



EFH-PS-2 & 3

Provide technical assistance for addressing industrial pollution and supporting environmental inspection and inventory for the Olive Oil and the Tanning industries of Palestine

Report of the training on addressing industrial pollution from the Olive Oil and Tanning industries of Palestine (EFH-PS-2 & 3)

Grand Park Hotel, Ramallah, 28-29 January 2019

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1	Report of the training on addressing industrial pollution from the Olive Oil and Tanning industries of Palestine	Stavros Vlachos Tiberio Daddi	Michael Scoullas Anis Ismail



THE SWIM AND H2020 SUPPORT MECHANISM PROJECT (2016-2019)

The SWIM and H2020 SM is a Regional Technical Support Program, funded by the European Commission, Directorate General (DG) NEAR (Neighbourhood and Enlargement Negotiations), that includes the following Partner Countries (PCs): Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, [Syria] and Tunisia. However, in order to ensure the coherence and effectiveness of Union financing or to foster regional co-operation, eligibility of specific actions will be extended to the Western Balkan countries (Albania, Bosnia Herzegovina and Montenegro), Turkey and Mauritania. The Program is funded by the European Neighbourhood Instrument (ENI) South/Environment. It ensures the continuation of EU's regional support to ENP South countries in the fields of water management, marine pollution prevention and adds value to other important EU-funded regional programs in related fields, in particular the SWITCH-Med program, and the Clima South program, as well as to projects under the EU bilateral programming, where environment and water are identified as priority sectors for the EU co-operation. It complements and provides operational partnerships and links with the projects labelled by the Union for the Mediterranean, project preparation facilities in particular MESHIP phase II and with the next phase of the ENPI-SEIS project on environmental information systems, whereas its work plan will be coherent with, and supportive of, the Barcelona Convention and its Mediterranean Action Plan.

The overall objective of the Program is to contribute to reduced marine pollution and a more sustainable use of scarce water resources. The Technical Assistance services are grouped in 6 work packages: WP1. Expert facility, WP2. Peer-to-peer experience sharing and dialogue, WP3. Training activities, WP4. Communication and visibility, WP5. Capitalizing the lessons learnt, good practices and success stories and WP6. Support activities.



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1 GENERAL INTRODUCTION

The 2017-2022 National Policy Agenda of Palestine includes provisions for industrial waste: reduce and effectively control pollution and greenhouse gas emissions; expand solid waste management and recycling. At the same time, institutions in Palestine need support and technical assistance in the inspection, inventory processes and enforcement of environmental legislation.

Leather tanning wastewater in Palestine is highly polluted with Cr(III). International environmental standards require that chromium in wastewater should not exceed 5 mg L^{-1} for Cr(III) and 0.05 mg L^{-1} for Cr(VI). Meanwhile, the olive oil mill waste water is considered as one of the most polluting waste waters from the food sector and causes great problems in biota and cultivations untreated in soil or aquatic systems. It has a very high COD, i.e. $200\,000 \text{ mg/l}$, a low pH, i.e. 3–5.9, and a high content of solid matter, i.e. $20\,000 \text{ mg/l}$. In addition, the high polyphenol content of olive mill waste water (OMW), up to $80\,000 \text{ mg/l}$, make bacterial degradation very difficult and give them phytotoxic characteristics.

Much like in other regions of the world, the tanneries and olive mills in Palestine contribute to the core problem of surface and groundwater pollution. The wastewater from the different olive mills located in and around the different villages in the West Bank is being disposed into the wadies. The olive mill wastewater is then mixed with the flowing untreated municipal wastewater or with rainwater. The high organic polluted wastewater affects the soil, groundwater and water courses downstream. This occurs mainly during the olive season, generally from early October to late December.

Initially the Work Programme of SWIM-H2020 SM had two different activities, one entitled “Provide technical assistance for addressing industrial pollution focusing on the tanning and olive oil industries” and another on “Support in environmental inspection and enforcement of environmental legislation”. However, a joint decision (of the project and National Horizon 2020 Focal Point) was taken to merge the two activities into one: Provide technical assistance for addressing industrial pollution, supporting environmental inspection and enforcing environmental legislation for the Olive Oil and the Tanning industries in Palestine.

This report is about the 2-day training that provided technical assistance for addressing industrial pollution caused by the tanning and olive oil industries (e.g. PRTR, rehabilitation of polluted areas, design and implementation of environmental management plans, inventory, development of guidelines and tools on pollution reduction and prevention). It took place on 28-29 January 2019 in Ramallah.

