

Report

Capacity Building Workshop for Rural Women on “Food Manufacturing and Safety, and the Best Methods of Food Packaging and Preservation”

Chaqdouf, Akkar, Lebanon, 01-02 July 2021

Summary

The UN Economic and Social Commission for Western Asia (ESCWA) organized a capacity-building workshop for rural women in Chaqdouf on 01-02 July 2021 titled “Food Manufacturing and Safety, and the Best Methods of Food Packaging and Preservation”. The workshop aimed at supporting the outcomes of the “Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND)” project funded by the Swedish International Development Cooperation Agency (Sida), in conducting theoretical and practical capacity building workshops to improve livelihoods, achieve economic benefits, social inclusion and gender equality in Arab rural communities, especially marginalized groups, by addressing the problem of energy poverty, water scarcity, climate change and other natural resource challenges through the application of small-scale renewable energy technologies suitable for productive activities and private enterprise development.

The workshop enabled the participants, rural women of Chaqdouf, to acquire theoretical, technical and practical capabilities in food manufacturing, food safety, manufacturing of tomato products, and food packaging, storage, and preservation.

This report presents a summary of the implemented capacity building workshop, the major points resulting from the analysis of the evaluation forms, and the recommendations received from the participants.

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I. INTRODUCTION

1. The UN Economic and Social Commission for Western Asia (ESCWA) organized a capacity building workshop in Chaqdouf on 01-02 July 2021 titled “Food Manufacturing and Safety, and the Best Methods of Food Packaging and Preservation”.
2. The main objective of the workshop was to support the outcomes of the “Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND)” project funded by the Swedish International Development Cooperation Agency (Sida), in conducting theoretical and practical capacity building workshops to improve livelihoods, achieve economic benefits, social inclusion and gender equality in Arab rural communities, especially marginalized groups, by addressing the problem of energy poverty, water scarcity, climate change and other natural resource challenges through the application of small-scale renewable energy technologies suitable for productive activities and private enterprise development.
3. The workshop was attended by 30 participants representing rural women operational in productive activities in Chaqdouf village in Akkar, Lebanon.
4. The workshop was conducted in two days and consisted of three sessions; the first day was dedicated for theoretical explanation and presentation, while the second day was dedicated for the practical aspect, where the attendees applied the learnt techniques. Section II of this report summarizes the workshop’s recommendations while Section III provides a summary of the presentations and the main topics of discussions held during each session. Section IV reviews the organization of work, including information regarding the workshop agenda, participants and a summary of the participants evaluation outcome. The full documentation of the workshop is available at the following address:

<https://www.unescwa.org/workshop-food-manufacturing-safety-packaging-preservation>

II. MAIN TOPICS OF DISCUSSIONS

5. Presentations and discussions are summarized in the following sections which are organized according to the substantive sessions of the workshop.

A. BEST PRACTICES IN FOOD MANUFACTURING

6. The session addressed the central role of women in food manufacturing in rural areas in Lebanon. Then, it went on to explain all necessary requirements for a healthy, clean, and efficient food manufacturing process. As per the discussion, the main factors to consider during food manufacturing are:
 - a) Personal hygiene.
 - b) Work environment.
 - c) Cleanliness of site.
 - d) Work pace.
 - e) Good and high quality resources.
 - f) The importance of energy efficient equipment.
 - g) Preparation of the cooking and production environment.
 - h) The importance of an efficient and optimal production line.
7. Personal hygiene was discussed thoroughly, as it includes:
 - a) Thorough and detailed handwashing.
 - b) Very clean and white clothing.
 - c) Covering the hair as it is a major source of contamination.
 - d) Cutting the nails
 - e) Removing jewellery since they collect dust and contaminants.
8. There are several requirements at the work environment, such as:

- a) Good and efficient lighting.
 - b) Continuous cleaning.
 - c) Forced ventilation.
 - d) The necessity of mesh at doors and windows to ensure aerial circulation without letting bugs and flies in.
9. The production line should be designed in a vertical line to avoid redundancy and ensure efficiency.
10. Tools and equipment should be:
- a) Made of stainless steel to avoid corrosion and rust.
 - b) Designed in a smooth manner for ease of cleaning.
 - c) Cleaned and sterilized continuously
 - d) If chemicals were used during cleaning, they should be completely removed before reusing.
11. The workshop also discussed the types of contamination and the methods to prevent them by continuously cleaning and sterilizing food products and tools, and keeping foods in a cold temperature. When it happens, food contamination could lead to very negative consequences (legal, commercial, and reputation). The types of contamination are:
- a) Chemical contamination: due to insecticides, detergents, and food additives.
 - b) Physical contamination: due to dirt, and poor packaging.
 - c) Microbial contamination: due to microbes.
12. The discussion provided further explanation to the microbial contamination, since it is the most dangerous, and the most difficult to avoid. Dangerous microbes grow in environments with temperatures between 5 and 60, and with high humidity. They grow less in foods with high acidity.
13. The participants were also introduced to the most common components in food production such as sugar, salt, vinegar, citric acid, and pectin.
14. The measure of pectin in food products was further discussed, and attendees were informed that each country has a certain range. The trainer provided an example when he exported food products to country; at the borders of the importing country the products were rejected because of variation from the required pectin percentage.

