

Activity Report Form

Summary	
Project: CCGPSL-WPG-B	Date of the report: 15 June 2026
Submitted by: LRI	Submitted to: Joëlle Puig
Facilitator/Trainer: Sophie Mansour, Khalil Haddad, Khaled Sleem, Serge Harfouch, Mahmoud Hajj	Date of Activity: 19 May, 21 May, 26 May, 2 June, 4 June, 9 June, 12 June 2026
Type of Activity: Training of farmers	Location of Activity: - Municipality of Zahle: 19 May, 21 May, 26 May, 2 June, 12 June - Buzuruna Juzuruna Farm, Saadnayel: 4 June - Maroun Abou Akar Land, Wadi el Arayech: 9 June
Target Beneficiaries: Beneficiary farmers of HAUD Project (CCGPSL-WPG-B)	Total Attendance: 7
Distribution	
Session 1 – 19 May 2026	Total = 7 Men = 6 Women = 1
Session 2 – 21 May 2026	Total = 5 Men = 5 Women = 0
Session 3 – 26 May 2026	Total = 6 Men = 5 Women = 1
Session 4 – 2 June 2026	Total = 6 Men = 5 Women = 1
Session 5 – 4 June 2026	Total = 6 Men = 6 Women = 0
Session 6 – 9 June 2026	Total = 6 Men = 5 Women = 1
Session 7 – 12 June 2026	Total = 6 Men = 5 Women = 1
Title and Objective(s) of Activity	
Title: Training of farmers to support the transition to agroecological practices Objectives: To strengthen the capacity of beneficiary farmers to adopt and implement agroecological practices adapted to their local context, improving soil health, optimizing water use, enhancing functional biodiversity, reducing dependence on chemical inputs, and increasing the resilience of their farming systems to climate and environmental challenges.	
Description of Activity	
Session 1: Introduction to agroecology - Farmers filled in a pre/post knowledge assessment on agroecology and sustainable practices. They will redo it during the final session to assess the evolution of their knowledge. - Introduced the concept of agroecology and its role in promoting sustainable, resilient, and productive farming systems adapted to local environmental and socio-economic conditions. - Facilitated an interactive discussion during which participants reflected on their motivations for farming and the current challenges facing agriculture in Zahle and the Bekaa. Farmers emphasized that, despite their strong attachment to agriculture and their land, they are facing increasing economic and environmental pressures that threaten the viability of their livelihoods. - Participants identified several key constraints affecting agricultural production and profitability, including: - Low market prices for cherries, making it difficult to recover production costs. - Reduced export opportunities due to the security situation in Lebanon and disruptions to regional trade routes.	

- Limited financial resources to rehabilitate agricultural lands and invest in improved farming practices.
- The growing impacts of climate change, including irregular rainfall, drought, and extreme weather events, leading to lower yields and reduced productivity.
- Rising production costs, particularly for agricultural inputs and labor.
- Limited governmental support and extension services to assist farmers in addressing these challenges.
- Conducted a participatory group exercise comparing two farming systems based on criteria such as soil fertility, biodiversity, water use efficiency, climate resilience, production costs, and long-term profitability.
- Presented the 13 Principles and 10 Elements of Agroecology, highlighting their contribution to sustainable natural resource management, biodiversity conservation, circular resource use, social equity, and resilient food systems.
- Guided participants through a self-assessment exercise to evaluate the agroecological performance of their own farms, covering topics such as soil health, water management, biodiversity, use of organic inputs, climate resilience, and knowledge sharing.
- Introduced the five core pillars of agroecology:
 - Healthy soils through compost, organic matter, reduced tillage, and soil protection.
 - Improved water management through enhanced infiltration, reduced evaporation, and rainwater harvesting.
 - Agricultural biodiversity through diversified cropping systems and habitat conservation.
 - Reduced dependence on external inputs by promoting local resources and minimizing chemical use.
 - Stronger farming communities through cooperation, knowledge exchange, and local adaptation.
- The session encouraged participants to critically assess their current farming practices and identify opportunities to gradually transition towards more sustainable and resilient agroecological systems while addressing the economic and environmental challenges affecting agriculture in the Berdaouni watershed.