2. OBJECTIVES AND EXPECTED RESULTS OF THE WORKSHOP

The training aimed to enhance the knowledge of public officials and professionals of tanneries and olive oil mills on how to prevent and reduce pollution from the olive oil and tanning sectors in Palestine. The



training's purpose was the development of guidelines and tools for pollution inspection/control in the mentioned industries in Palestine. To reach its objectives, the approach of the training was practical, included discussions of practical cases and engagement exercises of environmental management experiences adopted in the EU in the olive oil and the tanning industries.

The expected results of this training were:

1. Reinforced and developed capacities
2. Inputs for the experts to finalise the environmental pollution management guidelines/manuals for the Olive Oil and Tanning industries

The experts in charge are convinced that the above results were achieved, and also the positive overall assessment of the training by the trainees shows this. However, for any potential follow-up activities, the suggestions of the trainees (Annex 5.3) will be very useful in the design.

3. PARTICIPANTS PROFILE

In accordance with Terms of Reference of this activity, this workshop targeted competent professionals from the two industrial sectors, and technical staff from the Environmental Quality Authority (EQA), Ministry of National Economy, Joint Services Council for Solid Waste Management, Ministry of Local Government (Municipalities, Council, etc.), Committees of public health and safety in Governorates, Ministry of Health, Industries Union, Ministry of Agriculture (MoA) and Palestinian olive oil council.

As seen also from the list of participants (see Annex), the event was attended by 14 professionals from the 2 industrial sectors, 14 from the EQA, 4 from MoA, 1 from Palestinian Food Industry Union (PFIU), 1 from Palestinian Central Bureau of Statistics (PCBS) and 1 from the Palestine Police Department.

4. EVALUATION OF THE TRAINING BY THE TRAINEES

A. Feedback on organizational, administrative and planning issues of the event

A set of 7 criteria; A1-A7 (see table below) were assessed by the participants, using a qualitative description ranging between "Excellent" to "Poor", with an opportunity to provide suggestions for improvement. For the sake of comparison, the qualitative descriptions are given series numbers as follows: Excellent = 4; Good = 3; Average = 2; Poor = 1.



Table 1. Training rating results related to organizational, administrative and planning issues

A. ORGANISATIONAL, ADMINISTRATIVE AND PLANNING ISSUES BEFORE AND DURING THE EVENT						Total Replies	Average Score (max = 4)
		EXCELLENT	GOOD	AVERAGE	POOR		
A1	Efficient logistics: location of venue and interpretation	7	15	2	0	24	3.21
A2	Smooth flow of programme, efficient handling of emerging needs and attentiveness to participants concerns	5	17	2	0	24	3.13
A3	Presentations correspond and contribute to the planned objectives and are conducive to enhanced shared understanding and participation on addressed topics	5	13	5	1	24	2.92
A4	Clarity, coverage and sufficiency of concepts, objectives, anticipated outputs and outcomes	5	10	9	0	24	2.83
A5	The materials distributed were helpful	4	12	8	0	24	2.83
A6	Efficient and effective facilitation	9	12	3	0	24	3.25
A7	Overall rating of the event	7	16	1	0	24	3.25

See also the corresponding graphs for Table 1 in Annex 5.3.

