



Institute for Community Partnership معهد الشراكة المجتمعية





Agricultural activities (First and Second Years)



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First Year Agricultural Activities

1.1 Local agricultural committee meeting

Local agricultural committee meetings were conducted in the targeted 4 villages through different stakeholders of each community attended these meetings. The local agricultural committee meetings were conducted between 22nd and 24th of Jan 2019 and included representatives from civil society, local cooperatives members, and other key persons (farmers). The number of the participated organizations reflects the interest of the local bodies to engage such activities and the good relationships among the agricultural and heritage-interested organizations. The following table presents the dates, the number of participants, and the participated organizations. (See table (1))

The project team explained to these participants the project objectives and the planned interventions for their communities and their responsibilities as partner organizations/ stakeholders and the project facilitators as well. Both of project announcement and the applications were discussed. Applicant forms were distributed to the main person from every local committee at this meeting, in addition to discuss the text of the agreement with the committee members. Participants were informed about the project including the donor which is the Darwin Initiative and the implementing organizations for this activity (PIBS/ PMNH and ICP- BU).

 Table 1: Distribution of conducted local agricultural meetings with related stakeholders in the targeted villages.

Locality Name	Meeting date	Participated organizations/	Number of participants		Total	The meeting location
		key individuals	Male	Female		
Biet Jala	23.1.2019	3	4	2	6	Beit Jala Municipality
Battir	22.1.2019	4	5	3	9	Battir Municipality
Husan	22.1.2019	3	5	1	6	Husan Village council
Al-Walaja	24.1.2019	3	2	4	6	Al-Walaja Village Council

The conducted local committee meeting in the target locations







1.2 *Project announcements*

The project team started the project activities through preparing announcements and beneficiary application forms, which were distributed at the main public sites and on the main page of the village council's/ municipality's social media of the targeted villages to inform the largest number of the targeted community about the project activities and giving them the opportunity to apply to the project. The announcements were distributed specially at village council and municipality buildings' where most of local people can see the announcement as well in other main places (mosques, shops, and schools). Further to these procedures, a period of one week and a half was given to each community to complete the beneficiary's applications. The applications were distributed to all targeted communities, and one of the participating village council or municipality staff was selected (during the local committee meeting) to distribute and receive the completed applications. By adhering to this method, the largest number of households was encouraged to apply for the project activities. The announcement period for all targeted communities, and of Feb 2019.





1.3 *Applications' revision*

The following table shows the number of the received applications which reached to 108 applications. These applications were review by the project committee. During the selection process which was conducted by the project team and the local committee, the priority in the selection given to the applied women to give them an equal opportunity to select the most suitable households. 28 applications were rejected because they did not match with the criteria of selection (See Table 2 below).

Table 2: Number of received application forms per locality							
	Total applications						
Locality name	received Accepted Non-accepted						
Biet Jala	34	29	5				
Battir	26	19	7				
Husan	20	19	1				
Al-Walaja	28	13	15				
Total	108	80	28				

Applications revising process with local committee members



Crit	eria of selection	1		1
No.	Criteria	Max. remark	Indicators	Remark
1	Targeted land 10 location		An agricultural area and in the targeted area (in eg.: the eastern lands of Battir which reaches Al-Makhrour), good agricultural land	10
			An agricultural area and outside of the targeted lands	Е
	Breadwinner	10	Father/ husband	5
			Mother/ wife	10
			Sons	8
	Average monthly	5	500-1500	5
	income for family		2000-2500	3
			3000-3500	2
			More than 3500	1
	Source of water	10	Spring	10
			Collective well/ cistern	8
			Municipal water	8
			Water tank	5
			No source	0
	Total family	5	1-5	2
	members no.		5-10	4
			More than 10	5
	Disabilities	5	Disabilities: one status	3
			Disabilities: more than one status	5
			No disabilities	0
	The area of the	5	400-500 m2	5
	land		Other	0
	Readiness to commit to serve	10	Yes	10
	the land		No	0
	Land ownership	10	Own property	10

		Shared with other heirs	8	
		Rented		0
Benefited of	5	During2017- 2018		0
similar project in past years		Before 2017		5
Technical criteria?	10	Soil depth	Little	0
			Medium	5
			Deep	10
	10	Presence of rocks	0-5%	10
		(percentage)	6-10%	5
			11-25%	1
			More than 26%	0
	5	The slope of the land	Less than 5%	10
			6-15%	5
			More than 15%	0

1.4 *Beneficiaries' selection (based on field visits).*

The project team worked closely with the local committees during the beneficiaries' verification and selection processes. The project team and local committees spent several days to visit all of 108 applicants to select the suitable beneficiaries and to verify the provided information by each applicant and to assure the transparency and fairness of the selection process to match the criteria of selection, bearing in mind the socio-economic and agriculture indicators and gender considerations





1.5 *Sign MoUs with the selected 80 farmers*

The project team signed beneficiaries' agreements with the presence of the local committee members of every target area. The agreements defined and addressed each party's responsibilities. The agreements signing period for all targeted areas conducted at the same day 23rd of Feb 2019.

Beneficiaries' signing agreements



 Table 4: distribution of signed agreements with the project selected beneficiaries per area

Biet Jala	29
Battir	19
Husan	19
Al-Walaja	13

Of those 70 farmers, 67 followed up with training and delivery of supplies/agricultural inputs. Survey before training was done with each of those to gauge family situation and knowledge base. The following data resulted from the prepared baseline survey and some data from the received completed application forms by the selected applicants in the targeted communities.