B. MANUFACTURING OF TOMATO-RELATED PRODUCTS

15. The session provided an explanation of a thorough step-by-step guide on how to produce tomato-related products, such as tomato paste, ketchup, and pizza sauce.
16. The first component of this session was an introduction about tomatoes in general and its high nutritional value, and that it includes Lycopene, which plays a crucial health in the health of the human body. With examples, tomatoes were demonstrated as an important ingredient in all cuisines with special attention to the Lebanese cuisine.
17. The first step to producing any tomato-product, is the process of **picking** the tomato.
- a) It should be red, ripe, and soft.
 - b) Without yellow or green spots.
 - c) Harvested in a summer season.
18. The second step is the process of **washing** the tomatoes, which should be done as follows:

- a) Wash with high pressure running water.
- b) Soak them with water, with a sprinkle of powder soap. Then, stir the tomatoes so that the soap has effectively cleaned them.
- c) Sprinkle the tomatoes with fresh water, and wash away any soap residues.
- d) All throughout the above steps, make sure to remove away any dirt, stones, and any other residues.
- e) After that, the tomatoes are to be moved into clean boxes for later processing.



FIGURE 1: WASHING THE TOMATOES BEFORE COOKING

19. The third step is the process of **preparing** the tomatoes for cooking, and there are 2 methods for that:

- a) The first method is **chopping** the tomatoes before cooking. This method is much faster, and saves a lot of time.
- b) The second method is finely **grinding** the tomatoes, and this method provides high return and more quantities, but consumes much more time.



FIGURE 2: CHOPPING AND JUICING THE TOMATOES

20. The fourth step is the **juicing** of the tomatoes, and this should be done through industrial machines in case there are large quantities.

21. The fifth step is the **condensation** of the tomato paste, and this is to be done through boiling. Salt and citric acid are to be added based on taste.

22. The sixth step is a very important, which is the **sterilization** phase:



FIGURE 3: POURING THE TOMATO PASTE INTO JARS

- a) The tomato paste is to be poured in jars while hot.
- b) Jars' covers to be put in a very specific manner without touching the glass to avoid contamination and hurting oneself through the hot glass.
- c) The filled jars are to be put in boiling water for 20 minutes for thorough sterilization.
- d) After boiling, they're inserted in bowls of running cold water to so that the air inside the jars is contracted, and causes to jars to pressurize, and avoid entering of outside air.

C. PRACTICAL DAY: PREPARATION, COOKING AND PACKAGING OF TOMATO PRODUCTS

23. The second day of the workshop was dedicated for practical instruction on how to prepare, cook, and package tomato related products such as ketchup, sauce, and tomato paste. The cooking was done through the equipment available in the food cooperative in Akkar Atika, and the women followed the instructions of the trainer, and the lessons learnt from the first day of the workshop.

24. Although the country had an electricity crisis during that period of time, the workshop benefited from the reliable solar system installed by REGEND on the roof of the food manufacturing workshop.

D. CLOSING SESSION

25. The closing session was dedicated for the attendees to provide their evaluation and recommendations in the evaluation forms. After the distribution of the certificates, a group photo was taken with the trainer, with jars of tomato paste and tomato sauces prepared by the participants.



FIGURE 4: GROUP PHOTO OF THE PARTICIPANTS AND THEIR JARS OF TOMATO PRODUCTS

III. ORGANIZATION OF WORK

A. DATE AND VENUE

26. The capacity-building workshop was held by ESCWA on 01-02 July 2021. The first day dedicated for theoretical explanation was conducted at a hall in Chaqdouf village, while the second day which required specific requirements for cooking, was conducted the food manufacturing cooperative in Akkar Atika in the governorate of Akkar, Lebanon. The workshop activities started at 09:00 am and ended at 01:00 PM, as per the agenda and detailed concept note.