B. Feedback on technical aspects of the event

Figure 1- Coverage of the event

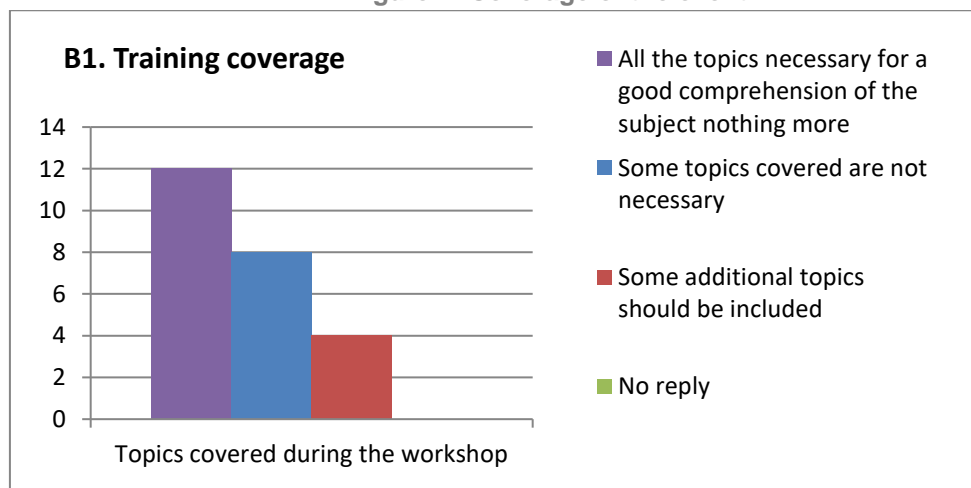




Figure 2 – Level of difficulty

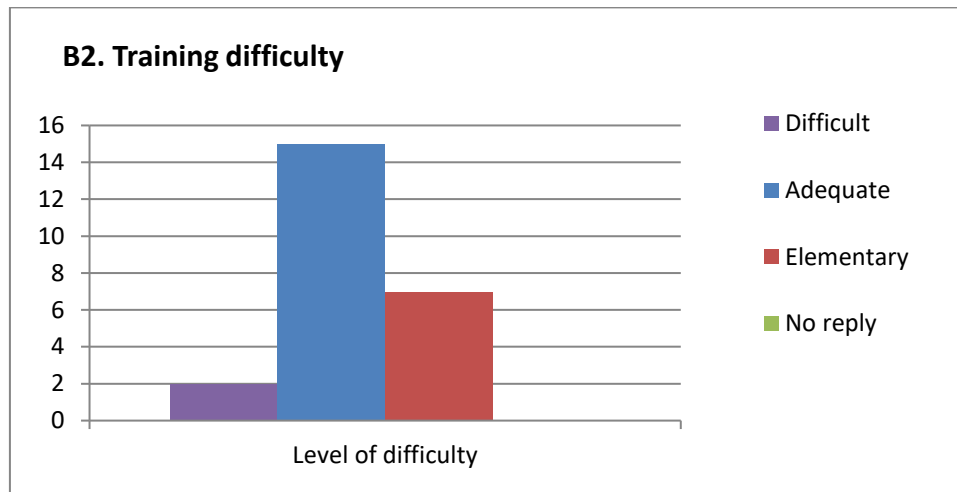
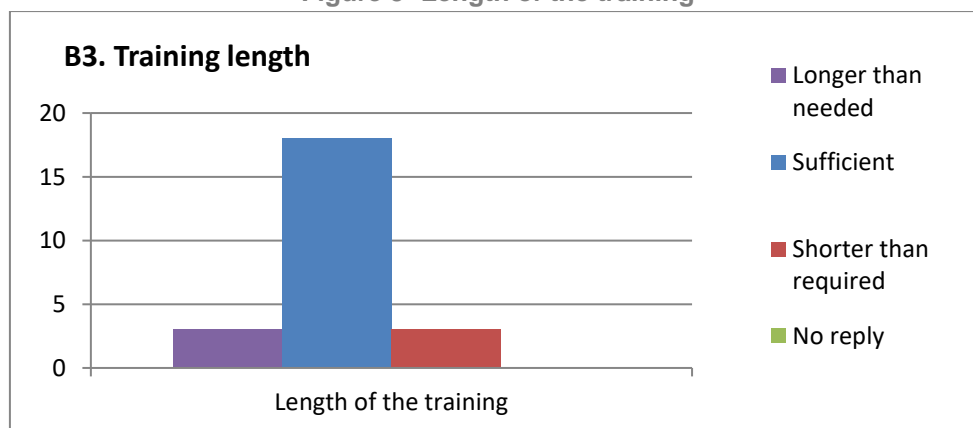


Figure 3- Length of the training



See more details regarding technical aspects in Table 2 in Annex 5.3.

For participants replies to the open-ended questions see Table 3 in Annex 5.3.



5. ANNEXES

5.1 AGENDA OF THE TRAINING

EFH-PS-2&3

Addressing industrial pollution from the Olive Oil and Tanning industries of Palestine

28- 29 January 2019, 09.00-15.00

Venue: Grand Park Hotel, Ramallah, Rafat St. Al-Masyoun Heights

28 January		Duration	
Session 1 Introduction	<ul style="list-style-type: none"> Welcome addresses, opening remarks The SWIM-HORIZON 2020 Support Mechanism Introduction, aims, participants expectations, ice-breaking 	09.00 - 10.00	<ul style="list-style-type: none"> SWIM-H2020 Experts EUD EQA
Session 2 Plenary	The Palestinian framework for the waste management of the two sectors	10.00 - 10.30	Presentation by EQA Discussion
Coffee Break			10.30 - 11.00
Session 3 Parallel Sessions	Environmental management system standards and their application in olive mills Stavros Vlachos, SWIM-H2020 SM Expert	11.00 - 13.00	Environmental management system standards and their application in tanneries Tiberio Daddi, SWIM-H2020 SM Expert
Lunch Break			13.00 - 14.00