Session 2: Soil Management & Conservation

- Introduced the concept of soil as a living resource and the foundation of agricultural productivity.
- Presented the main soil degradation challenges in Lebanon, including erosion, compaction, salinity, and loss of soil fertility.
- Explained how to identify common soil health issues through field observations and simple soil texture tests.
- Highlighted the importance of soil analysis, proper soil sampling methods, and key indicators such as soil pH and electrical conductivity.
- Discussed the causes and impacts of soil erosion on agricultural productivity, water resources, and ecosystem health.
- Introduced conservation agriculture practices, including reduced tillage and measures to prevent soil compaction.
- Presented methods to improve soil fertility and structure through compost application and increased organic matter.
- Explored the use of cover crops, green manures, and crop rotation to enhance soil health and reduce degradation.
- Demonstrated the benefits of mulching for reducing evaporation, conserving soil moisture, and protecting the soil surface.
- Introduced soil and water conservation techniques suitable for sloping lands, including contour farming, terracing, swales, strip cropping, and vegetative hedgerows.
- Engaged farmers in discussions on practical soil conservation measures that could be applied on their own farms to improve resilience and long-term productivity.
- Engaged farmers in discussions explaining the soil test results of their lands.

Session 3: Water Management – Optimizing Irrigation Water Inputs (Efficient and Sustainable Irrigation)

- Introduced the current water challenges in Zahle and the Berdaouni watershed, including declining rainfall, increasing drought frequency, rising water demand, groundwater depletion, and climate change impacts.
- Discussed the competition between agricultural and urban water uses and the need for sustainable water management practices.
- Explained the effects of climate change on agriculture, including increased evapotranspiration, crop water requirements, heat stress, and extreme weather events.
- Highlighted the importance of water for plant growth, nutrient transport, soil health, and crop productivity.
- Presented key water-related challenges faced by farmers, including water scarcity, salinity of soils and irrigation water, and low irrigation efficiency.
- Introduced methods for assessing irrigation water quality, including electrical conductivity (EC) and total dissolved solids (TDS), and discussed the effects of salinity on crops.
- Explained the risks associated with excessive groundwater extraction and the importance of preserving groundwater resources.
- Presented sustainable water management strategies, including rainwater harvesting, water storage ponds and tanks, and runoff management.
- Discussed soil management practices that improve water retention and infiltration, such as increasing organic matter, compost application, cover crops, mulching, and conservation tillage.
- Introduced soil and water conservation techniques including contour farming, terracing, swales, strip cropping, and vegetative hedgerows to reduce runoff and soil erosion.
- Highlighted the importance of selecting drought-tolerant crop varieties adapted to local climatic conditions.
- Compared irrigation methods, emphasizing the higher efficiency of drip irrigation and smart irrigation systems compared to traditional surface irrigation.
- Explained how crop water requirements vary according to crop type, growth stage, climate, and soil characteristics, and introduced concepts such as evapotranspiration (ET_0) and crop coefficients (K_c).
- Concluded that efficient water management can increase agricultural productivity, reduce production costs, conserve water resources, and strengthen climate resilience.

Session 4: Agroecological Pest Management

- Introduced the concept and principles of Integrated Pest Management (IPM) as an approach that combines multiple control methods to maintain pests below economic thresholds while minimizing risks to human health and the environment.
- Discussed the limitations and adverse effects of excessive pesticide use, including pest resistance, impacts on beneficial organisms, environmental contamination, and increased production costs.
- Highlighted the importance of preserving natural enemies and ecological balance as key components of sustainable pest management.
- Presented the four main IPM strategies: cultural, mechanical, biological, and chemical control, emphasizing their complementary use.
- Introduced preventive agricultural practices such as crop rotation, intercropping, companion planting, field sanitation, proper irrigation, pruning, and the selection of resistant varieties and rootstocks.
- Explained pest monitoring techniques, including regular field scouting, use of pheromone and food traps, identification of beneficial insects, and the concept of economic thresholds for intervention.
- Presented biological control methods and the role of natural enemies such as parasitoids, predators, beneficial nematodes, and microbial biopesticides.
- Emphasized the creation and conservation of habitats for beneficial organisms through biodiversity-friendly practices and reduced pesticide use.