B. OPENING

27. The workshop was formally opened by Mr. Omar Kaaki, Research Assistant, CCNRSC, ESCWA covering the REGEND Project, its current progress, the planned workshops, and introducing the trainer.

C. PARTICIPANTS

28. The workshop was attended by 30 participants representing rural women operational in productive activities in Chaqdouf village in Akkar, Lebanon.

D. DETAILS OF THE PRESENTERS

29. Presentations were made by the following food manufacturing expert:

- Mr. Fadi Daw, National Consultant, ESCWA

E. AGENDA

30. Presentations and discussions were made over three sessions. The agenda of the workshop is summarized below:

- a) Welcoming Remarks
- b) Best Practices in Food Manufacturing

- c) Manufacturing of Tomato-Related Products
- d) Practical Day: Preparation, Cooking and Packaging of Tomato Products
- e) Closing Statements and Way Forward

F. EVALUATION

19. An evaluation questionnaire was distributed to the participants to assess the relevance, effectiveness, and impact of the workshop. The feedback received from the 30 respondents was very positive with 100% of them agreeing that the overall quality of the workshop met their expectations and that the sessions were successful in improving their knowledge in the tackled topics, and that the content was clear, well-structured, and presented in an interactive and engaging manner.

Similarly, 100% of the respondents agreed that the logistics of the workshop were handled in a suitable manner, and 93% thought that there was enough time allocated for the workshop and for each session.

ANNEX I: AGENDA

Thursday 01 July 2021	
09:00-09:30	Attendance Registration
09:30-10:00	Opening Session Welcoming Remarks: <ul style="list-style-type: none"> – Ms. Radia Sedaoui, Chief of Energy Section, Climate Change and Natural Resources Sustainability Cluster (CCNRSC), ESCWA -- REGEND Project, its objectives, main pillars, expected accomplishments, and approach, and capacity building workshops – Introduction of the trainer and participants
10:00-10:45	Session 1: Introduction to Best Practices in Food Manufacturing Mr. Fadi Daou, Consultant, ESCWA <ul style="list-style-type: none"> – The central role of rural women in the field of food manufacturing – Necessary health conditions in food manufacturing – Necessary tools and equipment in food manufacturing – The importance of energy efficient equipment – Requirement of good food manufacturing – Preparation of the working environment in food manufacturing – Creating new product lines of Lebanese rural food products – Optimizing and improving food production lines for the sake of energy efficiency Questions and answers
10:45-11:30	Session 2: Food Safety and Methods of Prevention of Food Contamination Mr. Fadi Daou, Consultant, ESCWA <ul style="list-style-type: none"> – Food contamination – Bacterial contamination, and its prevention methods Questions and answers
11:30-11:45	Coffee break
11:45-12:30	Session 3: Best Practices of Food Sterilization and Preservation Mr. Fadi Daou, Consultant, ESCWA <ul style="list-style-type: none"> – Methods of sterilization of glass jars – Prolongation of the food expiry dates – Legal specifications of food products Questions and answers
12:30-13:00	End of Day 1 of the Workshop

Friday 02 July 2021	
09:00-09:30	Attendance Registration
09:30-12:30	<p>Practical Day: Preparation, Cooking, and Packaging Tomato Related Products Mr. Fadi Daou, Consultant, ESCWA</p> <ul style="list-style-type: none"> - Theoretical and practical production of 4 types of Tomato-Products - Practical sterilization of the products' jars <p>Questions and answers</p>
12:30-13:00	<p>Conclusion of the Workshop Distribution of the attendance certificates Group photo</p>

ANNEX II: LIST OF PARTICIPANTS

1. Aya Mouin Shkhaydem
2. Aline Mohammad Othman
3. Mireille Nidal Shwar
4. Marlene Elias Saoud
5. Camilia Aziz AlBayeh
6. Ibtissam Sarkis
7. Jamila Saoud
8. Bothaina Monsef Ismail
9. Nahla Elias Khalil
10. Souad Mourani
11. Shadia Khodr
12. Safaa Ahmad Khodr
13. Rima Mohammad Dbouk
14. Iman Yusuf Dabboul
15. Maria Joseph Bouejian
16. Raymonda Michel Abdayem
17. Howeida Hasan Yehya
18. Lea George Yusuf
19. Daniella Hanna Saoud
20. Marcel Elias Saoud
21. Fouad Riad Nader
22. Rola Ahmad Deeb
23. Reem Khodr
24. Mariam Yehya
25. Samira Othman
26. Cynthia Bou Hanna
27. Khitam Yehya