Session 4 Parallel Sessions	Case study: the application of LCA (Life Cycle Assessment) in the olive mill sector <i>Stavros Vlachos, SWIM-H2020 SM Expert</i>	14.00 - 15.00	Case study: the application of LCA (Life Cycle Assessment) and PEF (Product Environmental Footprint) in tanneries <i>Tiberio Daddi, SWIM-H2020 SM Expert</i>
29 January			
Session 5 Parallel Sessions	Process description and key environmental aspects in the olive mill sector <i>Stavros Vlachos, SWIM-H2020 SM Expert</i>	09.00 - 11.00	<ul style="list-style-type: none"> • Process and product environmental performance for tanneries of excellence: the requirements imposed to EU tanneries by luxury brands • Environmental technologies and chemical substitutions in tanneries <i>Tiberio Daddi, SWIM-H2020 SM Expert</i>
Coffee Break			11.00 - 11.30
Session 6 Parallel Sessions	<ul style="list-style-type: none"> • Environmental Performance Indicators and monitoring of olive mills- International Legislation • Best available techniques application in olive mills • DMF technology- Decanter Multiple Function <i>Stavros Vlachos, SWIM-H2020 SM Expert</i> <i>Taher Omair, Pieralisi S.p.A.</i>	11.30 - 13.00	<ul style="list-style-type: none"> • Case study: Cooperative approach to manage environmental aspects (chromium, shavings and flashings, common wastewater treatment plant and its sludge) from tanneries located in large industrial areas: the case of tannery industrial cluster of S.Croce sull'Arno (Italy) • Engagement exercise on BAT (Best Available Techniques) in tanneries • Discussion of the exercise among participants <i>Tiberio Daddi, SWIM-H2020 SM Expert</i>
Lunch Break			13.00 - 14.00
Session 7 Plenary	<ul style="list-style-type: none"> • Closing/Wrap up • Course Evaluation • Certificates Award 	14.00 - 15.00	



5.2 LIST OF PARTICIPANTS OF THE TRAINING

Addressing industrial pollution from the Olive Oil and Tanning industries of Palestine (EFH-PS-2&3) 28-29 January 2019, Ramallah, Palestine								
No.	COUNTRY	TYPE OF INSTITUTION (please use the options provided*)	TITLE (Mr/Ms)	FIRST NAME	LAST NAME	POSITION/ FUNCTION	ORGANISATION/ INSTITUTION	EMAIL
1	GREECE	INTERNATIONAL ORGANISATIONS AND PROGRAMMES	Mr	Stavros	VLACHOS	Project Expert	Enviromentrics / SWIM-H2020 SM	svlachos@envirometrics.gr
2	ITALY	INTERNATIONAL ORGANISATIONS AND PROGRAMMES	Mr	Tiberio	DADDI	Project Expert	SWIM-H2020 SM	tiberio.daddi@santannapisa.it
3	PALESTINE	INTERNATIONAL ORGANISATIONS AND PROGRAMMES	Mr	Amer	EL-HAMOUZ	Project Expert	SWIM-H2020 SM	elhamouz@yahoo.com
4	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Ahmad	ABUTHAHER	Director General For Projects and International Relations & H2020 focal point	Environment Quality Authority (EQA)	ahmadabuthaher@yahoo.com
5	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Yaser	ABU SHANAB		Environment Quality Authority (EQA)	yaser_shanab@hotmail.com
6	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Murad	MADANI	Legal Advisor	Environment Quality Authority (EQA)	muradm73@hotmail.com
7	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Talib	IHMIED	Director of monitoring & inspection	Environment Quality Authority (EQA)	ihmied@gmail.com



8	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Abdelaziz	RAYYAN	Director	Environment Quality Authority (EQA)	rayyan.1986@yahoo.com
9	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Thabet	YOUSEF	Director of Ramallah Office	Environment Quality Authority (EQA)	thabet63@yahoo.com
10	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Saeda	SHAEBAT	Director of Environment Teaching	Environment Quality Authority (EQA)	ska_002005@yahoo.com
11	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Amjad	IBRAHIM	Director of Jericho Office	Environment Quality Authority (EQA)	amjadibrahim69@yahoo.com
12	PALESTINE	NGOs REPRESENTATIVES	Ms.	Sabha	ABDEL-RAHMAN	Technical	Palestinian Food Industry Union (PFIU)	s.ziad@pfiu.org
13	PALESTINE	ACADEMIA AND RESEARCH INSTITUTES	Ms.	Safia	IBRAHIM	Statistician, Head of Solid Waste Division	Palestinian Central Bureau of Statistics (PCBS)	sibrahim@pcbs.gov.ps
14	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Lames	FAHD	Inspector	Environment Quality Authority (EQA)	lameesfahd@hotmail.com
15	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Thikra	MUSTAFA	Inspector	Environment Quality Authority (EQA)	thikra.mustafa@yahoo.com
16	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Doaa	ABDALLAH	Inspector (Chemical Department)	Environment Quality Authority (EQA)	doaabdallah@hotmail.com
17	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Ruba	ABDEL HADI-ARMAN	Inspector	Environment Quality Authority (EQA)	rubaarman@hotmail.com
18	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Kahramana	AL-KELANI	Director of International relations	Environment Quality Authority (EQA)	kah_kelani@yahoo.com