- Discussed the selective and responsible use of pesticides only when necessary, including rotating active ingredients to reduce the development of resistance.
- Presented practical IPM examples for cherry and almond orchards in Lebanon, covering key pests and diseases such as Mediterranean fruit fly, cherry fruit fly, bacterial canker, peach stem borer, bud moth, and leaf curl disease.
- Introduced specific monitoring calendars, intervention thresholds, and control measures adapted to local conditions and crop phenology.
- Demonstrated different trap types and monitoring tools, highlighting the importance of data collection and analysis to support informed pest management decisions.
- The session encouraged farmers to adopt preventive and ecological pest management practices that enhance farm resilience while reducing dependence on chemical inputs.

Session 5: Visit to Buzuruna Juzuruna Farm

- The session was hosted by Serge Harfouch, co-founder of Buzuruna Juzuruna (BuJu), who guided participants through the farm and introduced them to its agroecological approach and community-based model.
- The visit began at the farm's sustainably constructed clay house, which serves multiple functions, including housing BuJu's heirloom seed bank. Serge highlighted the importance of preserving and cultivating local and traditional seed varieties as a means of strengthening food sovereignty and reducing Lebanon's dependence on imported agricultural inputs.
- Participants learned that the seed bank currently conserves a diversity of local varieties with the potential to cover approximately 30,000 km² of cultivated land, illustrating the strategic importance of seed conservation for national food security and climate resilience.
- The concept and benefits of green manures were presented, emphasizing their role in improving soil fertility, increasing organic matter.
- The importance of crop rotation was discussed as a key agroecological practice to maintain soil health, break pest and disease cycles, and improve nutrient management.
- The visit highlighted the social dimension of agroecology through BuJu's community activities, which bring together people from surrounding villages. Examples included educational and cultural initiatives such as circus activities for children, demonstrating the role of farms as spaces for learning, culture, and social cohesion.
- Farmers were introduced to the preparation and use of biopesticides and natural agricultural inputs, showcasing locally available alternatives to synthetic chemicals for pest management.
- Participants explored the integration of poultry and livestock within farming systems and discussed their contribution to nutrient cycling, manure production, and farm diversification.
- The group was introduced to the farm's seed cleaning and purification machine, which enables the selection, processing, and preservation of high-quality seeds for future planting and distribution.
- The visit fostered knowledge exchange between farmers and the BuJu team, inspiring participants with practical examples of agroecological practices that can be adapted to their own farms.

Session 6: On-field Composting Workshop

- The session was facilitated by Khaled Sleem and took place on the farm of Maroun Abou Akar, providing participants with a practical, hands-on demonstration of compost production and the preparation of natural plant-based pesticides.
- The workshop included the establishment of a composting unit and the installation of aerated barrels designed for the preparation of natural biopesticides and biofertilizers.
- Participants learned about the equipment available on the farm, including a bobcat loader used for turning compost piles and a wood shredder used to process pruning residues into smaller particles suitable for composting and mulching.
- A compost pile was prepared by mixing approximately equal volumes of shredded pruning residues and cow manure. The materials were thoroughly mixed using the bobcat and

moistened with water to provide the optimal conditions for microbial activity and the initiation of the composting process.

- Recommendations were provided on compost management, including regular monitoring of moisture levels and turning the pile approximately every three days to ensure adequate aeration and homogeneous decomposition.
- Participants were also introduced to a simple system for producing natural plant extracts using aerated barrels equipped with an air compressor. The system is designed to promote the extraction and fermentation of plant compounds that can be used as natural crop protection products.
- Practical instructions for preparing horsetail (*Equisetum spp.*) extract, commonly used as a natural fungicide, were demonstrated:
 - Place the air hose at the bottom of the barrel.
 - Fill the barrel with horsetail plant material.
 - Add sufficient water to fully immerse the plant material.
 - Operate the air compressor at a low airflow rate to maintain continuous aeration while conserving compressed air in case of power outages.
 - Allow the mixture to aerate for approximately 15 days.
 - Remove the plant material and dilute the resulting extract before application, using a ratio of one part extract to three parts water.
- Participants learned that the same process can be adapted for other locally available ingredients, including nettle, garlic, onion, and hot pepper, although extraction times vary depending on the plant material used. In many cases, an aeration period of approximately five days is sufficient.
- The workshop concluded with a discussion on the practical use of compost, liquid extracts, and natural pesticides, including application methods, timing, and their suitability for different crops and pest or disease management objectives.
- The session provided farmers with practical skills for producing low-cost organic inputs using locally available resources, contributing to improved soil fertility, reduced dependence on synthetic agrochemicals, and more sustainable farm management practices.