Al-Walaja number of farmers was lower than expected (13) and due to number of applicants from Beit Jala who own land in the valley, we compensated by increasing the accepted beneficiatry farmers from Beit Jala (29, 26 after follow-up). The farmers were eight Females (1 Battir, 6 Wallaja, and 1 Beit Jala) and 59 males.

The selected farm families had a mean of 6.5 individuals/family unit. The estimated average family size in the West Bank in year 2017 was 4.8 (PCBS, 2018). The income/Year average was 25,865 NIS (per month = 2155 NIS) per family (1 NIS= 0.21 GBP). The land area for each family had a mean 3.9 dunums (min = 0.3 / max = 22 dunum). In surporising positive news, nine farmers preferred/used chemical fertilizer (13.4%) while 58 (86.6%) already preferred/used organic fertilizers.

1.6 *Capacity building training*

Three days training workshops were conducted for the project beneficiaries on the Principles of Permaculture and Biodiversity. This workshop focused on the general definition of biodiversity and the humans' fingerprint in Palestine and worldwide about this issue, land preparation, intercropping, irrigation and water harvesting system, and the usage of organic and liquid fertilizer. The farmers committed to attend the workshop (as it's illustrated in the table 5), where they reflect an obvious idea about their desire to learn and benefit of the scientific information that presented to them.

Table 5. Number of participants in the training workshop (Planned compared with

attended)						
Areas	Date of implementation	Attended	Planned			
Biet Jala	22.3.2019	22	29			
Battir	20.3.2019	12	19			
Husan	22.3.2019	19	19			
Al-Walaja	21.3.2019	14	13			

Workshop on the Principles of Permaculture and Biodiversity – Targeted areas



- 1.7 *Distribution of agricultural inputs and cultivation of summer vegetable crops at selected farms*
- a. The project team distributed all of the **agricultural inputs** for the all selected beneficiaries. Each piece of land was provided with all required equipment and tools to establish well-functioning sustainable agriculture system. The distributed items are presented per each piece of land as listed in the following table.

Table 6: Agricultural equipment and tools distribution						
Delive	ering date/	Biet Jala	Battir	Husan	Al-Walaja	
area		1.3.2019	28.2.2019	26.2.2019	27.2.2019	
#	Item					
			Main pipeline 25	mm, 25 m long		
			Lateral pipeline	16 mm (without]	holes)	
			Lateral pipeline	l6 mm (with insi	de holes)	
			T-shape connected	or (16 mm)		
			16 mm connector	r with a "7" shap	e	
	Irrigation	network and its	Straight 16mm c	onnector		
1	accessories		End-line of 16 m	m pipe		
			Drippers (4 L capacity)			
			Valve 16 mm			
			Plastic -water tank to main pipeline- connector			
			Water tank (1 cubic meter)			
			Water pump (1 horsepower)			
			Hole punch for 16 mm drip irrigation			
			Green hose for irrigation 16 mm, 20 m long			
			Plastic -water tank to main pipeline- connector			
			pickaxe (digging tool) with a pick helve			
			Double	headed	hoe	
	Gardening	and soil agitation	(for weeding and lighting the soil)			
2	Guruening	una son agnanon	A spare handle of ridging hoe			
	tools		A spare pick helve			
			Ridging hoe with a handle			
			Steel garden farming bow with wood handle			
			Spare handle of g	gardening bow		
			I filmining and ha	don tuing scissor		
			Black tomato garden tying twine			
			small bl	ack ruh	huckets	
3	Other tools		(for stone remov	ing)	Jei Duckets	
			Gardening hand	gloves		
			Pliers for value in	nstallation		
			Thin galvanized	steel wire		
4	Compost (2:	5 L)				

Agricultural inputs distribution Image: Comparison of the comparison of th

b. Animal fermented manure distribution: the following table shows the number of the distributed fermented manure per area and the date of the delivering process as well. This amount of manure (40 L/ sac) is enough to cover the planted crops nutrient requirement for whole of project period where the distributed compost support the plant growth requirements of the needed nutrients.

с.						
Table 7: Anin	Table 7: Animal manure delivering and distribution process					
Item			Quantity/ Area			
			Beit Jala	Battir	Husan	Al-
		Quantity/ farmer				walaja
			Delivery Date			
			29.3.201	28.3.201	26.3.201	26.3.2019
			9	9	9	
Animal	fermented	32-35 Sac	945	645	645	465
manure						



d. **Propagules (seeds and seedlings) distribution:** further to these activities, the seeds and seedlings of vegetables were distributed to the beneficiaries during two days (16th and 18th of Apr); the seeds and seedlings of thirteen different crops were distributed successfully, (see table 6). In addition to two local varieties of snake-cucumber and squash (zucchini) which are delivered to the farmers through a small cooperation with a local NGO called Agricultural Development Association (PARC) where they provided the farmers with these varieties from their seed bank.