19	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Zeyad	ADELRAHMAN	Director of National product industry	Ministry of National Economy (MoNE)	zeiadf@met.gov.ps
20	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Hossam	MOHAMMAD	Head of Olive Oil department	Ministry of Agriculture (MoA)	hossam_mosalam@yahoo.com
21	PALESTINE	PRIVATE SECTOR	Mr.	Khaled	SHTAYE	Inspector	Al Zaytoun Palestine	
22	PALESTINE	PRIVATE SECTOR	Mr.	Taher	OMAIR	General Manager	Pieralisi S.p.A	taher.omair@gmail.com
23	PALESTINE	PRIVATE SECTOR	Mr.	Khamees	QADI	Operator	Etalaf co-operative	khameesgadi@hotmail.com
24	PALESTINE	PRIVATE SECTOR	Mr.	Odwan	BANJABIR	Owner	Aqraba Olive Oil Mill	
25	PALESTINE	PRIVATE SECTOR	Mr.	Jamal	SALEH	Operator	Aruora electronic olive oil mill	
26	PALESTINE	PRIVATE SECTOR	Mr.	Shafer	RAFEQAH	Owner	Sinjel	shaferaburafegah1958@gmail.com
27	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Bashir	ABU HJLEH		Environment Quality Authority (EQA)	
28	PALESTINE	ACADEMIA AND RESEARCH INSTITUTES	Mr.	Abdallah	ALKHALEK	Director	Institute Abou Hallah	
29	PALESTINE	PRIVATE SECTOR	Mr.	Waleed	ZAHNEN		Olive press	

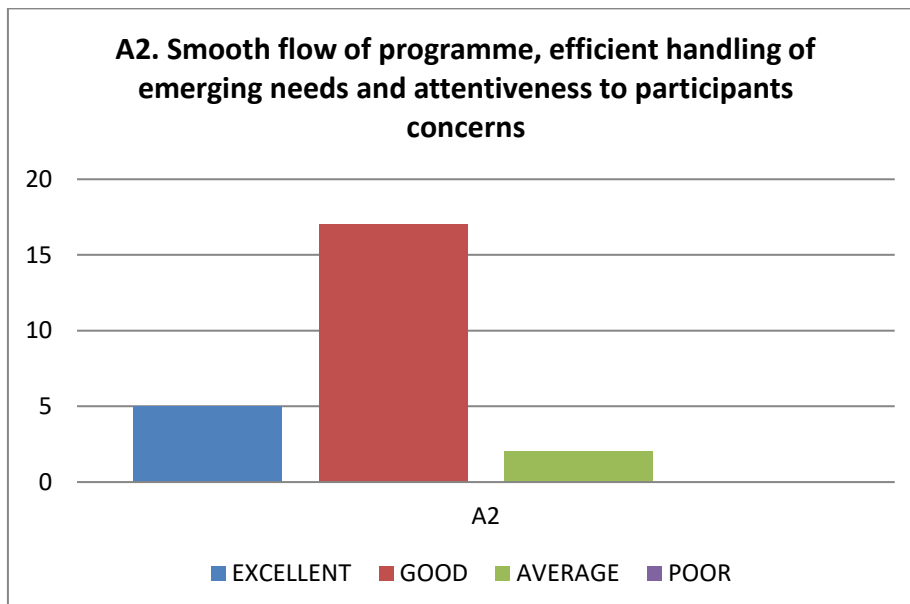
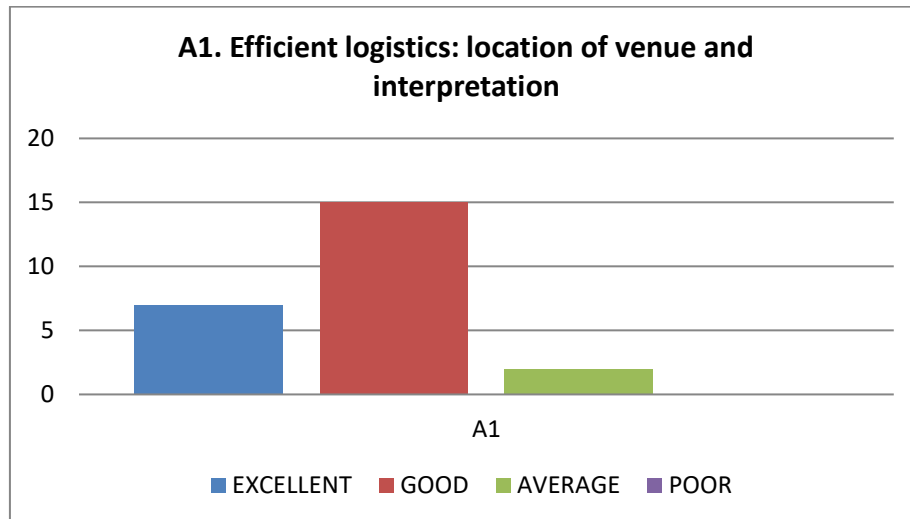


