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Cover photo

The Al Murunah Capacity Building Training on Basic Marketing, Sales Channels, and E-commerce conducted by CEDARE in Izbat Al Hamra (Al Hamra Village), Abu Al-Matamir, Beheira Governorate, Egypt, on November 25, 2024 (*photo*: Reda Rizk/CEDARE).

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Project

Al Murunah: Building Climate Resilience through Enhanced Water Security in MENA is a five-year project funded by the UK Government and implemented by the International Water Management Institute (IWMI) in partnership with the International Union for Conservation of Nature (IUCN). The aim of Al Murunah is to enhance water security in Egypt, Jordan, Lebanon, and the Occupied Palestinian Territories (OPT) by integrating nature-based solutions for water and agricultural water management.

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Abbreviations and Acronyms

AWM	Agricultural Water Management
AQF	Academic Qualification Framework
CPD	Continuous Professional Development
FCDO	Foreign, Commonwealth and Development Office
IUCN	International Union for the Conservation of Nature
IWMI	International Water Management Institute
NBSW	Nature-Based Solutions for Water
NQF	National Qualification Framework
OPT	Occupied Palestinian Territories
RNBWS	Resilient Nature-Based Water Solutions
TVET	Technical and Vocational Education and Training

1. Background and Objective

The MENA region faces severe water scarcity. Agriculture consumes 65% percent of water resources in the region, issues such as land degradation are growing, and impacts of climate change are exacerbating the situation.

Al Murunah (meaning 'flexibility' in Arabic) is a project funded by the Foreign, Commonwealth and Development Office (FCDO) of the United Kingdom and is implemented in Egypt, Jordan, Lebanon, and the Occupied Palestinian Territories (OPT). The aim is to enhance water security through resilient nature-based water solutions (RNBWS), which are combinations of nature-based solutions for water (NBSW) and agricultural water management (AWM). The International Water Management Institute (IWMI) leads the project in partnership with the International Union for the Conservation of Nature (IUCN).

The main objective of this report is to define the capacity (i.e., knowledge, skillsets and capabilities) required to implement RNBWS in the Al Murunah project countries (Egypt, Jordan, Lebanon and OPT). Knowledge is information developed or learned through experience, study, or investigation, skill is the result of repeatedly applying knowledge or ability, and capability is the ability or power to do something. The resultant RNBWS Capacity Framework is a valuable knowledge product on its own. It will also guide the implementation activities of Al Murunah, including the RNBWS pilot projects, support upscaling proposals, and serve as an input for institutional gap analyses and/or benchmarking analyses.

To achieve this objective, the report has three core components:

1. Developing 'personas' that represent specific RNBWS stakeholder types, or 'users' who are people in specific roles or situations.
2. Defining the capacity the personas require and what would be desirable to implement RNBWS successfully.
3. Formulating the RNBWS Training and Certification Framework for a review of training and certification relevant to the identified capacity of personas (both formal and informal; certificate- and non-certificate-bearing) that is available in the project countries as well as remotely online.

2. Methodology

The RNBWS Capacity Framework was developed through the "Double Diamond" human-centered design approach. Human-centred design is a problem-solving technique that puts real people at the centre of development processes, enabling you to create products and services that resonate, and are tailored to, your audience's needs. This approach was selected because it is a simple way to articulate the design process through four distinct phases: Discover, Define, Develop, and Deliver, as seen in Figure 1. This is not a linear process and is a form of participatory action research undertaken by the project team.

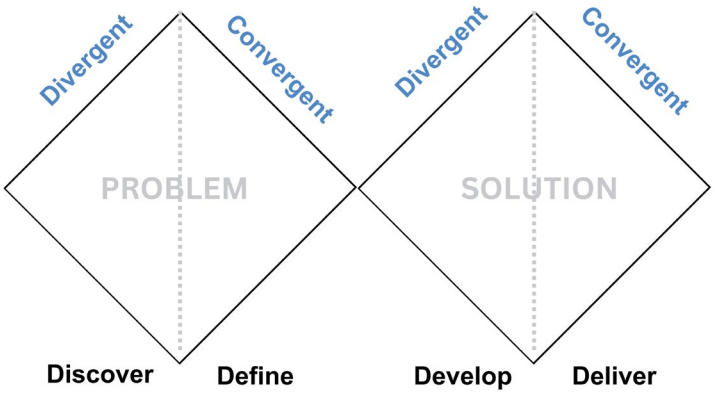

Figure 1. The British Design Council Double Diamond.

2.1 Project Steps

The steps taken to develop the RNBWS Capacity Framework and RNBWS Training and Certification Framework are summarized in Table 1, and potential next steps for their application are outlined in Section 6.

Table 1. Project steps to develop the Training and Certification Framework.

Step	Activity	Phase
1.	Initial brief to develop an RNBWS Capacity Framework.	Define
2.	Explore the 'users' of the Framework.	Discover
3.	Revisit the brief and follow a human-centered design approach to develop the Framework.	Define
4.	Identify all potential users.	Discover
5.	Select core 'users' relevant to the MENA region and the Al Murunah project.	Define
6.	Develop 'User Personas' for the selected core 'users.'	Develop
7.	Sketch contrasting 'User Journey Maps' illustrating differences among the personas in training needs, how they access knowledge and training, barriers to training, etc.	Discover
8.	Review project documents and literature to define capacity (i.e., knowledge, skillsets and capabilities) needed for users to implement RNBWS.	Discover & Define
9.	Test with the project team eliciting insights and information.	Discover
10.	Refine the RNBWS Capacity Framework.	Define
11.	Draft the RNBWS Training and Certification Framework template containing training and provider types.	Develop
12.	Test with the project team to elicit insights and information.	Discover
13.	Refine the RNBWS Training and Certification Framework.	Develop

Before beginning to develop the RNBWS Capacity Framework and RNBWS Training and Certification Framework, we first asked the question, 'who are the users, or potential users, of RNBWS training and certification?' To ensure our work remained grounded and focused on these users, we chose to develop 'User Personas', followed by a desk-research exercise to identify previous relevant work on training needs to support the rollout of RNBWS in the MENA region. Personas are fictitious, specific and concrete representations of target users. They help put a face to the user, providing a memorable, engaging and actionable image that serves as a design target.

This report documents the journey involved in developing the priority personas, the RNBWS Capacity Framework, and the RNBWS Training and Certification Framework.

2.2 Context for RNBWS in Al Murunah Countries

Table 2 provides a structured overview of each country's unique climatic, hydrological, agroecological, farming and institutional context, along with key considerations for implementing RNBWS in their specific circumstances.

Table 2. Structured overview of project countries.

Country	Climatology	Hydrology	Agroecological Conditions	Farming Typologies	Institutional Context
Egypt	Hot desert climate with arid conditions.	Nile River under stress from population growth.	Diverse and almost entirely irrigated agriculture focused on wheat, rice and cotton.	Smallholders and large-scale farming.	Government support is crucial, integration into the national strategy.
Jordan	Semi-arid to arid climate, with severe water scarcity.	Jordan River, other surface water basins and groundwater are highly stressed.	Diverse crops, focusing on fruits, olives and vegetables.	Small-scale farmers and agribusinesses.	Effective water policy and private sector involvement are essential.

Lebanon	Varied climate from Mediterranean to alpine.	Water quality issues, irregular water availability.	Diverse crops: Grapes, apples and olives.	Small family farms and larger commercial farms.	Collaboration among government, NGOs and communities needed.
OPT	Mediterranean climate, variable rainfall, scarcity.	Water access challenged due to conflicts.	Common crops: Olives, citrus fruits and vegetables.	Smallholder farmers.	Political stability, international cooperation, community initiatives.

In all these countries, promoting RNBWS can lead to increased water efficiency, improved crop resilience, and enhanced environmental sustainability. However, these solutions need to be adapted to the unique climatic, hydrological, agroecological, farming and institutional contexts of each location and country. Collaborative efforts involving governments, communities and various stakeholders are key to successful implementation.

3. Priority User Personas

To define the RNBWS Capacity Framework and review the training and certification landscape through an RNBWS Training and Certification Framework, we must first define who the trainees would be. Developing user personas enables us to achieve this.

These personas include information on who the users are, their values, behaviours and habits, demographics, needs and opportunities that training and certification (hereafter, just training except when referring to the RNBWS Training and Certification Framework) in both Agricultural Water Management (AWM) and Nature-Based Solutions for Water (NBSW) present in meeting their needs.

