a with a high-quality and competitive product. The average germination rate for preserved and distributed seeds samples is 95% compared to seeds on the market that do not exceed 80%.

The new seed cleaning line has allowed for higher production capacity, better quality and less time and effort, which is truly a milestone on the road of developing the Seed Bank and its units.

3) Gaining the trust of the local community:

During the past years, especially in 2019, the bank was able to gain the confidence of many members of society, from farmers, students, researchers and institutions. This is due to several reasons, such as satisfactory results from trying our seeds once and requesting more in subsequent seasons, visiting the bank and viewing the stages of extraction and cleaning and witnessing the extent of development and professionalism of the bank, in addition to the quality of the seeds distributed. In total, 601 beneficiaries were covered during 2019 and approximately 1,200 dunums were cultivated with rainfed crops as a new green space.

Moreover, the increasing demand for local seeds, considering the Seed Bank as a source of guidance and reliable information and a certified place to provide services to farmers such as cleaning machines and even storing samples for research all contribute to the increased community trust in the Local Seed Bank.

4) Protection and preservation of new varieties:

During the past two years, no fewer than 20 new varieties were introduced to the Seed Bank inventory, mainly rare and medicinal varieties, where the Seed Bank became the only source for many of them, including local black Carrots, local white Cucumber, yellow Cauliflower, local Tomatoes, and local Lettuce in addition to several medicinal and aromatic varieties. An internal initiative was also launched aiming to contribute to the conservation of biological diversity, which focuses on preserving endangered wild trees species, which have been compiled and classified in cooperation with the Environmental Quality Authority.

5) The Seed Bank has become a specialized research and education center (children and youth):

(Bothor) component included several activities related to raising awareness of the local community, but most of them focused on theoretical workshops and lectures. However, during the past year, these workshops were transformed into field days and practical training sessions for school and university students, which left a significant impact on them and provided a good promotion for the Seed Bank and UAWC. Nine local and international groups were welcomed at the Seed Bank during the past year, which included schools and universities' students, institutions and the Ministry of Agriculture.

The workshops and the practical exercises left quite the impact on the children and young boys and girls who participated in them. They are an essential age group that can be targeted to introduce a new behavior or change one. Upon receiving the training, children are aware of and have a clear view of local seeds and traditional environmental agriculture, the negative impact of heavy use of chemical and intensive cultivation. Among youth, the majority had a pre-formed opinion on the subject, which is sometimes difficult to influence or change. Still, it is necessary to show the other side and the vital effect of agriculture not only as a profit but also as a societal and environmental responsibility.

6) Continuance of the Seed Bank:

Initiating the implementation of the marketing plan by designing and printing a logo for the Seed Bank as a first step, followed by the 2019-2020 winter season, the first season to sell seeds to beneficiaries without any decrease on the number of beneficiaries from the previous seasons. Also, participating in local marketing activities in several governorates and with several institutions and visiting companies and nurseries. In addition, several marketing options were studied for several products in various stages of crop life, to provide a fixed and permanent income for several months during the year.

Completed activities in the project's implementation phase:

Work completed during the reporting period					
Result 1.1	**Local Seed Bank is able to conserve and breed local seed varieties in sufficient quantities to meet local demand**				
Activity	**Achievements in the activity**	**Achievement percentage**			
Upgrade the reproduction and breeding Units to Improve Local Seeds.	46.5 dunums were selected and cultivated as reproduction units during 2019, geographically distributed between [redacted] for reproducing summer and winter	%100			

	crops, where about 20 crops were reproduced in sufficient quantities.				
Develop The existing Laboratory and Storage Units at UAWC's Seed Bank	A tender was prepared and released. "[redacted]" was awarded the contract and later supplied, installed and operated the equipment. By this, the cleaning line was completed and operating effectively. This activity was completed entirely in 2018.	%100			
Equip the drying unit	A tender was prepared, released, awarded and supplied. The unit was activated, and this activity was completed in 2018.	%100			
Establish a new support unit of the Local Seed Bank in the northern West Bank	The unit was established, all missing equipment was provided, and a female intern was assigned to it. This activity was completed in 2018.	%100			
Result 1.2	**Plant 5000 duums with rain-fed local seeds**				
Provide 300 farmers and beneficiaries of LWRM program with Local Seeds	Local seeds were provided to 123 LWRM program beneficiaries. More focus will be given to this activity in the coming seasons.	%123			
Distribute local seeds to 1000 farmer-beneficiaries.	601 male and female farmers were provided with summer and winter local seeds, bringing the total number of project beneficiaries to 1384 male and female farmers.	170%			