30	PALESTINE	PRIVATE SECTOR	Mr.	Hilal	MALHIS	Legal translator	Translation center Nabillus	hilal.malhis@yahoo.com
31	PALESTINE	PRIVATE SECTOR	Mr.	Reda	ISMAT	Project Director	Deir Ghasana olive oil mill	
32	PALESTINE	PRIVATE SECTOR	Mr.	Ali Ibrahim	ODAI	Director	The modern Beit Mreen oil mill	
33	PALESTINE	PRIVATE SECTOR	Mr.	Abu Lyla	THAER	Director	Qouseen Olive oil mill	
34	PALESTINE	PRIVATE SECTOR	Mr.	Mohammed	NABIL	Director	Modern Sarra Olive oil Mill	
35	ITALY	ACADEMIA AND RESEARCH INSTITUTES	Ms.	Guia	BIANCHI	PhD Researcher	Sant'Anna School of Advanced Studies in Pisa	gu.bianchi@santannapisa.it
36	PALESTINE	MINISTRY REPRESENTATIVES	Mr.	Ramiz	OBAID	Director of Olive department	Ministry of Agriculture (MoA)	ramiz_obaid@yahoo.com
37	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Ahlam	SADER	Head of Olive Oil department	Ministry of Agriculture (MoA)	a_alsadder04@yahoo.com
38	PALESTINE	MINISTRY REPRESENTATIVES	Ms.	Jumana	ZAID	Head of Olive Oil department	Ministry of Agriculture (MoA)	jumana_z@hotmail.com
39	PALESTINE	PRIVATE SECTOR	Mr.	Islam	ARAR	Director	Janat AlKods modern olive oil mill	islam.arar2010@hotmail.com
40	PALESTINE	LOCAL AUTHORITIES	Mr.	Ribhe	HANAYSHIB	Assistant director	Palestine Police Department	ribhebadad@gmail.com



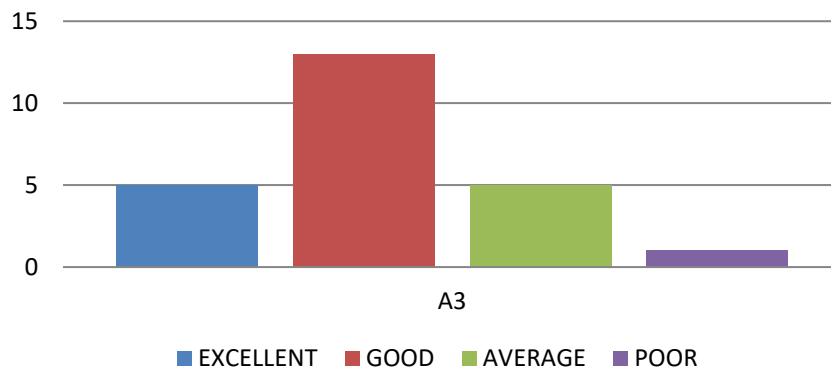
5.3 DETAILS ON THE RESULTS OF THE EVALUATION FORMS

The following graphs illustrate Table 1: Training rating results related to organizational, administrative and planning issues.