Details on the process the team followed to develop these priority personas is described in Appendix 1. In summary, the project team identified 42 potential users and prioritized six for persona development. These priority personas reflect six identified user groups and are broadly applicable to all project countries. A summary of the six priority personas is shown in Table 3, and the complete user priority personas, as well as the comprehensive list of identified personas, can be found in Appendix 2.

Table 3. Summary of priority personas.

Name	Job	User Group	Country	Location
Fadi Ali	Policy analyst (working directly under manager) Head of Planning of Water Demand Department—Ministry of Water and Irrigation	Central government policy analyst (Planning Department) in the Ministry of Agriculture	Jordan	Wadi Seer, Amman
Antoine Matar	Head of an agricultural cooperative—Collective of small and/or medium-sized landowners	Head of an agricultural cooperative	Lebanon	Ras Baalbeck
Georges Rizq	Member in Qaa Municipality	Local Government/Municipality Planning Manager (agriculture)	Lebanon	Qaa
Akil Nglaa	Head of a community-based organization and smallholder farmer	Farmer/local employee	Egypt	Izbet Al Hamrah—Beheirah Governorate
Sabah Sayed	Housewife of a smallholder farmer, works on peeling artichokes from December to April	Farmer	Egypt	Izbet Al Hamrah—Beheirah Governorate
Abu Ali	Farmer	Farmer	OPT	Fari'a

3.1 Insights on Priority Users

From the user personas, we identified insights into users' needs.

For the priority personas, we plotted the critical dimensions of their (1) domain knowledge and (2) technical skills and knowledge to identify clusters of users. As shown in Figure 2, two clusters of users exist: Cluster One consists of those with high technology access and ability but low domain knowledge, and Cluster Two consists of those with both low technology access and domain knowledge.

Training delivery will need to be tailored based on these insights. Further, we developed two User Journey Maps to illustrate how people in these clusters could access training. Appendix 3 gives the user journey creation rationale and process, and Section 5.3 gives the user journeys of Fadi (from Jordan) and Abu Ali (from OPT).

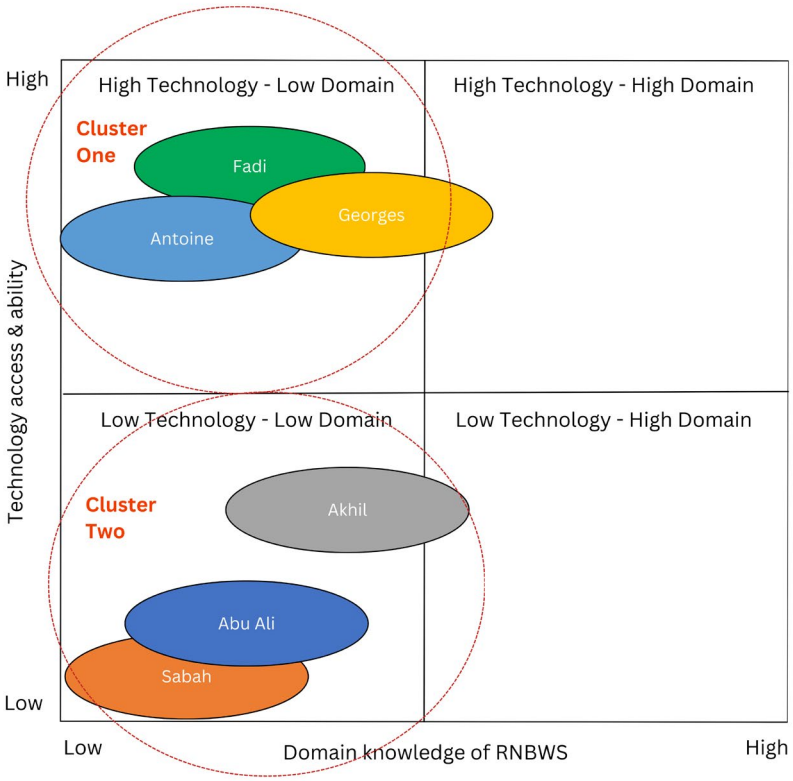

Figure 2. Plot of priority persona critical dimensions.

4. Review and Analysis

In this section we define the RNBWS Capacity Framework, i.e., the knowledge, skillsets and capabilities that the priority personas require (and would desire) for implementation of RNBWS.

4.1 Methods

The approach to reviewing and analysing the knowledge, skillsets, and capabilities required for RNBWS (both NBSW and AWM) implementation for each persona included:

1. **A desk-research exercise** on previous relevant work identifying training needs to support the rollout of RNBWS in the region. This was undertaken by the project team and the IWMI librarian. For the library review, keywords used were set within a hierarchy using traffic light colours for search priority: red (highest priority), orange (secondary), and green (least priority), as shown in Table 4.

Table 4. Library search hierarchy.

Hierarchy	Time frame	Geographical location	Main Term	Secondary Terms	Education Terms
1	2010 to now	MENA	Nature-based Solution	Irrigation	Training program
2	2000 to 2010	Middle East	Agricultural Water Management	Green Engineering	Training needs analysis
3		North Africa		Ecohydrology	Certification
4		Africa		Soil Health	Capacity building program
5		Asia			Curriculum
6		Australasia			Knowledge needs
7		South America			Education
8					Qualification
9					Course
10					Qualification framework
11					Training provider
12					Qualification provider
13					Vocational training
14					Technology transfer

The search was undertaken in Arabic, French, and English. The term “qualification provider” was omitted in the Arabic and French searches due to its inapplicability in the context of translation. The Arabic and French translations of Table 4 are provided in Appendix 4. We used all available information at the time of writing; however, further information can be used to validate the findings of this report. The search results files are included in Appendices 5 and 6.

2. **An analysis of documents from the project and library review.** This analysis identified knowledge, skills, and capabilities required for the adoption of RNBWS, and it also identified 'pain points' or barriers to their adoption, along with associated solutions.

3. **Mapping knowledge, skills and capabilities to each priority persona** and ranking and categorising them according to:
   - Overarching shared skillsets and capabilities across all personas.
   - Shared skillsets and capabilities across government or civil society roles (both policy & operational)
   - Shared skillsets and capabilities across personas with 'on-the-ground' roles.

These categories reflect the persona clusters identified in Figure 2, with those personas in government or civil service roles correlating with Cluster One (those having high technological ability but low domain knowledge) and Cluster Two (those with low technological ability and low domain knowledge) correlating with those personas in 'on-the-ground roles'. A detailed visual of this categorization exercise is provided in Appendix 7.

4.2 Key Findings

4.2.1 Knowledge, skills, and capabilities

From the analysis, sixteen knowledge, skill and capability categories emerged. These categories are associated with the literature review for RNBWS and are all terms commonly associated with RNBWS. Incorporating these categories within a National Qualification Framework (NQF) could serve to standardise terminology.
The knowledge, skill and capability categories are:

1. Irrigation Management
2. Nature-Based Technical Solutions
3. Forestry
4. Soil Management
5. Crop Management
6. Climate
7. Communication
8. Business Administration
9. Farm Management
10. Data Management
11. Policy
12. Social & Cultural
13. Flood Management
14. Wastewater Irrigation
15. Facilitation and Education
16. Geographical Information Systems

A total of 187 individual knowledge and skills have been identified under the knowledge, skill and capability categories. Figure 3 shows those attributes most strongly weighted and categorised according to persona clusters. The full table, the RNBWS Capacity Framework, is attached as Annex 1.

Common overarching shared knowledge, skill and capability categories across all personas include:

- Irrigation Management
- Nature-Based Technical Solutions
- Forestry
- Soil Management
- Crop Management
- Wastewater Irrigation
- Climate
- Communication
- Business Administration

These are shown in green in Figure 3. Each of these categories contains at least one knowledge or skill relevant to both persona categories. Reports and studies related to the knowledge, skills, and capabilities required for NBSW implementation surfaced during the review typically remained at the category level, and rarely listed more than five such categories.

Those Cluster One personas grouped under 'government or civil society roles both policy and operational' require the development of the broadest range of knowledge, skills, and capabilities. The depth of knowledge required by each user within these personal clusters will vary depending on their individual training needs. The additional knowledge, skills and capabilities they require fall across the additional categories shown in light brown in Figure 3 and are listed below:

- Data Management
- Policy
- Social & Cultural
- Flood Management
- Facilitation and Education
- Geographical Information Systems

Cluster Two personas involved 'on-the-ground roles', namely farmers, mainly need to focus on the practical knowledge, skills and competencies associated with core or common categories as well as the Farm Management category.