Session 7: Closing Session – Agroforestry Design and Wildlife + Training Evaluation

Presentation & Discussions

- The closing session opened with an agroforestry video prepared by LRI, illustrating how the integration of trees, shrubs, herbaceous plants, animals, and healthy soils contributes to the creation of resilient and sustainable agricultural ecosystems.
- A detailed presentation on the different components of agroforestry systems was delivered, emphasizing the ecological interactions between biodiversity, soil health, water management, and agricultural production.
- The importance of using native and locally adapted species was highlighted, given their resilience to local climatic conditions and their role in supporting biodiversity and ecosystem services.
- Participants were introduced to several agroforestry practices, including alley cropping, forest farming, windbreaks, and hedgerows, and discussed their potential application in the Berdaouni watershed.
- The value of seed exchange within farming communities was discussed as a means of preserving local varieties and strengthening community resilience. Participants noted that informal seed exchange practices already exist among neighboring farmers.
- Farmers actively shared their own experiences and traditional knowledge regarding soil management and tillage practices. For vegetable production, participants suggested shallow tillage at a maximum depth of approximately 30 cm once per year, while rainfed crops may require lighter tillage (around 20 cm). For irrigated lands, several farmers indicated that tillage may be unnecessary or only needed every few years.
- Participants also emphasized that compost and green manure residues should often be incorporated into the soil to enhance nutrient availability and improve their effectiveness.

- The wildlife component generated considerable interest among participants, many of whom reported learning new information about the ecological functions of wildlife in agricultural landscapes.
- Participants learned about the role of insectivorous birds as “daytime pest controllers” and bats as “nighttime pest controllers,” highlighting the contribution of wildlife to natural pest regulation.
- Farmers shared challenges encountered with wildlife, including birds and foxes damaging irrigation hoses in search of water. The trainer suggested coating hoses with tar as a local practice to deter animals.
- Discussions emphasized the importance of conserving biodiversity and recognizing the role of all living organisms in maintaining ecosystem balance and agricultural resilience.
- The concept of installing nest boxes for birds and bats was presented as a nature-based solution to support biodiversity and biological pest control. Several participants expressed interest in hosting nest boxes on their farms.

Agroecology design exercise

- Participants were divided into two groups and provided with a case study describing a farm requiring an agroecological redesign for more sustainable land use and resource management.
- Using the Agroforestry Toolkit, each group developed and presented its proposed farm design, integrating elements such as water management, species selection, soil conservation measures, and biodiversity enhancement.
- The exercise encouraged collaborative learning and enabled participants to apply the concepts acquired throughout the training cycle to a real-life farming scenario.

Trainings evaluation

- A participatory evaluation activity was conducted to gather farmers’ feedback on the training series and assess knowledge gained, intended practices, remaining challenges, and future interests.
- The exercise used a “Tree of Learnings” approach, through which participants recorded their reflections on different parts of a tree:
 1. Roots: Initial Knowledge and Practices
 2. Tree trunk: Knowledge and Skills Acquired
 3. Branches: Practices to apply
 4. Clouds: Challenges and needs
 5. Sun: Expectations and future training topics
- The activity provided valuable insights into farmers’ learning outcomes and priorities for future capacity-building activities. Detailed results are presented in [Annex 4 – Pre/Post Knowledge Assessment](#).