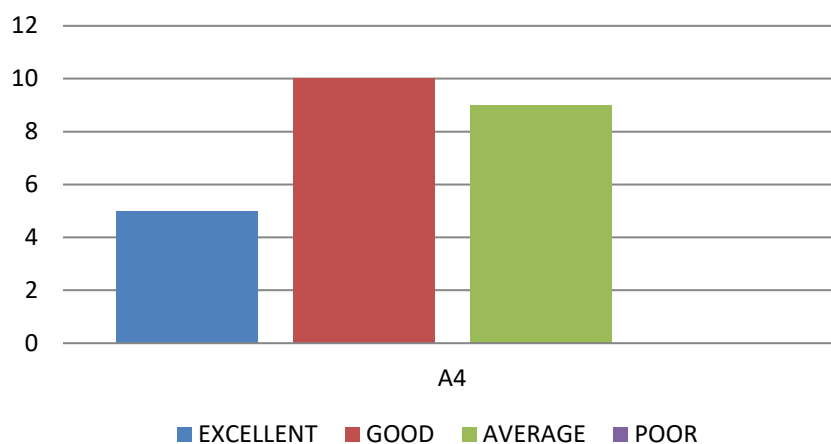


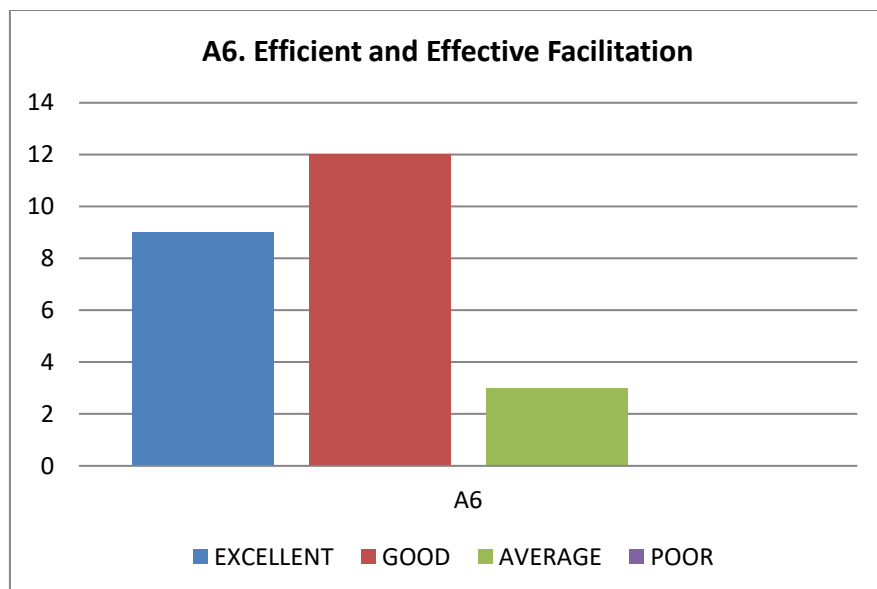
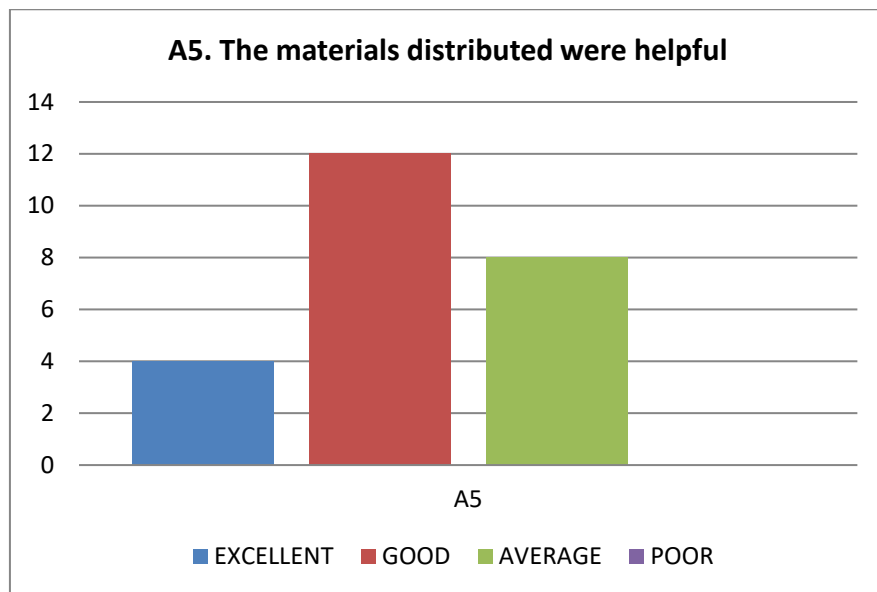


A3. Presentations correspond and contribute to the planned objectives and are conducive to enhanced shared understanding and participation on addressed topic



A4. Clarity, coverage and sufficiency of concepts, objectives, anticipated outputs and outcomes