4.2.2 Allied training

This includes knowledge, skills and capabilities development identified from the literature review that although not directly associated with RNBWS will support the scaling up of its adoption. From the review of existing documentation, several indirect knowledge, skill, and capability development needs were identified. These are shown in yellow in Figure 3 and include childcare career pathways, information management, applied gender studies, and diversity training.

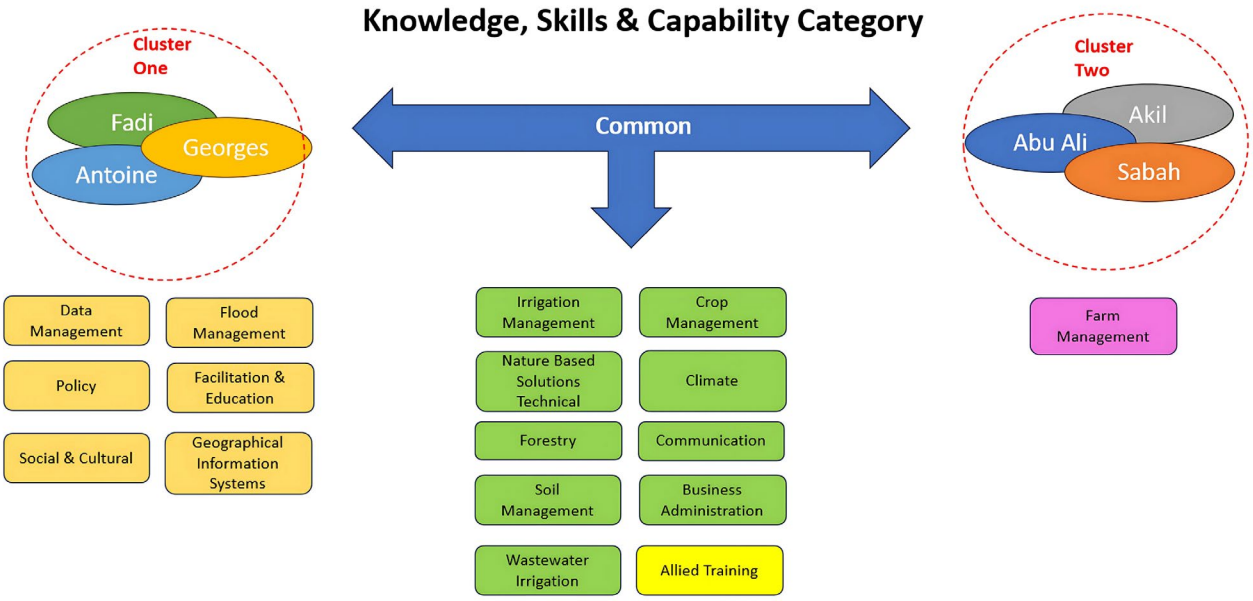

Figure 3. Knowledge, skill and capability requirements by persona clusters.

4.2.3 Obstacles to accessing training and certification

The review of existing documentation identified a number of "pain points" or obstacles to the adoption of RNBWS and AWM. Full details can be found in Annex 1. A summary of these pain points or obstacles includes:

- Limited access to land ownership, which restricts farmer decision-making power over agricultural practices.
- Limited access to training and implementation resources and technologies.
- Limited time available due to competing roles and responsibilities, particularly childcare.
- A limited understanding of the different barriers women face in the agricultural sector, including cultural barriers to addressing the various natural resource management challenges.

- Lack of community buy-in and/or not seeing any personal benefit.
- Poor project management.
- Ministry paperwork.
- Lack of access to NBS-related data and information.
- Lack of documentation of traditional indigenous knowledge, as well as climate change impacts at national and regional levels.
- Lack of regional standards and practical guidelines for upscaling NBS, which can be adapted to local contexts.
- Lack of peer-learning delivery infrastructure to exchange scientific practices.
- The challenges in finding time for training while managing daily responsibilities
- Limited resources, including budget and facilities.
- Lack of support from senior management or higher authorities for training initiatives.
- Current training systems not catering to diverse training needs that would meet the varied requirements of trainees, including employees.
- Lack of fair and transparent processes for selecting trainees to ensure that those selected are committed to learning and knowledge exchange.
- Training outcomes not being tied to employee career development and professional growth.

5. Knowledge, Skill and Capability Development

In a training program focused on RNBWS, the common or core units of work would typically cover topics that are essential for all participants to learn and understand. These core units are fundamental to the overall training and provide a strong foundation in the subject matter.

In contrast, elective units are additional topics or areas of specialisation that participants can choose based on their specific interests or job roles. Elective units allow individuals to tailor the training to their unique needs and preferences.

The RNBWS Capacity Framework, along with Figure 3, provides an extensive list of core and elective knowledge, skill and capability requirements for each persona, persona cluster and country.

5.1 National Qualification Frameworks and Training Programs

Formal qualification levels, or more broadly, knowledge-application levels in training programs can be used to accommodate learners with varying levels of knowledge and experience. Although the knowledge, skills and competencies may be common to different personas, the level at which they apply this knowledge will vary.

For example, both Abu Ali, the smallholder farmer in OPT, and Fadi Ali, the Policy Analyst for the Ministry of Water and Irrigation in Jordan, need to build knowledge in soil management, but the level at which they require and apply the knowledge will vary.

In the context of a training program focused on RNBWS, a tiered qualification system can be implemented to ensure users receive appropriate instruction based on their existing knowledge and skills. These tiered qualification systems usually fall within a national qualification framework (NQF).

Egypt, Jordan, Lebanon and OPT all have NQFs under development and follow a similar structure. For example, Figure 4 shows the Egyptian NQF, which is demarcated by an eight-level structure. In the diagram, the technical stream encompassing Technical and Vocational Education and Training (TVET). Vocational Education and Training (VET) offers the opportunity to learn specific practical job skill. Levels 1 to 3 corresponds to general schooling, technical school certificates are at levels 3 and 4, while levels 4 to 8 represent post-school education. Academic higher education has its first exit point at level 5, with further qualifications up to level 8 (NAQAAE 2020). Basic information on national systems in the project countries is shown in Appendix 8.

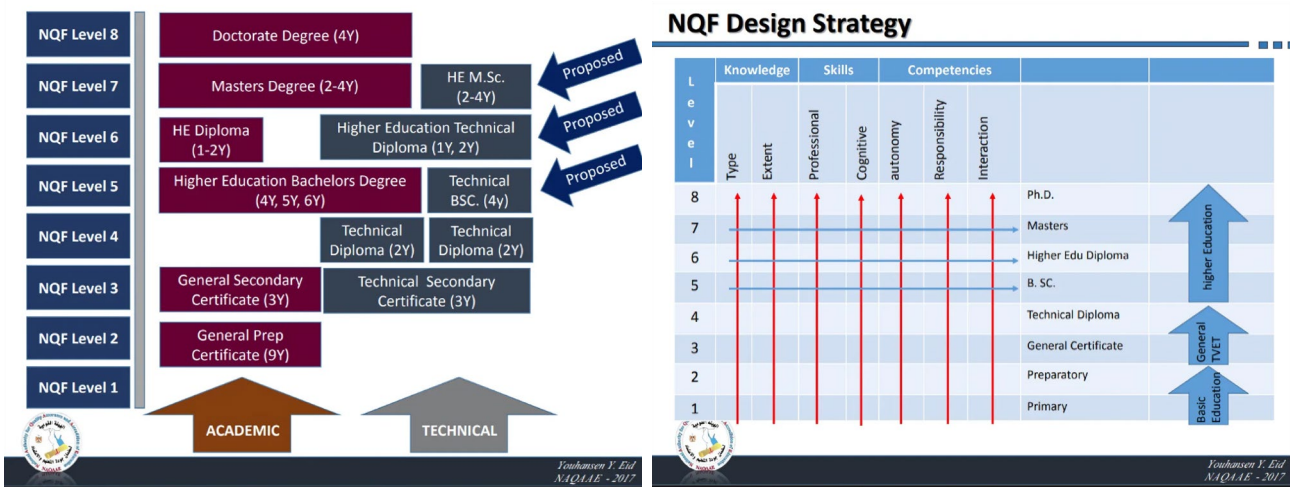

Figure 4. Egyptian National Qualification Framework.

Source: NAQAAE 2020.

