

Report

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

Akkar El Atika, Akkar, Lebanon, 02-03 June 2021

Summary

The UN Economic and Social Commission for Western Asia (ESCWA) organized a capacity-building workshop for rural women in Akkar El Atika on 02-03 June 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 the food manufacturing cooperative in Akkar El Atika 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 Akkar El Atika on 02-03 June 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 15 participants representing rural women operational in productive activities in Akkar El Atika 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 C and 60 C, 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.



FIGURE 1: TOMATOES PURCHASED FOR THE WORKSHOP

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 2: 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.

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.



FIGURE 3: CHOPPING AND JUICING THE TOMATOES

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



FIGURE 4: POURING THE TOMATO PASTE INTO THE 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 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, and the women followed the instructions of the trainer, and the lessons learnt from the first day of the workshop.

24. One of the benefits of the workshop was that machines that the cooperative members thought only worked for juicing apples, are also suitable for other types of fruits and vegetables. This is a major source of future income.

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 5: GROUP PHOTO OF THE PARTICIPANTS WITH THE TRAINER AND THEIR PRODUCTS

III. ORGANIZATION OF WORK

A. DATE AND VENUE

26. The capacity-building workshop was held by ESCWA on 02-03 June 2021 at the food manufacturing cooperative in Akkar El Atika village 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 Ms. Radia Sedaoui, Chief of Energy Section, CENRSC, ESCWA covering the REGEND Project, its objectives, main pillars, expected accomplishments, sustainability, and approach.

28. Remarks by Ms. Nahed Ahmad, the Head of the cooperative followed. Ms. Nahed thanked ESCWA and Sida for their generous support to the cooperative in Akkar El Atika, especially in terms of the donated equipment and installations. She stressed how the installed renewable energy system and the provided energy efficient equipment will enhance the performance of the cooperative's activities and reduce their operating costs.

C. PARTICIPANTS

29. The workshop was attended by 15 participants representing rural women operational in productive activities in Akkar El Atika village in Akkar, Lebanon.

D. DETAILS OF THE PRESENTERS

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

- Mr. Fadi Daw, National Consultant, ESCWA

E. AGENDA

31. 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

32. An evaluation questionnaire was distributed to the participants to assess the relevance, effectiveness, and impact of the workshop. The feedback received from the 15 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.

33. Below are some of the suggestions, remarks, and needs expressed by the participants in their evaluation forms:

- a) Some of the participants expressed the interest and need for further capacity building workshops, with proposed topics such as English language, embroidery, production of dairy products, pickles, ... Some of the aforementioned topics will be covered by REGEND in upcoming workshops.
- b) There's a need for cultural and sports centres in the area.

ANNEX I: AGENDA

Wednesday 02 June 2021	
09:00-09:30	Attendance Registration
09:30-10:00	Opening Session Welcoming Remarks: <ul style="list-style-type: none"> – Ms. Nahed Ahmad, Head of the Cooperative Association for the Manufacturing of Agricultural Products in Akkar El Atika – 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

Thursday 03 June 2021	
09:00-09:30	Attendance Registration
09:30-12:30	Practical Day: Preparation, Cooking, and Packaging Tomato Related Products Mr. Fadi Daou, Consultant, ESCWA <ul style="list-style-type: none"> - Theoretical and practical production of 4 types of Tomato-Products - Practical sterilization of the products' jars Questions and answers
12:30-13:00	Conclusion of the Workshop Distribution of the attendance certificates Group photo





اللجنة الاقتصادية والاجتماعية لغربي آسيا (الإسكوا)

ورشة تدريبية للسيدة الريفية حول "الصناعات الغذائية، وسلامة الغذاء، وأفضل الأساليب لتغليف وتعليب وحفظ الأغذية"

عكار العتيقة، عكار، لبنان
2-3 حزيران/يونيو 2021

البرنامج

الأربعاء 2 حزيران/يونيو 2021	
تسجيل الحضور	09:30 - 09:00
الجلسة الافتتاحية	10:00 - 09:30
كلمات ترحيبية: <ul style="list-style-type: none"> ▪ السيدة ناهد أحد، الجمعية التعاونية لتصنيع المنتجات الزراعية في عكار العتيقة ▪ السيدة راضية سداوي، رئيسة قسم الطاقة، مجموعة تغيّر المناخ واستدامة الموارد الطبيعية، الإسكوا -- تقديم مشروع "REGEND" وأهدافه وأنشطته وأهداف سلسلة التدريبات ومحتواها ▪ التعريف بالمحاضر وبالمشاركين 	
الجلسة الأولى: مقدمة عن أفضل ممارسات الصناعات الغذائية	10:45 - 10:00
السيد فادي ضو، مستشار، الإسكوا <ul style="list-style-type: none"> • دور المرأة الرئيسي في مجال الصناعات الغذائية في الريف اللبناني • الشروط الصحية في التصنيع الغذائي • المواد والأدوات اللازمة للتصنيع الغذائي • أهمية أن تكون المعذات ذو فعالية طاقة عالية • متطلبات التصنيع الغذائي الجيد • تحضير بيئة العمل في مجال الصناعات الغذائية • إنتاج أصناف جديدة من المونة اللبنانية • تطوير وتحسين خط إنتاج الصناعات الغذائية من خلال خفض استهلاك الطاقة 	
أسئلة وأجوبة	

الجلسة الثانية: سلامة الغذاء وطرق الوقاية من تلوث الغذاء السيد فادي ضو، مستشار، الإسكوا	11:30 -10:45
<ul style="list-style-type: none"> • تلوث الأغذية • التلوث البكتيري • طرق الوقاية من التلوث 	
أسئلة وأجوبة	
استراحة قهوة	11:45 -11:30
الجلسة الثالثة: أفضل طرق تعقيم وحفظ الأغذية السيد فادي ضو، مستشار، الإسكوا	12:30 -11:45
<ul style="list-style-type: none"> • تطوير طرق تعقيم مرابطين الزجاج • إطالة صلاحية ومدة حفظ الأغذية • تسويق منتج نهائي كامل المواصفات القانونية 	
أسئلة وأجوبة	
ختام اليوم الأول من الدورة التدريبية	13:00-12:30
الخميس 3 حزيران/يونيو 2021	
تسجيل الحضور	09:30 -09:00
يوم تطبيق عملي: تحضير وطبخ وإنتاج عينات من مشتقات البندورة السيد فادي ضو، مستشار، الإسكوا	12:30 -09:30
<ul style="list-style-type: none"> • إنتاج نظري وتطبيقي ل 4 أصناف من مشتقات البندورة • تطبيق عملية تعقيم سليمة وفعالة 	
أسئلة وأجوبة	
ختام الدورة التدريبية توزيع شهادات المشاركة صورة جماعية	13:00-12:30

ANNEX II: LIST OF PARTICIPANTS

1. Sabah Ahmad Al Aakk
2. Shadia Khodr Al Masri
3. Nahed Ahmad
4. Elham Al Ayoubi
5. Manar Bader Al Shakoush
6. Rania Shehadi Al Shakoush
7. Khadija Mostafa Mostafa
8. Maha Taleb
9. Faten Mohammad Al Nazer
10. Ahlam Mohammad Al Shaar
11. Nahida Mohammad Kaddour
12. Mona Darwish Yusuf
13. Fatima Hussein Tlayje
14. Abir Rasheed Moussa
15. Amina Mohammad Al Ahmad