Table 6: the amount/ number of seeds and seedlings and the delivering date per area							
		Amount/ farmer	Delivering	ivering date/ area			
Plant	Propagule		Battir	Husan	Beit Jala	Al-walaja	
			18.4.2019	16.4.2019	16.4.2019	18.4.2020	
Parsley		200	3800	3800	5800	2600	
Mint		20	380	380	580	260	
Sage		10	190	190	290	130	
Thyme		150	2850	2850	4350	1950	
Tomato		150	2850	2850	4350	1950	
Cucumber	Soudling	150	2850	2850	4350	1950	
Hot pepper	Seeding	50	950	950	1450	650	
Sweet pepper		50	950	950	1450	650	
Battiri eggplant		150	2850	2850	4350	1950	
Basil		20	380	380	580	260	
Chrysanthemum		20	380	380	580	260	
Marigold]	20	380	380	580	260	
Okra	Kg (seeds)	0.25	4.75	4.75	7.25	3.25	



1.8 Water tank distribution

Water delivering and distribution to the farmers required a lot of time (four days per two areas: 19th, 25th, 27th, and 29th of Mar) and effort where the targeted lands are steep and need a lot of pipes to deliver the water from the huge and mobile tank to the plastic one. At the end, it was done in a perfect manner and with a good cooperation by the farmers, they provided with extra pipes. They pleased too much for such a unique water distribution ever.

Water delivering and distribution process





1.9 Follow up visits plan

The project team will perform one field day visit per area, through which they are going to visit whole of 80 farmers as there farm sites to follow up the plantation of the distributed crops. These visits will take a place during April 2019. Going forward we will follow-up with these farmers and with others to ensure they use the methods we trained in (permaculture see Fig. 1 –the farmers' pieces of lands will be like this example-) instead of the damaging methods of agriculture (fig. 2 & 3).

Fig.1 a health mix of natural agriculture with wild flora and fauna (this is traditional agriculture, which we want to revive). Notice most work is by women



2nd year Agricultural activities

2.1 Follow up visit (extension service)

80 field day visit per area performed during May and Jun 2019. These visits conducted to follow up some of the farmers who haven't cultivated their crops during Apr. Late precipitation season affected in general of Palestine summer season for this year (2019), where the condensed growth of the grasses and weeds did not give farmers the chance to grow vegetables early as usual. On the other hand, these field visits comes to support farmers technical knowledge at specific topics such as advising them to do some IPM practices and to avoid other practices, which are less friendly to the environment. Local committee representatives were part of these visits too.

Below spreadsheet illustrates the provided extension service and the next step for each targeted area.





41 field day visits performed during Sep 2019, the main target of these visits is to follow up the current situation at the end of summer season, in addition to finish selecting winter crops by the farmers, record the GPS coordinates for each farmer. These field visits come to support farmers technically, to collect the plant debris for the dried plants and do composting for, collect the dried seeds either store it to the next summer season or to plant it for the coming winter season such as basil as a repellent plant. Notes were written down regarding to the abundance of biodiversity close to their fields. The following plants and insects are the mainly noticed there: inula, pink rockrose, capparis, grasshoppers, butterflies, bees, and deer. (*For more information, see the detailed reports for Alwalaja and Battir field visit reports*).

A representative of the local committee at each location participated within the visit. The farmers are preparing to the winter season while some of the farmers still producing more vegetables mainly eggplants, tomatoes, hot pepper. Some of the warmer areas farmer (like Battir farmers) they brought a winter propagules and plant it to produce an early products such as cauliflower, where they either have the seedlings or bought it, so in this case as well they'll have two different production stages. Part of these visits was confirming of the practical training on water and soil management and attending the marketing festival if they want to visit it, where some farmers have no fresh products to sell.

The production sheet of the summer season were collected from farmers who committed to fill and others who were not able to fill it, were asked about the amount of harvested crops.

Table (1) the performed follow up visits per location per number of visited farmers					
# of visit per location	Date of visit	Number of visited farmers per			
		visit			
Battir 2 nd follow up visit part (1)	12/9/2019	7			
Battir 2 nd follow up visit part (2)	17/9/2019	12			
Al-Walaja 2 nd follow up visit	10/9/2019	13			
Beit Jala 2 nd follow up visit part	20/9/2019	9			
(1)					

Location	Date	Main findings	Main challenges	recommendations	Next step/actions/visit
Location Beit Jala	Date 14.06.2019	 Main findings Beginning of the production phase (mainly for: cucumber, pepper, hot pepper, snake-cucumber, and zucchini). A few farmers planted at Al-Makhrour (11), and the rest of them did not plant or they 	 Main challenges Water shortage, where some of the planted crops are wilting/ already wilted. The death of the seedlings, especially repellent one. Condense growth of tomatoes. Some pests were noticed, such as spidermites, aphids and whitefly. 	 recommendations Using local seeds especially for next season. Covering the top of the soil with organic debris/ weeds/ hay or straw. Tomatoes pruning/ trimming (with a small practical part) To plant more repellant plants and increase the rate of intercropping 	 Next step/actions/visit Technical field training (mainly about pest management). Follow up visit: to deliver them with the production sheet, and to check up and solve their challenges/ problems.
		did but close to their houses.		 Process. Using natural extract was advised (grinded garlic with hot pepper spices and a spoon of soap diluted in a liter of water) -that was in general-, tell the technical training in the field). 	