The following is an outline of how training and qualification levels can be generally applied through an NQF:

Tier 1: Foundational Level (Levels 1–3)

- This level is suitable for participants with limited prior knowledge of the subject.
- Core units at this level provide basic principles and introductory information.
- Participants learn fundamental concepts, terminology, and general practices.
- Examples of core units at this level include introduction to sustainable agriculture and basic water management techniques.

Tier 2: Intermediate Level (Levels 4–6)

- This level is designed for participants with some prior experience or education in the field.
- Core units provide in-depth knowledge and practical skills.
- Participants delve into more advanced topics and applications.
- Examples of core units at this level include advanced water-efficient techniques and sustainable crop adaptation.

Tier 3: Advanced Level (Levels 7–8)

- This level caters to participants with extensive experience or advanced qualifications.
- Core units offer specialised and advanced knowledge.
- Participants explore cutting-edge research and innovations in the field.
- Examples of core units at this level include developing climate adaptation strategies and advanced water policy analysis.

By taking a tiered approach to the provision of training and qualifications, learners can progress at their own pace whilst building on their existing knowledge and skills. This approach ensures that individuals at different stages of their career or education can benefit from the program, and receive training that suits their needs and level of expertise.

5.1.1 Technical and vocational education and training (TVET)

TVET would be most relevant for those in Persona Cluster Two, i.e., those involved in 'on-the-ground roles'—farmers and those in technician roles, such as irrigation technicians. This training could recognise prior learning and be conducted both in the workplace and in the classroom.

- In the context of vocational education, a tiered approach allows learners to progress step by step, gaining practical skills and knowledge at their own pace.
- It begins with foundational qualifications such as certificates and diplomas and can lead to higher-level qualifications.
- A tiered approach in TVET is often aligned with industry needs, ensuring that learners acquire the skills that employers require.
- For example, a learner may start with a Certificate II in Agriculture, gain specific skills, and then choose to pursue a Diploma in Sustainable Agriculture for a more in-depth understanding.

5.1.2 Tertiary education

A tiered approach in tertiary education is common, particularly for degree programs.

- Learners typically start with a bachelor's degree and can progress to postgraduate qualifications like a master's or a Ph.D.
- This approach recognises that learners may wish to build on their undergraduate knowledge or specialise in a particular field.
- For instance, an individual who completes a Bachelor of Science in Environmental Science may choose to pursue a Master's in Environmental Management to gain advanced expertise.

5.1.3 Tertiary education, continuous professional development and certificate programs

Continuous professional development (CPD), short courses, certificates and micro-credentials would be best suited to those personas in Cluster One, i.e., those in government and civil society roles. These personas already have bachelor's degrees, and CPD-type courses would be highly targeted in building their capability to deliver RNBWS. In the realm of tertiary education, a tiered approach encompasses a variety of options.

- **Bachelor's Degree**: This is often the initial step, providing a foundational education in a chosen field.
- **Postgraduate Diplomas and Certificates**: Learners can progress to these intermediate qualifications, building expertise beyond the bachelor's level.
- **Master's and Doctoral Degrees**: Advanced degrees offer the opportunity for specialisation and in-depth research.
- **Short Courses and Certificates**: A tiered approach may also involve shorter courses and certificates that allow professionals to gain specific skills or knowledge without pursuing full degrees.
- **Continuous Professional Development (CPD)**: Many professions require ongoing learning and development. CPD programs are designed to ensure professionals stay current and relevant in their fields.
- **Micro-credentials**[1]: These are smaller units of learning, often focusing on specific skills or knowledge areas. Learners can stack micro-credentials to build a customised qualification.

[1] Micro-credentials are small, stand-alone awards with set learning outcomes.

5.1.4 Extension delivery for non-formal qualifications

In the field of extension[2] education and non-formal learning, a tiered approach can be adopted to cater to diverse audiences, including professionals, farmers, and community members.

- It enables individuals to access specific training modules or workshops without the obligation of pursuing a full formal qualification.
- Staircasing in extension education provides opportunities for lifelong learning and skill development.
- For example, in the context of agricultural extension, a farmer may attend introductory workshops on sustainable agriculture practices and, if interested, progress to more spatialised workshops or modules on topics such as water management, pest control, or crop diversity.

In the context of agricultural extension and non-formal learning, a tiered approach involves different models to suit diverse learners.

- **Training for Many**: This model delivers educational content to a large audience simultaneously. It's effective for disseminating general knowledge or awareness to a broad community, on topics like sustainable farming practices.
- **Training for a Few**: This model is more focused and tailored. It targets a smaller group with specific needs or interests. For example, it could involve workshops for farmers looking to implement advanced water management techniques.
- **One-on-One Training**: In some cases, individualized instruction is necessary. This may be for farmers facing unique challenges or professionals requiring highly specialized knowledge. It offers personalized support and guidance.

Extension programs can be developed relatively quickly compared to more formal training, and as such, would be highly valuable for the timely building of RNBWS capability. Such programs would provide the opportunity either to target specific user groups or to be used to bring a variety of user groups together into a shared learning space. Shared learning spaces provide an opportunity for relationships to be developed between people in a variety of roles from a variety of organizations, all invested in shared outcomes. For example, bringing users represented by Persona Clusters One and Two together within a pilot project.

Appendix 9 contains insights from extension research literature. This was not prepared specifically for this report, but it is informed by a review of several Australasian and global extension programs and provides relevant, useful insights for Al Murunah. It identifies a typology of extension approaches and maps them according to the different contexts in which they are likely to be most successful, as well as identifying seven educational principles important for extension planning.

[2] Extension is about working with people in a community to facilitate change in an environment that has social, economic, and technical complexity. This is achieved by helping people gain the knowledge and confidence, so they want to change and providing support to ensure it is implemented effectively.

5.2 Typology of Knowledge, Skill and Capability Providers

By incorporating these different approaches, both in tertiary education and extension, educational institutions and extension services can cater to a wide spectrum of learners and effectively address their specific knowledge, skill, and capability requirements, as well as their timeframes for technology adoption.

Table 5 shows a simple typology for classifying providers of knowledge and skills training. This typology is used for the RNBWS Training and Certification Framework, and the information presented in Section 5.1 provides helpful contextual information for interpreting the Framework.

Table 5. Typology of knowledge, skill and capability training providers.

Typology	Example
Tertiary	University
	Polytechnic
TVET	Polytechnic
	Technical College
	Private Training Provider (PTP)
Extension	Research Organisation
	Government Department
	Producer Organisation
Certification Representative Bodies	Producer Organisation/Standard Setting Body
	Union
	Government Department
Other	NGO

5.3 User Journey Maps

To visually represent the pathway that users will take to acquire knowledge, skills and competencies for RNBWS, we have created two illustrative examples of journey maps based on the information and data provided, along with the proto personas of two distinct individuals: Fadi Ali, Head of Planning at the Water Demand Department, Ministry of Water and Irrigation, Jordan, and Abu Ali, a smallholder landowner farmer in OPT.

Fadi Ali becomes aware of RNBWS through an online search, whereas Abu Ali isn't familiar with the terminology, but his community's traditional farming practices align with many modern concepts of sustainability and nature-based solutions. Fadi Ali is a busy career professional who recognizes the potential for professional growth. He wants flexible training, is well-versed in online learning, and becomes actively involved in a community of practice. In contrast, Abu Ali attends a local community gathering with fellow farmers and community leaders. His experience with formal learning is limited, and he joins a local community cooperative, where they have access to subject matter experts who support his community in incorporating traditional wisdom and community values while addressing water and soil issues. Fadi Ali's user journey map is shown in Figure 5, and Abu Ali's is shown in Figure 6 below.

These user journeys vividly demonstrate the contrasting ways in which they engage with training processes.
An explanation of the process we have taken to generate them can be found in Appendix 3.