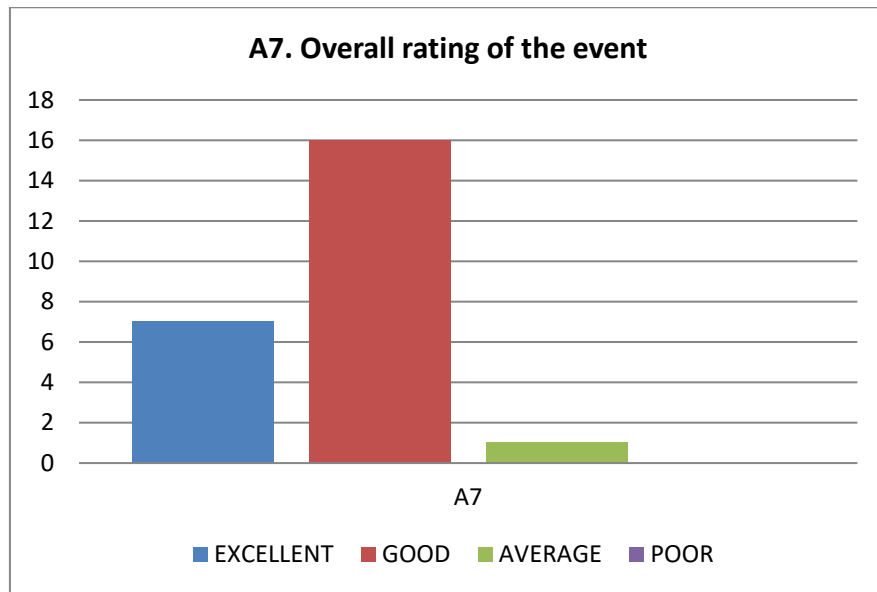


Table 1. Participants' feedback on technical aspects of the event.

FEEDBACK ON TECHNICAL ASPECTS	No. of replies
B1. Coverage of the event	
All the topics necessary for a good comprehension of the subject	12
Some topics covered are not necessary	8
Some additional topics should be included	4
Total Replies	24
B2. Level of difficulty	
Difficult	2
Adequate	15
Elementary	7
Total Replies	24
B3. Length of the training	
Longer than needed	3
Sufficient	18
Shorter than required	3
Total Replies	24



Table 3. Participants replies to the open-ended questions

Open-ended questions		Participant's replies
B4	What is the most valuable thing you learned during the workshop (knowledge or skills)?	<ul style="list-style-type: none"> how the developed countries deal with waste and their experience (2) how olive oil tanning can be managed to reduce environmental pollution and what is needed for this how to deal with liquid waste on olive industry the liquid waste characteristics and its effect on environment (3) about olive oil mills waste (2) about new techniques knowledge about the olive oil industry the problem in soil and water got a lot of experience from the case studies realized the gap of backwardness of Palestine vis-a-vis the sustainable development of the EU about EMSs and ISO 14001 (2) knowledge about tannery in Italy and some data about BAT the new technology (4)
	Total Replies	21
B5	How do you think that the current event will assist you in your future work on the subject?	<ul style="list-style-type: none"> to improve our property by trying to apply what we learnt in our country this event will open new window to environmentally friendly olive oil tanning and green industry it will help me to create a plan and procedures to deal with giving us new information about the new technology all around the world and also from now one we will concern more about the environmental problems and try to solve them using our resources it will help me to develop my project in the future how to protect water quality by using new techniques to better monitor it gives us knowledge about the new technology used around the world and it makes us concern about the environmental problems and how to deal with them (3) it will give us experience in monitoring hazardous waste in Palestine perseverance, enhancement and feedback in the field when we inspect it will help me in auditing and while conducting field visits for tanning industry how to make internal and external audit to look for new technology (4)
	Total Replies	20
B6	Please indicate whether (and how) you could transfer part of the experience gained from the event to your colleagues in your country?	<ul style="list-style-type: none"> focus on EMSs terms & study on these systems in order to be able to implement them in our country train my colleagues (2) yes, by arranging meetings giving speeches in different events yes, in my work and my colleagues (2) yes, but we need a translated guide in order to transfer the knowledge between our partners and colleagues (3) arrange meetings with the Agricultural Extension Unit in the Ministry of Agriculture share the presentations with my colleagues;



B7	What did you like most about this event?	<ul style="list-style-type: none">▪ holding identical seminars and spreading the essence of this workshop to my absentee natives▪ giving lectures to my colleagues▪ discuss what i learned with my staff (4)	18
		Total Replies	
B8	What needs to be improved?	<ul style="list-style-type: none">▪ the trainer▪ the knowledge i gain about EMSs & BEMP▪ the new technique in olive oil mills▪ everything as it is a good step to improve our business (2)▪ the waste methods▪ Brazili new technique to stop discharge of Zibar▪ the impact of the industry▪ the discussion and the new knowledge I gained (2)▪ that the training was related to my work▪ the value of this stable food material for the growth▪ technical information about tanneries▪ the discussion during the workshop (3)	16
		Total Replies	
		<ul style="list-style-type: none">▪ to match the training with our situation since it is very special case▪ to include a field visit▪ the material should be simpler since most of attendees are farmers▪ expert in liquid waste management and financial help to improve the mills▪ more trainings▪ nothing everything was fine (2)▪ experts (Arabic) on liquid waste management and written procedures in Arabic (3)▪ longer workshop duration▪ brainstorming for traditional practitioners of olive producers, copying with modernity, globalization and compliance with perfection and fidelity▪ technical and scientific information about tanning process▪ include practical sessions (4)	17
		Total Replies	