Battir	14.05.2019	 Plantation stage. Two out of 19 farmers were not plant. 	 Plowing availability. Seedlings' death/ dehydration. Top soil dehydration. 	 Mainly and for all of them, covering the top surface of the soil was advised. Organized watering, 2 times/ day especially the hot one and for farmers who are not very close to Battir water-spring. 	 First follow up visit after plantation: Provide the farmers with the "production sheet". Checking up with farmers about problems and solutions with their crops. Technical training at two sites at Battir
Al-Walajeh	18.06.2019	 Beginning of harvesting of cucumber, zucchini, hot and sweet peppers, and snake-cucumber. All farmers except one of them were plant their fields. 	 Water shortage, crops dehydration at some places. 2 of the farmers planted close to their houses. Crowded/ condensed okra. Bent vegetative cover of the tomatoes. Small size of vegetative cover especially for cucumber at some fields. White fly insect. 	 Covering the top of the soil with an organic litter, and using a plastic bottle with a small holes for efficient water flow (as a water harvesting technique), and irrigating the crops at night if possible. Okra thinning. Trimming and trellising of tomatoes. For good fruit size, to provide with more water and compost. Use smoking process "an ancient one", where the smoke of burned manure helps with insect repelling. (MoA advise) 	 Technical training (mainly to focus on water harvesting and pest management).

Husan	20.06.2019	• Very good and	٠	Less intercropping.	•	More intercropping, for	•	Follow up visit, mostly to
		healthy plantations,	•	Cracks over the top surface		instance one farmer was		teach the farmers how to
		where the farmers		of the soil (which means		going to plant one field		make a natural extract,
		followed some		more evaporation, and soil		with corn (monoculture),		and for more technical
		traditional ways of		microorganism's death).		but it was suggested to		advice.
		agriculture	•	Dodder -parasitic plant-,		plant cowpea, sunflower,	•	Technical training mainly
		practices, mainly		which is a very dangerous		and okra in between.		to focus on the best field
		trellising using		one in some fields.	•	Covering the surface of		and how to encourage
		dried sticks, and	•	Pests are slightly existed at		the soil with organic		other farmers to do like
		intercropping a		some fields.		litter, especially to avoid		with more additional
		little bit.	•	Over-irrigation at some		soil cracks.		practices (composting,
		• First stage of the		fields.	•	Hand removal of the		pruning, and some water
		production	٠	Using plastic mulch (by		plant haustoria and the		harvesting).
		(cucumber,		the time it is hardly		flowers itself at flowering		
		eggplant, zucchini,		decomposes).		stage.		
		and hot and sweet	٠	A huge amount of weeds.	٠	Using natural extract, or		
		pepper).	٠	Condensed and almost		organic pesticide/		
		• All farmers planted		bent tomato branches.		fungicide, for powdery		
		their fields.				mildew and spider mites.		
					٠	Organize irrigation		
						process by decreasing		
						watering times.		
					•	Covering the plastic		
						mulch to increase its		
						shelf-life by decreasing		
						its degradation by the		
						sun.		
					•	Manual weeding.		
					•	To prune and trellis		
						tomatoes.		

A healthy production with high GPS coordinates Eggplant production- still producing sage Wild thyme Monoculture of cauliflower, (as an agricultural advised for intercropping surrounding biodiversity) Brromrape parasitic plant



2.2 *Evaluation report for summer vegetables production*

The charts below show high fluctuation of production per each site per crops for last summer season, where Husan farmers produced the higher amount of the vegetables then Al-Walaja, Battir, and Beit jala respectively. The last rain season affect on the ploughing process and the production for some areas. The total production for all summer season crops is 12518.7 kg.





Loca	Locality: Walaja Date: 10-09-2019					
#	Beneficiary/ Farmer's name	Current status	Visitin g time	Problem	Advise/ extension service provided	Notes
1	Muna Hajajlah (F)	 Preparing for winter season Production of eggplant is ongoing 	9:20		Keep two areas without plowing to compare with plowed areas	
2	Lamyaa Hajajlah (F)	 Preparing for winter season Finishing summer season (remnants of tomato) 	9:45	- fully ripen fruits are not collected (source of next season seeds) -Weeds	Remove ripen fruits to collect seeds and do weeding. Spread basil seeds.	
3	Sameeha Wahadneh (F)	- Preparing for winter season	10:45	- Weeds	Remove weeds, and plant all the land area for winter season	
4	Imad al-Aaraj (M)	 Preparing for winter season Removal of previous productions 	14:40	 Remnants of crops Land isn't clean 	Prepare compost	
5	Tawfeeq Hajajlah (M)	 Preparing for winter season Finishing summer season 	10:10	- Wasps - Weeds	Remove weeds and mix them with soil and manure. Mix seeds with sand for winter season	Presence of large and small bees
6	Wafaa Hajajlah (F)	 Finishing summer season Production of eggplant, parsley, mint and pumpkin is ongoing 	11:30	 Remnants of crops Parsley not harvested 	Prepare compost from remnants of crops, and finish parsley harvest	One of the best