	Awareness	Consideration	Decision	Retention
Actions	Fadi becomes aware of the need for training in RNBWS and Agricultural Water Management (AWM) through an online search.	Fadi, considering his busy schedule, evaluates the flexibility of training options.	Fadi, recognizing the potential for professional growth, decides to enroll in RNBS and AWM courses.	Fadi actively participates in customized content, linking training outcomes to his career development, and has joined an online community of practice in the MENA region.
Touchpoints	Online search for water management courses.	Assessing training flexibility.	Enrolling in flexible training.	Embracing customized content, engaging in the MENA region's online community of practice.
Experience/ Emotions	Fadi recognizes the importance of addressing ecosystem and climate change impacts in his role but also realizes the lack of public awareness and communication campaigns in this domain.	Fadi values the flexibility of training options, as it allows him to balance his professional responsibilities. However, he is concerned about the lack of time for effective training.	Fadi commits to enrolling, understanding that the training can enhance his capabilities as a policy analyst. However, he's concerned about time management.	Fadi remains motivated and engaged in his learning journey, benefiting from the online community's knowledge exchange and collaboration. Time constraints are mitigated through online interaction.
Pain Points	Insufficient public awareness and inadequate communication in his profession.	Limited time for training while managing daily professional responsi-bilities.	Ensuring the selection of the right course and making a commitment to continuous learning while dealing with time constraints.	Staying motivated and engaged in the continuous learning process and professional development while managing time limitations.
Solutions	Implement a communication plan and program to address the lack of public awareness and improve knowledge dissemination in the water policy domain.	Develop flexible training programs and advocate for increased budgetary support to ensure adequate resources for effective training, including addressing time constraints.	Transparent criteria for selecting trainees based on their commitment to learning and their potential to contribute to the ministry, while providing time management support for trainees.	Design training content tailored to the specific needs of professionals like Fadi, focusing on career development and professional growth, while leveraging the online community of practice for knowledge sharing and support, which aids time management.

Figure 5. User Journey Map for User Persona 3: Fadi Ali, Ministry of Water Policy Analyst (Planning Department), Jordan.

	Awareness	Consideration	Decision	Retention
Actions	Abu Ali, a smallholder, relies on his community's traditional farming practices, which he aligns with modern concepts of sustainability.	He seeks guidance from agricultural experts and training programs.	He incorporates his traditional wisdom and community values while addressing water and soil issues.	Abu Ali, now part of a community collective, shares his experiences, providing valuable insights into preserving traditional wisdom while embracing sustainability.
Touchpoints	Local community gatherings, conversations with fellow farmers, and community elders.	Dialogues with agricultural experts, participation in workshops on sustainable farming practices, and community discussions.	RNBSW training programs, consultations with agricultural experts, and forums on political stability.	Local community meetings, one-on-one support, and small group learning.
Experience/ Emotions	He experiences the difficulties of limited resources but is determined to preserve his community's traditions.	With assistance from experts and peers, he is resolute in overcoming challenges and enhancing his farming practices.	With guidance and training, he is committed to implementing RNBSW, aiming to improve water quality and soil fertility.	He feels a sense of belonging to a supportive community that values his traditional knowledge and contributions. He is motivated to continue improving his farming practices.
Pain Points	Limited access to land ownership, resources, technology, land availability, and limited understanding of the barriers women face in farming.	Lack of community buy-in, poor project management, and political instability.	Economic crisis, land availability issues, political instability, and limited access to NBS-related information.	Potential challenges related to limited education and resources when accessing and participating in learning programs.
Solutions	He seeks support from knowledgeable community members to explore various land tenure options and resource access strategies.	He is guided by experts and relevant organizations, examines solutions like setting up demonstration sites, and develops a repository for traditional knowledge.	He joins a recently established community collective seeking to address economic concerns through market assurance programs and biodiversity credits.	He is supported through his local community collective that groups similar farmers together in a supported learning environment.

Figure 6. User Journey Map for Abu Ali, Smallholder Landowner Farmer, OPT.

5.4 RNBWS Training and Certification Framework

The RNBWS Training and Certification Framework links the two core aspects of this report—the identification of knowledge, skills, and capabilities relevant to RNBWS (the RNBWS Capacity Framework) with the typology of education and training types and providers. Its purpose is to enable a 'landscape survey' of RNBWS training in a specific country or national region.

As such, it includes the full range of skills, knowledge, and capabilities within each category of the RNBWS Capacity Framework in relation to the identified education and training types: Tertiary, TVET, Extension, and Certification.

The RNBWS Training and Certification Framework also includes a range of descriptors and categories relevant to individual courses.

The full RNBWS Training and Certification Framework is shown in Annex 2, and an explanation of its components, along with guidance and support tools for its application, is provided in Appendix 10.

6. Next Steps: Potential Future Applications of the RNBWS Capacity Framework and the RNBWS Training and Certification Framework

The outputs from this work—the RNBWS Capacity Framework and the RNBWS Training and Certification Framework—are ready for trialling and application in the MENA region and for subsequent revision. The project team identified several high-priority opportunities for this application.

1. Use the RNBWS Capacity Framework to structure RNBWS pilot project implementation and capability-building programs of work for community-level and national stakeholders.

2. Undertake national reviews to populate the RNBWS Training and Certification Framework in each project country. This would build structured knowledge on the training 'landscape' in each project country. To trial the Framework and simplify the process, this could be limited in scope as follows:

    - Focus on specific priority users only (i.e., those with on-the-ground roles including farmers and cooperative leads); limit the geographic scope of the exercise to a specific community or region; limit the focus to only TVET, extension, or certificate programs; and undertake the assessment through participatory research with project team field staff and/or local stakeholders.

3. Use the RNBWS Capacity Framework to structure the following:

    - An organizational human resources assessment (e.g., within a national ministry or a national-level NGO) focused on institutional organization and/or skills gaps and training needs.
    - An education or training provider assessment.

4. Use the RNBWS Capacity Framework (and the RNBWS Training and Certification Framework, if it has been populated) to undertake education/training provider-specific analyses of their RNBWS-related offerings. This could be structured as a SWOT analysis or a comparable assessment.

5. Use the RNBWS Training and Certification Framework as an input to 'community readiness assessments' that aim to evaluate the readiness of specific communities to implement RNBWS.

6. Develop an RNBWS action network and knowledge hub that both centrally and through participatory action research produces and disseminates learning content related to RNBWS Capacity Framework core themes.

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Appendices

Appendix 1. Process for Developing Personas

Focus question:

Who are the users or prospective users of training related to RNBWS in Al Murunah project countries?

For this assignment, a user is a person who uses training related to Nature-Based Solutions for Water (NBSW) and Agricultural Water Management (AWM) in Al Murunah project countries (Egypt, Jordan, Lebanon, and OPT).

What are personas?

Personas are fictitious, specific, concrete representations of target users. Personas put a face to the user, a memorable, engaging, and actionable image that serves as a design target.

Why are we developing personas?

To define and review the training landscape, we must first define who the users of training are. Developing user personas will enable us to achieve this.

Personas will provide many benefits:

- Personas make assumptions and knowledge about users explicit, creating a common language with which to meaningfully talk about users.
- Personas will allow us to focus on and design for a specific set of users (who are not necessarily like us), supporting better decision making.
- Personas engender interest and empathy towards users that are not provided by other forms of user data.

In summary, personas will support the project team and organisation to become more user focused.

Developing Personas

Personas can be developed from assumptions and/or data (qualitative or quantitative). Whilst a persona developed from well-researched data will be arguably more robust, it can be a lengthy and resource hungry process. Personas developed around assumptions are a useful tool early in a project as they are relatively quick to produce, surface assumptions, and support the project team and organisations to focus on the user. The development of such personas can be iterative, evolving and becoming more robust as the project progress and as data and user insights surface.

Personas developed from assumptions are referred to as Proto Personas or Ad Hoc Personas. In their book, The Essential Persona Lifecycle (Adlin and Pruitt 2010) discuss how ad hoc personas can either stand alone or be an initial step in the development of data driven personas. As such, at this stage in this project, we are developing Proto Personas or Ad Hoc Personas.

Proto Personas include:
Who: Potential user details and their demographic information. Who would use the platform/service? What are their attributes (such as age, gender, and profession)?
What: What are the users' needs and what does this user want to accomplish? What are they looking to achieve?
How: What are the users' motivations? How do they prioritize them?
Frustrations and pain points: What are the challenges they encounter? What problems might they encounter along the way? What is preventing them from their achieving their goal?