Result 1.3	**Promote the use of local seeds among farmers**				
Conduct an awareness campaign on local seeds and the importance of local seeds.	TV spots were prepared and published for the winter season 2018-2019. A documentary film was prepared on the seed bank, and 13 awareness workshops were held for school students on local seeds and their importance in addition to 5 practical training sessions.	%260			
Introduce new agricultural techniques through 2 pilot projects for small scale farmers and women CBOs.	This activity was concluded, and 2 new agricultural techniques were introduced to 2 agricultural women CBOs.	%100			
Result 2.1	**Introduce new seeds for preservation to increase the available options for local farmers**				
Conducting an extensive field survey and mapping of local seeds.	5 items were collected during 2019 (beans, white micromeria, lettuce, garlic, thyme) and 4 during 2018 (chamomile, saffron, cucumber, parsley) which are important to collect, in addition to two items (carrots, sage) in 2017 out of 10 items required. 7 other items not highly requested were also collected, these are: coriander, beets, cumin, Hedge Mustard, black carway, anise and Rocca.	%133			
Testing, reproducing and preserving identified crops to be available for farmers cultivations.	Hedge Mustard, Lettuce, Garlic and thyme were all planted and reproduced.	%100			

Result 2.2	**Cooperation with Local academic institutions is strengthened**				
Provide internship for 15 agronomist graduates in Seed Bank units.	Eight new interns were trained at the Seed Bank and its units:	%100			
30 master students receive support in their study with dissertations relevant to local crops production, preservation and analysis.	13 master students' theses were followed. Defense sessions will be held for a number of student of the first group during this semester and the titles of the second group theses will be discussed for approval.	%88			
Result 2.3	**Capacity Building for Staff**				
Staff training on Seed Bank management, challenges and best practices.	In 2019, 4 SB staff members were trained at in Netherlands.	%60			
Participation in international and national conferences and workshops on local seed preservation and production	participated in a conference in France, and participated in a conference in Morocco in 2019.	%100			

Annex (5):

Report

PALESTINIAN HYDROLOGY GROUP (PHG)

Second Report on

Monitoring of 1929

Contents

1. Background:

2. Objectives:

The main objective of the study is to define the potential seepage locations in the through implementing detailed field monitoring and investigation program.

3. Implemented Activities:

3.1 Geological Investigation

After completing the geological investigation in the site in October 2018, see detailed geology report that was produced, the potential location of the seepage and weakness zones have been identified. In addition, location of monitoring boreholes as well as infiltration pits has also been identified.

3.2 Drilling Monitoring Boreholes

Four monitoring boreholes was drilled outside [redacted] especially in the suspected weakness and potential seepage zones mainly the left and right contact points of dam body with the surrounding areas or strata. However, one well was placed right in the middle area in front of [redacted] to make sure that no seepage from underneath the dam body exists at deeper levels.

The coordinates of the drilled boreholes are listed in Table (1), while the locations of the drilled boreholes are shown in Fig. (1).

Table (1): Exploration boreholes coordinates.

[redacted]

[redacted]

Monitoring of the boreholes revealed that no seepage is recorded in the four boreholes this season and therefore, it is not possible to judge any potential seepage from the east or western part of the dam lake.

3.2.1 Filtration Pits

Two filtration pits have been excavated one at the eastern edge of lack and one at the western edge, close to the conglomerate zone, the more suspected zone that it may have potential seepage. Infiltration test was performed in the two pits. The results obtained from the tests is shown in Figure 2 and 3 below:

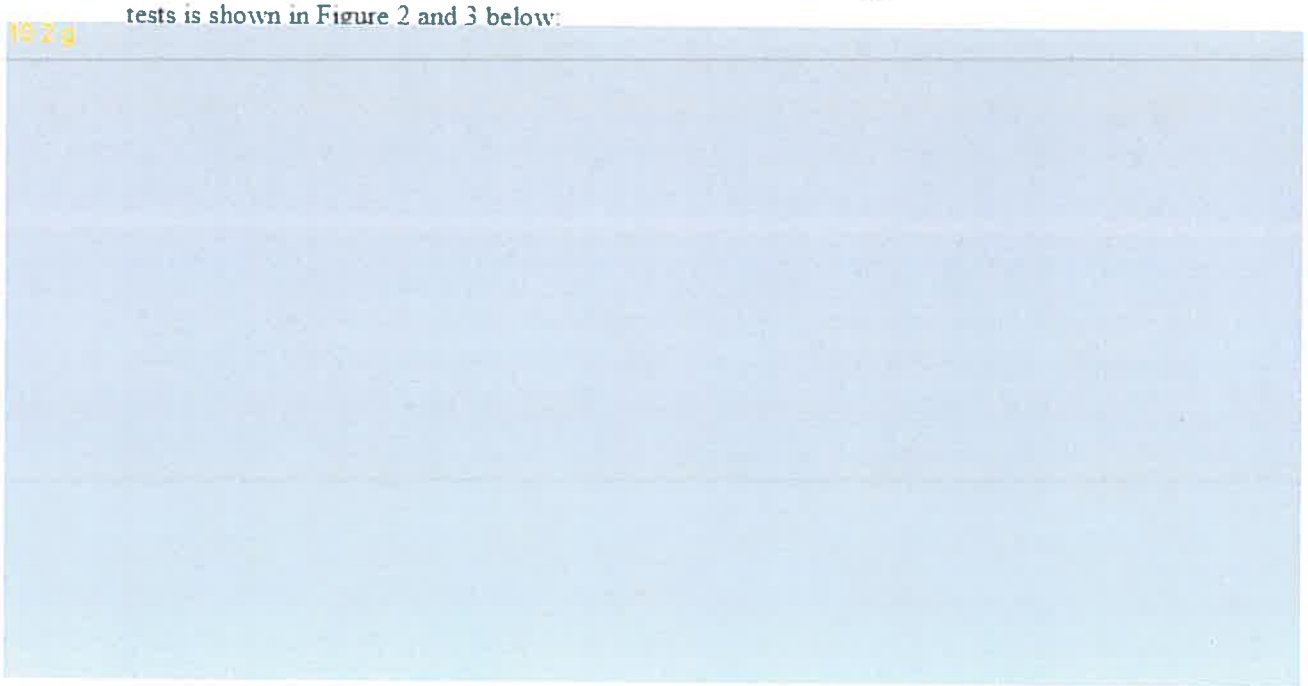


Figure 2: Filtration rate as recorded in Pit #1 –

Figure 3: Filtration rate as recorded at Pit#2 – 10.2.g

As can be seen from both tests that water level has reached its steady state after 130 minutes, which means that no more infiltration is expected after this time and depth to water in the pits is stabilized. Infiltration was rapid at the first 30 – 40 minutes then became steadier with time, which indicates that both lateral and vertical infiltration is rather limited to a shorter distance within the soil profile and that the clay content of soil acting as barrier.

3.2.2 Excavation of Potential Seepage Areas

10.2.g was excavated to check the lateral and vertical extension of the conglomerate zone within the lake area. It was realized that it is rather limited and most likely the conglomerate exists at higher elevation. Therefore, the excavated trench along the edge was covered with clay from the accumulated clay in the dam lake and the edge was then compacted at nearly 2 meters height to make sure that no seepage can occur at lower elevation. Figure 6

3.2.3 Replacing the Water Intake

It was realized that sedimentation in the lake area has reached more than 1.5 meter and almost covered the intake of the main pipe. Therefore, it was decided to replace the intake with a more safe one that will ensure water outflow from to the agricultural area. Perforated pipe of 2

meter were placed instead of the old pipe which was almost covered with sediments. Figure 7.

Figure 7: Replacing water intake at the dam lake

4. Planned Activities

The planned activities during the coming period toward the end of the year 2019:

1. Install Loggers for continuous water level monitoring in the lake.

2. Conduct some preliminary rehabilitation.

3. Analyze the water level data from the logger; develop detailed monitoring report including conclusions for the rehabilitation as well as tender documents with costs.

5. Conclusion

1. Infiltration of water as measured in the infiltration pits in both [redacted] was limited and reached steady state after short time.
2. The lateral extent of the conglomerate formation doesn't reach lower elevation into the [redacted] and it stays at rather 3 m elevation from the bottom of the lake.
3. The main water intake was nearly filled with sediments and was replaced.

Annexes (6)

Photos of Project Interventions & Success Stories

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The End of the Report