ality Walata Data, 10.00.2010

7	Majid al-Aaraj (M)	 Removal of previous productions Production of eggplant and beans is ongoing 	13:25	- Remnants of crops	Prepare compost for next season	Add new soil to land
8	Ibrahim Abu al- Teen (M)	- Removal of previous productions	12:45	 Weeds Remnants of crops Land is not plowed 	Remove weeds and remnants of crops. Plow land	
9	Nabil al-Aaraj (M)	- Preparing for winter season	11:50	- Weeds	Remove weeds, and don't plow land	Prepare for next season
10	Majid I. al-Aaraj (M)	- Preparing for winter season	12:05	- Same land with farmer #9	Prepare compost from remnants of crops, and don't plow land	Training on T-compost and permaculture.
11	Ikhlas Hajajlah (F)	 Preparing for winter season Production of eggplant is ongoing 	15:35	- Weeds - Deer	Remove weeds. Collect basils seeds and plant them for next season	Mint, basil, and chrysanthemum plants were very productive. Biodiversity is notable (butterflies, snails, grasshoppers). Inula plan is abundant
12	Hasan Hajajlah (M)	 Preparing for winter season Production of eggplant is ongoing 	15:35	- Weeds - Deer	Remove weeds and prepare compost. Mix human hair (collected from barberry shops) with soil	Deer and grasshoppers are abundant
13	Reem al-Aaraj (F)	- Wasn't there, but still preparing for winter season	14:30			Call her for sheet of production

	Locality: Battir					
#	Beneficiary/ Farmer's name	Current status	Visiting time	Problem	Extension service provided	Notes
1	Hana' Abu Harthia (F)	-Production is ongoing -Preparing for next season	12 Sep '19 at 9:15	 -Plant debris needs to be removed -weeds around sage -eggplant taste is bitter 	Dry and collect okra and its seeds for next season; pickle bitter eggplant; leave plant roots at the soil (for aeration and decomposing later on)	No tillage for next season, however, agitation is used instead; leave irrigation system in the land to minimize land service; they asked for red agricultural soil
2	Riyad Abu Harthia (M)	-Production of tomatoes, eggplant and hot pepper is ongoing -Planted cauliflower	12 Sep '19 at 9:45	-Lots of aphid on cauliflower (but natural enemies are available) -End of summer season	Remove the infected parts (or whole plant if necessary) and bury them away from healthy plants; minimize plowing (shallow plow)	The wife (Hala) collected broad beans seeds for next summer season
3	Saeed Abu Harthia (M)	 -Finishing of summer season -Production of eggplant is ongoing -Planted cauliflower 	12 Sep '19 at 10:10	-Previous season plants are dehydrated	Remove plant debris and compost it; add some manure	Biodiversity: inula, pink rock rose, wild thyme. He mentioned the presence of many frogs during night
4	Fouad Mu'ammar (M)	 -Preparing for next season -Production of eggplant and jaw-mallow is ongoing 	12 Sep '19 at 10:50	-Previous season plants are dehydrated -End of summer season	Remove plant debris and compost it; collect basil seeds for plantation next season	His daughter was there (he's at work); turning the compost pile that was conducted in last practical training
5	Raed Mu'ammar (M)	-Lots of eggplant compared to the end of production season, fewer of tomatoes	12 Sep '19 at 11:30	-Most of crops are dehydrated	Prepare for next season; collect dry seeds, keep immature seeds until they mature; composting of plant debris	

6	Nu'man Mu'ammar (M)	-In the middle of production season of eggplant (late plantation)	12 Sep '19 at 12:35	 -Leaf Minor on citrus leaves -Dehydrated mint 	Prepare inula/stinging nettles extract –immersed 24 hours in water- and apply it once a week; use straw/natural mulching	Need to contact with ICP for more preparation for the marketing festival; will collect local eggplant seeds for next season; will deliver production sheet later
7	Mohammed Fannoun (M)	-Production of eggplant is ongoing	17 Sep '19 at 14:50	-End of the summer season	Prepare for winter season	Using human hair (collected from barber shops) was efficient in repelling pigs
8	Badr ad-Deen Abu Hasan (M)	-Finishing of production season	17 Sep '19 at 16:15	-Pigs problem -Rust diseases on host weeds (possibly, spread diseases & infection)	Prepare garlic and sodium bicarbonate extract – chopped garlic and immersed 24 hours in water mixed with NaHCO ₃ ⁻	Biodiversity: wild fennel, grasshoppers, inula, capparis; asked to help him renovating his water bond
9	Ibrahim Abu Hasan (M)	-Production of tomatoes and eggplant -planted cauliflower recently	12 Sep '19 at 13:50	-End of the summer season for most of crops	Remove plant debris and compost it; prepare for winter season	
10	Khalil Mu'ammar (M)	 -Production of eggplant is ongoing -Preparing for winter season 	17 Sep '19 at 14:10	-Dry plant debris (mainly cucumber) -Broomrapes (parasitic plant) problem	Collect repellant plants' seeds and plant them; remove broomrapes while in the flowering stage or before if possible	He has lots of diversified products to be sold at the marketing festival: olive oil, thyme, honey, and local dry yogurt
11	Adel Oweinah (M)	-Production of okra and eggplant is ongoing -Planted cauliflower	17 Sep '19 at 17:05	-Ant problem	Prepare for next season; in case of heavy presence of ants, use isolation materials to prevent their access to tree canopy (e.g.: oil)	Eggplant crop is bitter; asked for small purification system