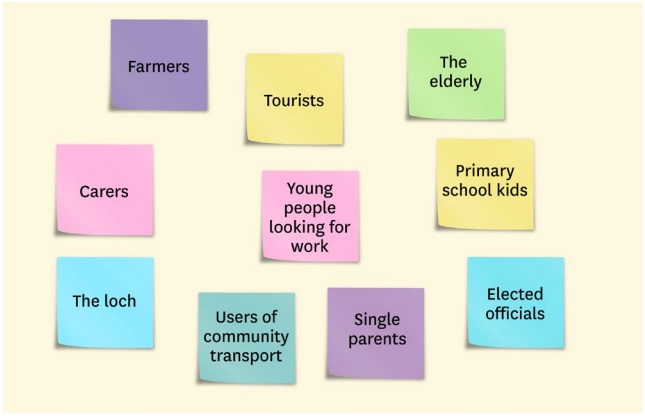
Example:

Process

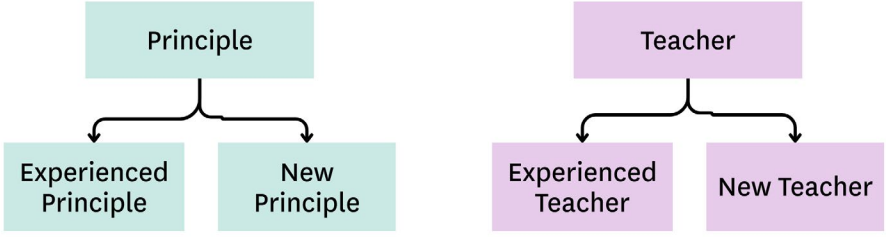
Step 1.

Who: Project Team members

1. List all the possible users or prospective users of training related to RNBWS in Al Murunah project countries that you are familiar with. See the example below. Once this is complete update the 'User brainstorm' sheet in the Proto Persona Data Capture Excel spreadsheet.



2. From this list, sort them into groups or clusters of users with similar characteristics. Using Post-it Notes can be useful for this exercise. Think about their needs, demographics, motivations, priorities, and frustrations. How are RNBWS and training relevant to them?
3. Next give each group or cluster a heading. See the example below. Once this is complete update the 'User Segments" sheet in the Proto Persona Data Capture Excel spreadsheet.



4. Once you have done this, from each group select the 1-2 users that really stand out, that resonate with you. Focus on those most relevant, considering quality rather than quantity (note that if there is a significant difference between users in a group, then you may need to create a subgroup with its own heading).
5. Next answer the questions to complete the spreadsheet for each selected user. Try to imagine this user, imagine you were walking in their shoes. Next to each answer assess your confidence level as to the information you have provided in response using the criteria below. Aim to complete 3 – 6 user profile questionnaires and use a new sheet for each user.

Confidence level in response to question.

1. Gut feeling.
2. Heard it indirectly.
3. Heard it directly from user.
4. Observed it.
5. From data qualitative or quantitative.

Assign a score 1 to 5.

Step 2

Who: External Contractor

The development of draft proto personas.

Step 3

Who: Project Team and External Contractor

We will meet to review, and workshop draft proto personas.

Step 4.

Who: External Contractor

Finalise agreed proto personas.

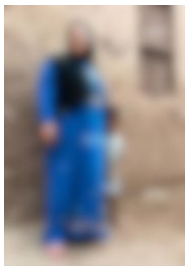
Step 5.

Who. Project Team

Once proto personas are created and agreed upon, take them into the field to begin validating their accuracy. Through your works and as the project progresses, you'll quickly find out how accurate these initial proto personas are. This will inform you on how to adjust your target audience and persona, which should be revamped and rewritten as needed.

Appendix 2. Personas[3]

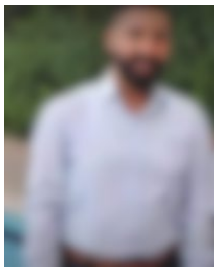
User Persona 1: Sabah Sayed – wife of a smallholder farm – Egypt



Aspect	Description
Who are they	Sabah Sayed, a 40-year-old female residing in Izbet Al Hamrah, Beheirah Governorate, serves as a housewife to a smallholder farmer. Her daily routine involves tending to livestock, caring for her children, and assisting her husband in the field. During the artichoke harvest season, she works at a processing unit, peeling artichokes from December to April.
Demographics	Sabah, residing in Izbet Al Hamrah, Beheirah Governorate, contributes unpaid labour to her family's agricultural activities. With a primary school education, her role as a housewife encompasses various responsibilities, from childcare to aiding in agricultural tasks.
Family and Personal Life	Married with four children, Sabah's life revolves around family and agriculture. Her daily schedule reflects the delicate balance between domestic duties, supporting her husband in the field, and contributing to the family income during the artichoke harvest.
Goals and Motivation	Sabah's daily routine lacks clear goals or motivation beyond meeting basic needs. Her life revolves around sustaining her family and ensuring they have enough to cover their essential requirements.
Opportunities	Improving harvest, increasing value of harvest, improving her knowledge and skills, and overcoming social challenges.
Technology or Tradition?	Zero | Low | Medium | High Sabah lacks internet access and exhibits limited technological competence, relying on more traditional methods of communication. Her daily life does not incorporate technology beyond necessities.
Life Challenges	Enough income to educate their children or to cover basic needs.
Greatest Needs	Sabah's greatest needs include securing sufficient income to cover basic needs and support her children's education. These necessities form the foundation for improving her family's standard of living and breaking the cycle of financial hardship.
Information Sources	Agriculture pioneers, supervisors or colleagues in the processing unit and neighbours.
Language Skills	Fluent in Arabic (Native language).
Internet Access	Sabah lacks internet access.
Technology Competence	Sabah lacks internet access and exhibits limited technological competence. Her daily life does not incorporate technology beyond necessities.
Involvement in AWM	Assisting her husband in planning and harvesting the land.
Opportunities in AWM	Participating in AWM can present opportunities for Sabah to enhance harvests and increase income. Improved water management practices could positively impact her family's agricultural productivity.
Awareness of RNBWS	Zero | Low | Medium | High Currently, Sabah lacks awareness of Nature-Based Solutions for Water (NBSW).
Opportunities of RNBWS	Potentially improving her family's livelihood through sustainable and nature-aligned practices.
Training in AWM and RNBWS	Sabah has not received training or certification in AWM or NBSW.
Training Preferences	Prefers peer-supported, face-to-face learning.

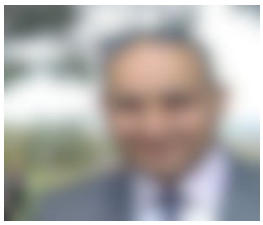
[3] The personas are realistic but not real. They are fiction and not meant to be representative of real people. The photographs used are stock images gathered from a google search and have been used for the purpose of making our personas seem realistic.

User Persona 2: Georges Rizq – Municipal Planning Manager (Agriculture) – Lebanon



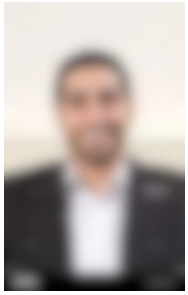
Aspect	Description
Who are they	Georges Rizq, a diligent member of the Qaa municipality in his 30s, serves as an agricultural engineer, overseeing and coordinating agricultural planning initiatives. His responsibilities span developing agricultural policies, land use planning, collaboration with stakeholders, capacity building, and applying for funding. Georges is single, residing in the rural area of Qaa, Lebanon.
Demographics	Georges, coming from an average socio-economic background, has a lower-than-minimum-wage income. As a Lebanese national from a rural area, his dedication to his region is reflected in his role in the municipality.
Family and Personal Life	Being single, Georges' primary focus is on his professional endeavours and contributing to the agricultural development of his community.
Goals and Motivation	Georges finds motivation in his prospects, a strong sense of belonging to his region, and a commitment to the sustainability of his work. These factors drive him to contribute to the agricultural development of Qaa.
Opportunities	Embracing tech for sustainable solutions, enhancing water use efficiency, fostering collaboration.
Life Challenges	Maintaining his income in the face of inflation, coping with the unsustainable economic situation in the country, and dealing with a lack of financial resources, are challenges that occupy Georges' thoughts.
Greatest Needs	Georges' greatest need is international funding to support the agricultural initiatives and policies he aims to implement in Qaa.
Information Sources	Georges relies on information from NGOs, the relevant ministry, and other trusted sources to stay informed about agricultural developments, policies, and funding opportunities.
Language Skills	Fluent in Arabic (his native language) and with intermediate proficiency in French and English.
Internet Access	Constant mobile internet access, supplemented at home, cafes.
Technology Competence	Zero | Low | Medium | **High** With internet access at home, on his phone, and at cafes, Georges is familiar with technology, including computers, mobile phones, and certain machines and equipment relevant to his agricultural role.
Involvement in AWM	Implementing practices such as drip irrigation, diversifying crop selection, and limiting the usage of chemical pesticides.
Opportunities in AWM	Enhanced water use efficiency, sustainable resource management, and improved crop quality.
Awareness of RNBWS	Zero | Low | **Medium** | High Georges promotes sustainable practices related to Nature-Based Solutions for Water (NBSW) within and outside his work environment.
Opportunities of RNBWS	While NBSW presents opportunities for sustainability, productivity, cost savings and resilience, Georges acknowledges the challenges, including initial costs and the need for intensive training.
Training in AWM and RNBWS	Yes, but not specified.
Training Preferences	Prefers peer-supported, face-to-face learning. Will engage in online learning, respects formal settings. Ministry pays for time, donor funds cover costs.