Links to Activity Verification Documents

- **Agenda:** [ProgFormations_HAUD-2026.pdf](#) + [Annex 1 – Training Sessions Agenda](#)
- **Training Material:** [Training Material](#)
- **Attendance sheets:** [Annex 2 – Training Attendance Sheet](#)
- **Evaluation forms:** [Annex 5 – Trainings evaluation exercise](#)
- **Photos:** [11_Training May 2026](#) + [Annex 3.a – Gallery of photos from the training sessions& Annex 3.b – Gallery of photos from Buzuruna Juzuruna farm visit](#)

Annex 1 – Training Sessions Agenda

Session	Date	Timing	Local	Thématique	Formateur/Formatrice	Objectifs spécifiques
1	19-mai-2026	15h30-18h00	Municipalité de Zahle	Introduction à l'agroécologie & diagnostic	Sophie Mansour	*Comprendre la différence entre agriculture conventionnelle et agroécologique *Comprendre les principes de l'agroécologie *Identifier les problématiques des parcelles
2	21-mai-2026	15h30-18h00	Municipalité de Zahle	Gestion des sols : conservation des sols	Khalil Haddad	*Réduire l'érosion *Améliorer la structure du sol
3	26-mai-2026	15h30-18h00	Municipalité de Zahle	Gestion de l'eau : optimisation des apports en eau (irrigation raisonnée)	Khalil Haddad	*Améliorer l'infiltration *Optimiser l'irrigation
4	2-juin-2026	15h30-18h00	Municipalité de Zahle	Gestion agroécologique des ravageurs	*Khalil Haddad - IPM *Khaled Sleem - Alternatives pour les produits chimiques (biopesticides, engrais bio de solutions naturelles...)	*Réduire l'usage de pesticides *Favoriser la régulation naturelle
5	4-juin-2026	15h30-18h00	Ferme de Buzuruna Juzuruna à Saadnayel	Exploration de la ferme école de Buzuruna Juzuruna	Buzuruna Juzuruna	*Découvrir la ferme de BuJu *Découvrir les pratiques agroécologiques chez BuJu
6	9-juin-2026	15h30-18h00	Parcelle de Maroun Abou Akar à Wadi el Arayech	Compostage, paillage et couverture du sol	Khaled Sleem - on field	*Améliorer la fertilité du sol *Réduire les intrants chimiques
7	12-juin-2026	15h30-18h00	Municipalité de Zahle	Design agroécologique intégré	*Sophie Mansour *Mahmoud Hajj - faune sauvage	*Intégrer toutes les pratiques *Concevoir des parcelles résilientes

الجلسة	التاريخ	التوقيت	المكان	الموضوع	المدرب/المدربة	الأهداف الخاصة
1	أيار 19	3:30 - 6:00	بلدية زحلة	مقدمة في الزراعة البيئية والتشخيص	صوفي منصور	فهم الفرق بين الزراعة التقليدية والزراعة البيئية فهم مبادئ الزراعة البيئية تحديد مشاكل الأراضي الزراعية
2	أيار 21	15:30 - 18:00	بلدية زحلة	إدارة الغربة: المحافظة على الغربة	خليل حداد	الحد من الانجراف تحسين بنية الغربة
3	أيار 26	15:30 - 18:00	بلدية زحلة	إدارة المياه: تحسين استخدام المياه (الري الرشيد)	خليل حداد	تحسين تسرب المياه إلى الغربة تحسين إدارة الري
4	حزيران 2	15:30 - 18:00	بلدية زحلة	الإدارة البيئية للأفات الزراعية	خليل حداد - الإدارة المتكاملة للأفات (IPM) خالد سليم - بدائل للمواد الكيميائية (مبيدات حيوية، أسمدة عضوية، محاليل طبيعية...)	تقليل استخدام المبيدات تعزيز مكافحة الطبيعة
5	حزيران 4	15:30 - 18:00	مزرعة بذورنا جذورنا في سعدنايل	استكشاف المزرعة التعليمية لبذورنا جذورنا	بذورنا جذورنا	التعرف على مزرعة بذورنا جذورنا التعرف على الممارسات الزراعية البيئية في بذورنا جذورنا
6	حزيران 9	15:30 - 18:00	أرض مارون أبو عكر في وادي العرايش	التسميد العضوي، التغطية العضوية، وتغطية الغربة	خالد سليم - تدريب ميداني	تحسين خصوبة الغربة تقليل المدخلات الكيميائية
7	حزيران 12	15:30 - 18:00	بلدية زحلة	التصميم الزراعي البيئي المتكامل	صوفي منصور محمود الحاج - الحياة البرية	دمج جميع الممارسات تصميم أراضي زراعية أكثر مرونة