12	Nader Shami (M)	-Production of eggplant and pepper is ongoing -Planted cauliflower	17 Sep '19 at 11:00 (took more time, road to land is damaged)	-Birds (esp. partridges) feed on cauliflower and cabbage leaves	Collect okra seeds for next season; spray garlic extract plants on regular basis	He sold beans only (little amount for low price); Biodiversity: butterflies, partridges, black bird, capparis, iluna
13	Ibrahim Shami (M)	-Little production of eggplant, pepper and tomato	17 Sep '19 at 12:30	-Weeds -End of summer season -Some okra seeds are not mature yet	Remove weeds; prepare for next season; collect and dry okra seeds for next season	
14	Kamal Mu'ammar (M)	-Finishing the production season	17 Sep '19 at 15:35	-Plant debris needs to be removed	Prepare compost from plant debris; prepare for next season	Many weeds; he reported on the success of using garlic extract ; iluna and purslanes are present
15	Maher Harbouk (M)	-Finishing the production season (eggplant prod. is ongoing)	17 Sep '19 at 15:55	-Weeds -Previous season plants are dehydrated	Shallow plowing; prepare compost	
16	Fouad Shami (M)	-Finishing planting season	17 Sep '19 at 11:30	-Okra seeds are ready for harvesting -Weeds are abundant -Plant diseases and parasites are present from previous season	Remove weeds; collect okra seeds	He might use another piece of land next season; insect traps for next season
17	Ben Bella Abu Hasan (M)	-Very little production of tomato -Preparing for winter season	17 Sep '19 at 10:00	-Plastic on site -Most crops are dehydrated	Remove dry plants; minimize plowing (i.e. shallow plow); prepare compost; collect okra seeds	Asked for guidance on making/using pipes for hydroponics

18	Ibrahim Qaisi (M)	-Preparing part of the land for next season -Planted cauliflower -Production of eggplant is ongoing -Irrigating olive trees	17 Sep '19 at 9:05	-One crop is planted	Crossing/overlapping plantation	Biodiversity: pink rock, iluna, wild thyme
19	Omar Qaisi (M)	-Preparing for next season -Planted cauliflower	17 Sep '19 at 9:05	-Presence of aphid	Spray cauliflower with garlic and iluna extracts	

2.3 Conduct first festival during harvesting period of summer cultivation season

The project farmers participated within the marketing festival that have been arranged for by ICP at 5th of Oct. 2019, where they sold some of their fresh products such as grapes, quince, mint, pomegranate, and some eggplant. In addition to the processed products that they prepared before such as: pickled eggplant, pickled olive, Labneh (like soft cream cheese), thyme, dry yogurt, grape molasses, preserved grape leaves, and jams. The farmers were happy joining this festival, and they recommend to conduct another one next year.



2.4 Conduct four two-days training sessions for best sustainable farming practices, permaculture, organic farming and biological control for benefited farmers (practical training on water and soil management techniques)

Table (2): number of participants in the training practical training on water and soil management techniques (Planned compared with attended)

Trainer: 1	Trainer: Alice Gray(Byspokes)									
Area	Date of	Place of training	Attended	Planned						
	training									
Husan	30.09.2019	Husan village council and Hasan Zauol's (a farmer) field	17	19						
Al- Walaja	1.10.2019	Al-Walaja village council and Nabeel & Majed Ala'raj (farmers) filed	16	21						
Battir	2.10.2019	Battir municipality and Ra'ed Mua'mmar (a farmer) field	20	19						
Biet Jala	3.10.2019	Biet Jala	17	21						

Four workshops were carried out in Husan, Battir, Al Wallajah and Beit Jala (*see table (2) for more details*).

The workshops included discussion of agro-ecological farming and its political and environmental significance as well as feedback from farmers on the challenges they face on a day-to-day basis. *See the agenda of the training.*

Topics mentioned by farmers included:

- water challenges
- pest management challenges
- marketing challenges
- sourcing appropriate seedlings
- infrastructural challenges (e.g. lack of agricultural roads and water supply), which are a result of the repressive policies of the Israeli occupation
- settler damage to property and the threat of physical violence

The consultant gave a presentation about her own farm in Wales and how they are using agroecological principles to manage soil, water and pests and to make themselves more resilient to climate change; as well as their marketing strategy and outreach to their local community as a Community Supported Agriculture project.

Several practical demonstrations were then carried out including:

- Aerated compost tea how to make it and when to use it
- Use of water-level to find contour lines and measure the drop in land
- Use of A-frame to find contour lines
- Swales digging, planting and over-flows
- Trench beds on contour or gently sloping to make use of water from springs
- Sheet mulching with cardboard and straw to suppress weeds around trees
- Infiltration basins and boomerang bunds around trees for water harvesting
- Sheet mulching for vegetable production ('sandwich strategy')
- Mulching with straw

Note: not all practical topics were covered at every site -a selection was made based on the topography of the land and the interests of the group as stated in the discussion.

i24 channel covered the event for one day at Beit Jala site. See also the following table of picture.