User Persona 3: Fadi Ali – Head of Planning of Water Demand Department – Ministry of Water and Irrigation – Jordan



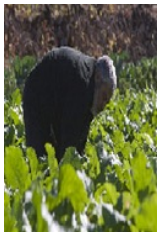
Aspect	Description
Who are they	Fadil Al, 37, Head of Planning of Water Demand Department - Ministry of Water and Irrigation in Amman, Jordan. Responsible for data and Information Management, Preparing and updating Strategic Planning reports, creating new strategies for water demand, writing technical proposals for new projects, working on the cross-cutting themes with related affairs such as NRW, Water reallocation, climate change.
Demographics	Amman resident, 18,000 JOD income, BS in agronomy and M. Eng in irrigation engineering.
Family and Personal Life	Married with two children, and one on the way. Finished undergraduate degree, worked 2 years, then pursued engineering. Values family, religion, balances tradition and technology.
Goals and Motivation	Career progression, stability, higher income, contributing to national progress.
Opportunities	Embracing tech for sustainable solutions, enhancing water use efficiency, fostering collaboration.
Life Challenges	Office and inter-agency politics, rapid changes in some areas, insufficient changes in others. Water scarcity and long-term farming challenges.
Greatest Needs	Improving water-use productivity, addressing soil and water salinity, effective collaboration, regulatory enforcement.
Information Sources	Peers, social media, newspapers, Google searches, official publications, conferences, field interactions. Trusts senior peers, former professors, and reputable advisors.
Language Skills	Fluent in Arabic, English; some Adyghe/Circassian.
Internet Access	Constant mobile internet access, supplemented at home, workplace, cafes.
Technology Competence	Zero | Low | Medium | **High** Digital native, competent in irrigation engineering software, learning project management software.
Involvement in AWM	Policy-setting, regulation, investment planning, supporting sustainable products, community initiatives, raising AWM awareness.
Opportunities in AWM	Tech and practices for soil and water salinity, increased water use efficiency, contributing to local water availability, food security.
Awareness of RNBWS	Zero | **Low** | Medium | High Vaguely aware, associates with mangroves and wetlands. Inadvertently participated in reforestation projects.
Opportunities of RNBWS	Sustainability, productivity, resilience in farming practices, cost saving on the long term.
Training in AWM and RNBWS	Trained in AWM during studies. No NBSW training. Sees value in NBSW training for effective policy assessment and project support.
Training Preferences	Prefers peer-supported, face-to-face learning. Will engage in online learning, respects formal settings. Ministry pays for time, donor funds cover costs.

User Persona 4: Antoine Matar – Head of an Agricultural Cooperative – Lebanon



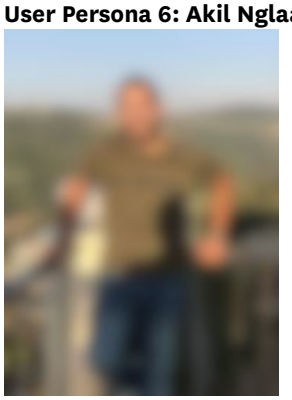
Aspect	Description
Who are they	Antoine is the head of an agricultural cooperative in Ras Baalbeck, 45. Manages strategic direction, operations, and financial stability. Values technology if provided.
Demographics	Lebanese, rural area resident with an average socioeconomic background.
Family and Personal Life	Married with three children. Agricultural engineer by training.
Goals and Motivation	To provide for his family and maintain the sustainability of his work.
Opportunities	Embracing tech for sustainable solutions, enhancing water use efficiency, fostering collaboration.
Life Challenges	Maintain his income, inflation, unsustainable economic situation in the country, lack of funding, lack of opportunities.
Greatest Needs	Seeks funding, new equipment, and training on new methods to maintain income and address challenges like inflation, economic instability, and lack of opportunities.
Information Sources	Internet. Relies on the relevant ministry and NGOs for information regarding cooperative activities.
Language Skills	Fluent in Arabic (native language), with intermediate proficiency in French and English.
Internet Access	Has internet access at home, on the phone, and in cafes.
Technology Competence	Zero | Low | Medium | High Familiar with computers and mobile phones.
Involvement in AWM	Actively involved in Agricultural Water Management (AWM) through practices like drip irrigation, crop diversification, and limiting pesticide use.
Opportunities in AWM	Recognizes opportunities in sustainability, productivity, and resilience through NBSW. Faces challenges such as initial costs, intensive training, and local resistance.
Awareness of RNBWS	Zero | Low | Medium | High They are invested in and promote agro-food practices, trying to limit the usage of chemical pesticides.
Opportunities of RNBWS	Sustainability, productivity, resilience in farming practices, cost saving on the long term.
Training in AWM and RNBWS	Trained in AWM during studies. No NBSW training. Sees value in NBSW training for effective policy assessment and project support.
Training Preferences	Prefers face-to-face training, and possesses the time and resources to attend.

User Persona 5: Abu Ali – Smallholder Landowner Farmer – OPT


Aspect	Description
Who are they	Abu Ali, a seasoned farmer in his mid-60s residing in Fari'a, Tubas, OPT. Abu Ali tends to various farming activities, from land preparation to harvesting and marketing, embracing traditional values and practices.
Demographics	Abu Ali operates in a low-income background, earning approximately 20,000 local currency per year and is a Tawjihi – High School graduate.
Family and Personal Life	Married with five children (three girls & two boys).
Goals and Motivation	Abu Ali's motivation stems from the desire to maintain his livelihood, uphold traditional practices, and contribute to the welfare of his family and community. These aspirations drive him towards achievement every morning.
Opportunities	Abu Ali sees opportunities to enhance water use efficiency through local control, in the form of water storage, enabling crops to be irrigated when the plants need the water, not just when the water is available.
Life Challenges	Abu Ali grapples with challenges such as the lack of water, lack of control over the water he does have, limited access to markets, high production costs, and environmental pollution. These concerns keep him awake at night, reflecting the pressing issues faced by traditional farmers.
Greatest Needs	His greatest needs include protecting his land and farming system, securing sufficient water, sustaining his livelihood, and mitigating environmental pollution.
Information Sources	Abu Ali relies on both formal and informal extension services and local councils, for valuable information to enhance his farming practices.
Language Skills	Fluent in Arabic (native language).
Internet Access	Although limited to phone access, Abu Ali is familiar with mobile phone technology.
Technology Competence	Zero / Low / Medium / High Limited to familiarity with mobile phone.
Involvement in AWM	Abu Ali actively manages water on his farm, facing challenges due to limited means for efficient agricultural water management.
Opportunities in AWM	Effective Agricultural Water Management (AWM) could address Abu Ali's challenges, especially regarding timely and quantity-appropriate access to water, which is a key concern for traditional farmers.
Awareness of RNBWS	Zero / Low / Medium / High Abu Ali, while not fully comprehending the concept of NBSW, unknowingly incorporates elements of it into his traditional farming practices.
Opportunities of NBSWM	RNBWS presents opportunities for Abu Ali, including reduced pollution and improved water availability, addressing critical issues in traditional farming.
Training in AWM and RNBWS	Abu Ali has not received formal training or certification in AWM or NBSW, presenting an opportunity for enhanced insight into these concepts.
Training Preferences	Abu Ali prefers face-to-face and on-site training, engaging in peer-to-peer learning, offering a practical approach aligned with his traditional farming practices.