Annex 2 – Training Attendance Sheet
[removed for confidentiality]

Annex 3.a – Gallery of photos from the training sessions



Annex 3.b – Gallery of photos from Buzuruna Juzuruna farm visit



Annex 4 – Pre/Post Knowledge Assessment

Pre-Post Assessment folder | [تقييم معرفة المزارعين.pdf](#)

Pre-Assessment Result	Pre-Assessment Grade	Post-Assessment Result	Post-Assessment Grade	Percentage of Improvement
78%	Average	-	-	-
57%	Average	78%	Average	38.46%
78%	Average	91%	Excellent	16.67%
52%	Average	74%	Average	41.67%
65%	Average	78%	Average	20.00%
65%	Average	87%	Excellent	33.33%
65%	Average	91%	Excellent	40.00%

Which practice would you like to apply as a priority in your land?

I would like to apply, as much as I can, everything needed to transform my work into a model farm and fully transition to ecological agriculture.

I would like to plant a diverse variety of trees and herbs.

Composting and aromatic plants.

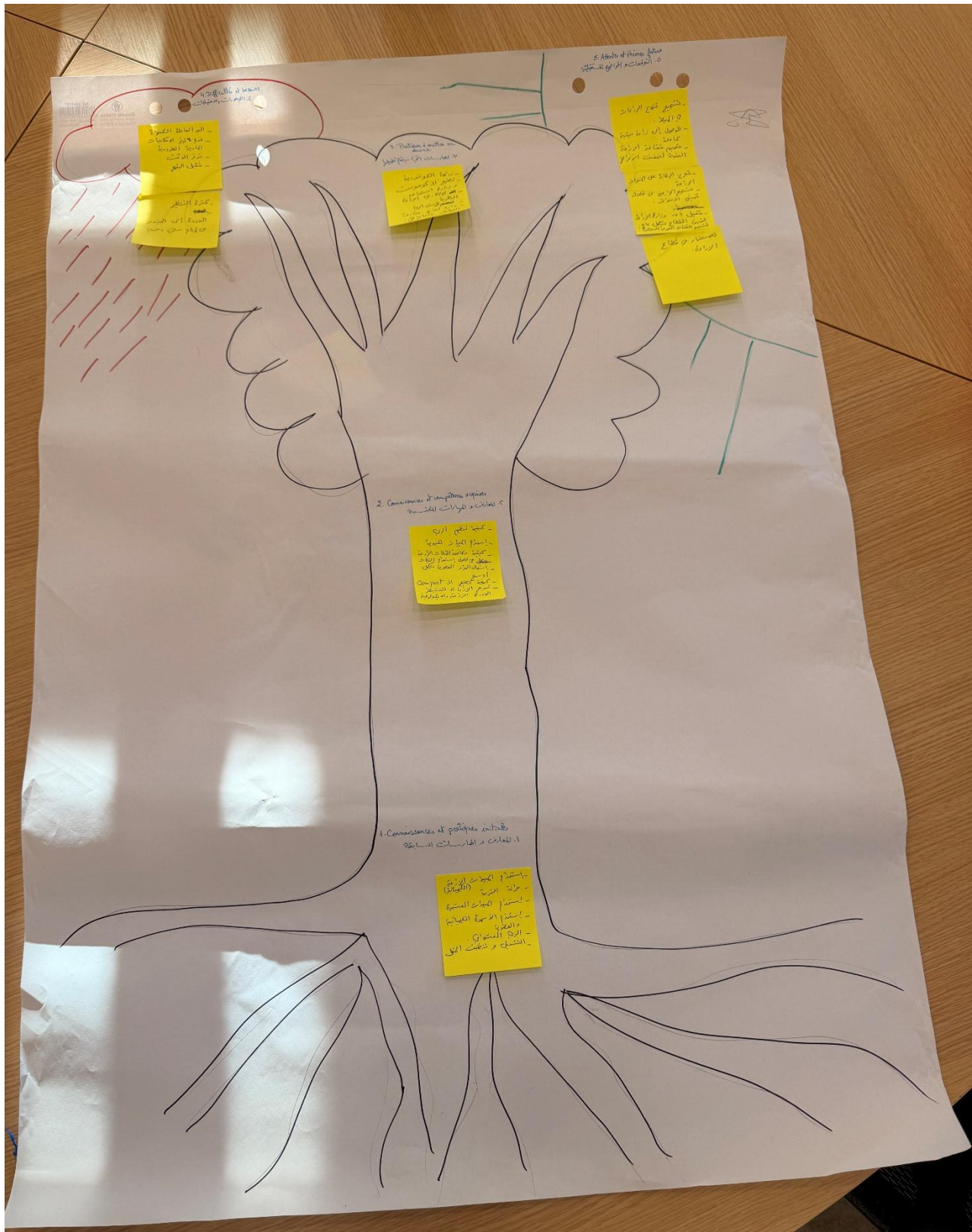
I would like to achieve this by following agroecological practices that include all the necessary inputs and crops to reach the desired goal.