Agenda

"التدريب العملي على تقنيات الحصاد المائي وتأهيل التربة"

"The practical training on water and soil management techniques" 30.09.2019 --- 3.10.2019 Trainer: Alice Gray _ المدرّبة: أليس جراي Locations: Husan, Al-walaja, Battir, Beit Jala --- حوسان, الولجة, بتير, بيت جالا

وقت الإنتهاء -Finishing time: وقت الإنتهاء

وقت البدء -Starting time: 9

أماكن التدريب حسب التاريخ -Training locations per date:

30.09.2019: حوسان (Husan), 1.10.2019: الواجة (Alwalaja), 2.10.2019: بتير (Battir), 3.10.2019: بيت جالا (Beit Jala)

Activity	الدقت -Time	النشاط
Registration	9·00-9·10	التسجيل
Self-introducing session	9:10-9:20	التعريف بالذات
One hour theory (at the village council/	9:20-10:20	الجانب النظرى (في قاعة المجلس القروى/ البلدية)
municipality)		
Break	10:20- 10:30	إستراحة
Theory continued	10:30-11:00	استئناف الجانب النظري
Break (on the way to one of the farmer's	11.05 11.20	إستراحة (التوجه إلى أرض المزراع المنوي عقد التدريب
field for practical part)	11:05-11:20	العملي لديه)
Practical training	11:25-12:25	البدء بالجانب العملي من التدريب
Coffee Break	12:25-12:40	استراحة
Practical training paused (water	12:40-1:30	استئناف التدريب
harvesting)		
Snacks (lunch)	1:30-2:30	وجبة خفيفة
Practical training paused (questions &	2:30-3:00	استئناف التدريب (أسئلة ونقاش)
discussion)		

2.5 *Capacity building: raising awareness of biodiversity to improve agricultural practices*

Tow day workshops (2-targeted areas per day) were conducted for the project farmers on Raising Awareness of Biodiversity to Improve Agricultural Practices. This workshop divided to theory-based lecture which focused on biodiversity and its relationship to the agriculture. On the other hand, an educational tour was conducted to show farmers the environmental/ agricultural modules in the botanical garden and the community garden at PMNH. These modules include: water harvesting techniques, composting: compost bile way (another way than the way that was applied in the practical training), Hugo culture system, aquaponics system, reusing plastic bottles to build a greenhouse/ nursery, the green wall technique using plastic bottles, in addition to show them rehabilitated animals at the museum to encourage them to protect the animals and nature. The farmer's knowledge about biodiversity had been increased after these workshops. The following pre/post-test show the results:





The following table shows the targeted areas, date of workshop, and attendee's number

Table (3): Number of participants in the training workshop (Planned compared with attended)							
Areas	Date of implementation	Attended	Planned				
Biet Jala and Al-Walaja	17.08.2019	18 in addition to two children	29				
		6	13				
Husan		18	19				
Battir	24.08.2019	21 in addition to some children	219				

Photos of the conducted visits to the PMNH





Agenda

ورشة عمل "زيادة وعي التنوع الحيوي وتجنيده في تحسين الزراعة" Workshop of "Raising awareness of biodiversity to improve agricultural practices" 17+24/08/2019 Facilitator/ trainers: PMNH staff مُيسّر الزيارة/ المدرّبين _ Agenda أجندة الزيارة PMNH Hall-قاعة متحف فلسطين للتاريخ الطبيعي

Activity	الوقت -Time	النشاط			
Registration	9:10-9:30	التسجيل			
Self-introducing session	9:35-9:45	التعريف بالذات			
Introduction about PMNH	9:50-10:20	مقدمة عن متحف فلسطين للتاريخ الطبيعي			
Biodiversity, a specific topics:	10.25 10.45	التنوع الحيوي بصورة موسعة:			
General idea about fauna and flora.	10:25-10:45	نبذة عن دور النباتات والحيوانات في التنوع الحيوي.			
Coffee Break	10:45-10:55	استراحة			
The threat of introduced plants of	11:00-11:40	النباتات الدخيلة/ المُهاجمة وخطر ها على البيئة المحلية.			
native environment.					
The effect of some organisms of the		دور بعض الكائنات الحية مثل الجراد, Carpenter bee,			
local environment (e.g. carpenter bee,		الكلاب الضالة, والغزلان في التنوع الحيوي وعلى البيئة			
street dogs, locusts and gazelles)		المحلية.			
Discuss with farmers marketing	12:00 -11:45	التطرق إلى موضوع المهرجان التسويقي			
festival					
Tour in the botanical garden	12:05-12:30	جولة في الحديقة النباتية			

2.6 Fourth Battiri Eggplant Festival- marketing the farmers' products

The main target of Battiri Eggplant Festival is to support Palestinian farmers and their products, where the farmers are able to sell a huge amount –if not all- of their products during the days of the festival. Our farmers from Battir participated in the festival; where they sold mainly

eggplant and other vegetables like sweet pepper and hot pepper, in addition to invest of selling other products –that are not delivered to them by the project- to gain more earnings and profit.



2.7 Practical field training

Four practical trainings conducted at one site per every targeted location of these 4 areas, the main 3 topics were applied/ taught are:

- Composting (compost pile), the main information about compost was layers, the importance for each layer, turning, the maturation period and indicators.
- Natural/ alternatives for pesticides: natural soaked plants mainly: crushed/ mixed garlic, hot pepper, soap, oil, *Melia azedarach*, and onion. These solutions mainly used for aphids, flies, and mosquitoes. They become more interest and ask for more about fungal diseases control by this way.
- Covering top soil with hey, straw, saw dust or/ and other available dried materials with mentioning the main benefits of covering the top soil.