Tree diversity and livestock farming.

Diversification of production – organic fertilization – ensuring a water source for irrigation.

Tree of learnings

[Training Eval AR.pdf](#) | [Training Eval FR.pdf](#)



1. Connaissances et pratiques initiales 1. المعارف والممارسات السابقة

- استخدام المبيدات الكيميائية (الكيميائية)
- حراثة التربة
- استخدام المبيدات العضوية
- استخدام الأسمدة الكيميائية
- والعقود
- الري العشوائي
- التشجير و تنظيف التل

2. Connaissances et compétences acquises 2. المعارف والمهارات المكتسبة

- كيفية تنظيم الري
- استخدام المبيدات البيولوجية
- كيفية معالجة الآفات الزراعية
- كيفية إدارة استخدام التربة
- استخدام البذر العضوية بشكل
- أوسع
- كيفية تصنيع الـ Compost
- تنوع الزراعة للتدوير
- الزراعة المائية والبيولوجية

3. Pratiques à mettre en œuvre 3. الممارسات التي سيتم تطبيقها

- زراعة الكونثريين
- تصنيع الكومبوست
- زيادة استخدام
- الإكثار في الزراعة
- الطرق
- استخدام الري
- زراعة أنواع مقاومة
- للآفات والأمراض

1. Initial knowledge and practices

- Use of chemical pesticides.
- Soil tillage
- Use of herbicides
- Use of chemical and organic fertilizers
- Unregulated irrigation
- Pruning

2. Knowledge and Skills Acquired

- Irrigation management
- Use of biopesticides
- Agricultural pest management through plants
- Expand the use of organic matter
- Making compost
- Crops diversification to improve agricultural and ecological cycles

3. Practices to Implement

- Contour lines cultivation
- Making compost and using it more
- Intensification of aromatic plantations
- Irrigation conservation
- Planting species resilient to drought and pests

4. Difficultés et besoins 4. الصعوبات والاحتياجات

- اليد العاملة المكونة
- عدم توفر الإمكانيات
- الحاجة الضرورية
- قلة الوقت
- قلة الخبرة

كمية النظير

العودة إلى الجذور
في ليالي سبي وجيد

4. Challenges & Needs

- Efficient labor
- Insufficient necessary financial capacity
- Time availability
- Community acceptance
- Theorizing
- Back to the roots (grandparents' days)

5. Attentes et thèmes futurs 5. التوقعات والمواضيع المستقبلية

- تشجيع تنوع الزراعات
- في المبدأ
- الوصول إلى زراعة بيئية
- كاملة
- تحقيق حفاظة الزراعة
- البيئية لتحقيق الزراعة

- تحرير الرقابة على المنتجات
- الزراعية
- تشجيع المزارعين من خلال
- تحسين الأسواق
- تحقيق دور وزارة الزراعة
- لتأمين القطاع بشكل عام
- تشجيع القطاع الزراعي المستدام

للدستور في قطاع
الزراعة

5. Expectations & Future Training Topics

- Encouraging plantations diversification in the neighboring area.
- Reaching a complete agroecological status on the lands
- Mainstreaming the culture of agroecology to prevent pests.
- Improving quality control of agricultural products
- Supporting farmers by improving market opportunities
- Enhancing the role of the Ministry of Agriculture in improving the agricultural sector overall, with the aim of encouraging young people to invest in agriculture