The conducted practical trainings at the targeted locations



2.8 *Local agricultural committee meeting:*

Four agricultural local committee meetings were conducted in the targeted areas. The meeting discussed the previous and the next activities, plans, and interventions. Duties, trainings' dates, list of winter crops, summer season obstacles and solutions were discussed too. The local agricultural committee meetings conducted between 16th of May and 13th of Jul 2019 and included representatives of local cooperatives, village council/ municipality, and other key

farmers. The following table represents the number of participants, the participated organizations, and dates of meeting. (See table (4))

Table (4): Distribution of conducted local agricultural meetings with related stakeholders in
the targeted villages.

the targetter vinages.								
Locality Name	Meeting date	Participated organizations/	Number of participants		Number of participants		Total	The meeting location
		key individuals	Male	Female				
Biet Jala	19.06.2019	4	5	2	7	Beit Jala Municipality		
Battir	16.05.2019	5	5	2	7	Battir Municipality		
Husan	11.07.2019	4	3	2	5	Husan Village council		
Al-Walaja	13.07.2019	2	1	2	3	Al-Walaja Village Council		

The conducted local committee meeting in the target locations



2.9 *Two cooperation meeting with Union of Agricultural Work Committees (UAWC)*

The main aim of conducting cooperation meetings with UAWC is to provide farmers with a local rain-fed crops/ vegetables, where the first conducted meeting held at UAWC hall and seed bank and the second meeting conducted at PMNH. *For more information about 1st meeting see below minutes of meeting*.

Place of meeting	Date	No. of attendees
UAWC hall and seed bank	13.05.2019	4
PMNH	2.07.2019	7



Template and minutes of meeting

Project:	Biodiversity Conservation	and	Community	Development	in	Al-	
	Makhrour valley-Bethlehem						
	Cooperation meeting between	UAWC	and PMNH				
Date of Meeting:	13 th of May 2019	Time	:	10.00 am			
Meeting Facilitator:	Summer Shaheen	Locat	tion:	UAWC- Hebron			

1. Meeting Objective

Cooperation with regard to the mutual activities in between Palestine Museum of Natural History (PMNH) and Union of Agricultural Work Committees (UAWC).

2. Attendees			
Name	Department/Division	E-mail	Phone
Doa'a Zayed	UAWC	doaa@uawc-pal.org	0598923733
Sayel Atawneh	UAWC	sayel@uawc-pal.org	0599432461
Summer Shaheen	PMNH	sshaheen@bethlehem.edu	0568326977
Mohammad Najajrah	PMNH	mhnajajrah93@gmail.com	0595183605

3. Meeting Agenda					
Горіс С		wner	Time		
Introduction about PMNH and its activities and projects and projects and introduction about UAWC and its activities and projects, to understand the kind of mutual projects/ activities for each institution to follow a procedure of cooperation for the future.		PMNH & UAWC			
Introduction about Darwin Project implemented by PMNH and Project and mechanism of how to provide farmers with ocal seeds.		PMNH & UAWC			
Tour in the seed bank of the UAWC	U	UAWC			
3. Notes, Decisions, Issues, action items					
Торіс		Owner	Tim	e	
UAWC visit to the Palestine Museum of Natural History (at the beginning of the week of 16th of Jun).	he	UAWC	Jun		
Work upon an MoU between two parties (PMNH and UAWC).		UAWC	To by U	be determined AWC	
Provide PMNH with the winter season crops' list.		UAWC	Don	Done	
Prepare a list of exact areas that the farmers are going to pla with every winter crop, to calculate the share for every farmer.	nt	PMNH	By e	By end of May	
Facilitate for UAWC to have suasion within the training progra for farmers about the local seeds.	m	PMNH	(Jul-Aug)		
To host the project farmers at UAWC to present a workshop about local seeds.		UAWC	Or to be done at PMNH		
Discuss the project budget for the winter season crops wi UAWC, later on.	th	PMNH			
Support the project farmers with local seeds for all of the	ne	UAWC	Nov-Dec/ Jan		
winter season crops as possible as the availability of the seed	ls'				
quantity at UAWC's seed bank.					
Determine and facilitate for workshop about local seeds and summer season crops presented by UAWC as part of science café.		PMNH	Jul-Aug		
Awareness activities/ programs with regard to the mutual intere issues/ topics between PMNH and UAWC	est	PMNH/ UAWC			
Working together on rating some proposals related to the Medicinal Garden at PMNH. While preserving medicinal plants' samples at PMNH, the seeds of these plants are possibly preserved at UAWC's seed bank.		PMNH/ UAWC			
Possibility of conducting some research about the local seeds.		PMNH/ UAWC			
Note: the attendees signed on the scanned attendar	nce	sheet			

2.10 *Coordination meeting at directorate of agriculture*

A coordination meeting about the project activities was conducted on 11.9.2019 at directorate of agriculture hall-Bethlehem

, it focuses mainly upon the sustainable agriculture activities and trainings. The total attendees are 6, three of PMNH and the others from MoA.

Main discussed topics:

- Discuss the previous and the current activities and interventions
- Improve cooperation between MoA and the local NGOs at the same time increase the follow up work was recommended by PMNH, with regard to their projects and environment protection especially the world cultural heritage site within the current violations either by the projects' activities or by the local people.
- Another official meeting with one local NGO with the same people attended this meeting and engage the representatives of the local committees within was recommended.
- The coming training on water and soil management has been mentioned to the attendees, in addition to the marketing festival.



2.11 *Coordination meeting in regard to the Marketing Festival*

PMNH and ICP met on 23.09.2019 to discuss the schedule of the marketing festival, to arrange for announcement and invitations, and to revise the expenses of this festival.