User Persona 6: Akil Nglaa – Manager/Leader of Local Community Based Organization (CBO) – Egypt



Aspect	Description
Who are they	Akil Nglaa, a 38-year-old male, serves as the Head of the Community-Based Organization (CBO), dedicating 3-4 hours per day for 2-3 days a week towards CBO activities. Additionally, he is a smallholder farmer residing in Izbet Al Hamrah, Beheirah Governorate.
Demographics	Akil's monthly income is LE 3,500, and he possesses a secondary education with Technical and Vocational Education and Training (TVET) certification. He is married and has four children.
Family and Personal Life	Married, 4 children.
Goals and Motivation	Akil is motivated by the goal of running numerous projects and managing his land effectively. His commitment reflects a desire for financial stability and the success of both his community-based initiatives and agricultural endeavours.
Opportunities	Akil recognises opportunities to invest in water infrastructure, addressing challenges related to water scarcity and enhancing agricultural productivity.
Life Challenges	Get funding for his programs and get good income from his land.
Greatest Needs	His greatest needs include securing funding for his programs and receiving training on good agricultural practices.
Information Sources	Akil relies on trustworthy sources such as the Ministry of Social Solidarity, neighbours, and fellow farmers for information.
Language Skills	Fluent in Arabic (native language).
Internet Access	He has sporadic access to the internet, primarily through his phone and at home.
Technology Competence	Zero / Low / Medium / High While not highly technologically competent, this limited internet access provides Akil with an additional channel for information.
Involvement in AWM	Through practices such as diversifying crop selection and limiting the usage of chemical pesticides.
Opportunities in AWM	Though investment in water infrastructure.
Awareness of RNBWS	Zero / Low / Medium / High None.
Opportunities of RNBWS	Sustainability, productivity, resilience in farming practices, cost saving on the long term, and running programs that shall benefit farmers and rural women.
Training in AWM and RNBWS	None.
Training Preferences	Face-to-face learning with peers within his community.

The full list of project-team-identified personas relevant to RNBWS within the scope of the Al Murunah project is shown in the table below.

Segment	User (only gender-specific if noted)
Farmers	Smallholder landowner farmer with at least partially irrigated lands
	Smallholder farmer with rainfed lands
	Livestock herder (small herd potentially transhumant)
	Farmer with medium- to large-sized irrigated lands
	Livestock owner (medium to large herd - e.g. dairy herd)
	Housewife of a smallholder farmer
	Woman farm laborer in the field
	Farm laborer (no/minimal landownership)
Farmer support and agribusiness	Agricultural extension service officer (geographic area and specialization cover rainfed and both surface water and groundwater-irrigated farms)
	Technician/advisor from an agricultural input/supply/hardware firm
	Agro/ecotourism operator
	Manager in regional/national farmers' union/association/sector group
	Head of an Agriculture Cooperative
	Crop wholesaler (contract buyer)
	Woman worker who works in processing food inside the village
	Water extension officer
Education/training/ research	Trainer in an adult education program/technical school (agriculture-oriented)
	Trainer in an adult education program/technical school (environmental-oriented)
	Lecturer/professor in university (agriculture)
	Lecturer/professor in university (hydrology/water resources management/civil engineering)
	Applied researcher in water management, environmental studies
	Primary or secondary school teacher
Local govt	Local government/municipality planning manager (Agriculture)
	Local government - community engagement/communications staff
	Refugee camp manager
Central govt	Central government policy analyst (Planning Department) in ministry with ag and/or water management remit (policy-setting, investment-planning, project budget oversight, etc., but not operational delivery such as infrastructure management)
	Central government budget analyst
	Protected area (parks) manager
	Governmental HR staff (hiring and training remit)
	Regulatory monitoring, compliance, and enforcement agent
NGOs (local community development/ CBOs + national)	Manager/leader of local community space organization/community-based organization (CBO)
	Manager/head of local Water User Association
	Member of local CBO (farming is not a significant source of livelihood)
	Manager in national water/environment-focused NGO
	Humanitarian organization employee – refugee camp WASH (water, sanitation, and hygiene) planner
Utilities/infrastructure operators	Municipal water supply/sewerage utility operator
	Municipal water supply/sewerage utility planner (investment planning, project budget oversight, etc.)
	Manager in water resource engineering union/association
	Industry effluent manager
	Dam operations manager
	Flood risk manager
Financiers	Agricultural loan officer (micro-credit or bank)
	Commercial bank analyst

Appendix 3. Rationale and Process for Creation of User Journey Maps

User Journey Maps offer a structured representation of a user's experience while engaging with a product, service, or system, especially in the context of training. They delve into the user's actions, emotions, touchpoints, and decision-making process throughout their journey, spanning from initial awareness to the training outcome.

"User Journey Maps provide a holistic view of the user's experience, enabling organizations to align their offerings more closely with user expectations.....User Journey Maps provide a holistic view of the user's experience, enabling organizations to align their offerings more closely with user expectations." (Adlin and Pruitt 2010)[4]

Why User Journey Maps Matter:

User Journey Maps serve as invaluable tools for businesses and organisations, enabling them to:
Identify Opportunities: User Journey Maps highlight areas where improvements and innovations can be made, leading to enhanced user satisfaction. They are like treasure maps revealing opportunities for enhancing the user experience.
Optimise Processes: User Journey Maps help streamline processes, making user experiences more efficient and effective. This optimisation can lead to cost savings and increased efficiency.
Measure and Monitor Progress: Over time, User Journey Maps enable organisations to measure and monitor the success of their efforts to enhance the user experience. They serve as a benchmark for improvement.

Understanding the Sections of a User Journey Map

A User Journey Map comprises four main stages: Awareness, Consideration, Decision, and Retention. Each stage has specific components that collectively provide a comprehensive view of the user's journey.

1. **Awareness:**

Actions: This section outlines the user's initial actions, helping us understand how they first encounter a problem or need.
Touchpoints: These indicate the channels or sources through which the user becomes aware of the problem or need, enabling effective targeting.
Experience/Emotions: Emotions and experiences at this stage shape the user's perception of the issue, providing insights into their initial emotional state and reactions.
Pain Points: Identifying the user's pain points at the awareness stage helps recognise immediate challenges they face, creating opportunities for solutions.
Solutions: Even at the awareness stage, users may start considering potential solutions. By including this, we can identify early preferences or expectations regarding problem-solving.

2. **Consideration:**

Actions: This section details the user's actions while actively exploring various solutions, indicating how they are considering different options.
Touchpoints: Touchpoints reveal where and how the user gathers information or evaluates alternatives, influencing their decision-making process.
Experience/Emotions: Emotions and experiences during the consideration stage help gauge how the user feels about potential solutions and their decision-making process.

[4] Adlin, T.; Pruitt, J. 2010. *The essential persona lifecycle: Your guide to building and using personas*. Burlington, MA, USA: Morgan Kaufmann. 240p.

Pain Points: Identifying pain points during consideration helps us recognise barriers that may hinder the user's progression toward a decision.
Solutions: This element reveals what solutions the user is considering, helping us understand their preferences and priorities in the decision-making process.

3. Decision:
Actions: In this stage, actions reflect the user's final choice made after considering different options.
Touchpoints: The touchpoints at the decision stage show the final influencers and channels that led to the user's choice.
Experience/Emotions: Understanding the emotions and experiences at the decision point is crucial for evaluating the user's satisfaction with their chosen solution.
Pain Points: Pain points at the decision stage may reveal any last-minute doubts or concerns that could impact the user's choice.
Solutions: Solutions at this stage represent the user's ultimate decision, allowing us to measure how well offered solutions align with their needs.

4. Retention:
Actions: Actions in the retention stage indicate the user's engagement post-decision, helping track user loyalty and continued interaction with the chosen solution.
Touchpoints: The retention touchpoints show where and how the user continues to interact with the solution, providing insights into their ongoing engagement.
Experience/Emotions: Retention experiences and emotions are vital for assessing the user's satisfaction, loyalty, and overall relationship with the chosen solution.
Pain Points: Recognising ongoing pain points can help address issues that may lead to user disengagement or churn.
Solutions: The solutions at the retention stage illustrate how the user's needs and preferences have evolved post decision, guiding strategies for long term satisfaction and retention.

By following this structured approach, organisations gain a deeper understanding of the user's journey, enabling them to tailor their approaches, enhance the user experience, and foster user loyalty at each stage of the process. These maps are invaluable for fostering user satisfaction, streamlining processes, and creating products and services that genuinely address user needs and challenges.

Appendix 4. Library Search Hierarchy Translations into Arabic and French

Hierarchy	Time frame	Geographical location	Main Term	Secondary Term	Education Terms
1	2010 to now (OR IF NEEDED: ٢٠١٠ – ٢٠٢٣	الشرق الأوسط وشمال أفريقيا	الحلول القائمة على الطبيعة	الري	برنامج تدريب
2	٢٠١٠ - ٢٠٠٠	الشرق الأوسط	إدارة المياه الزراعية	الهندسة الخضراء	تحليل الاحتياجات التدريبية
3		شمال أفريقيا		الهيدرولوجيا البيئية	شهادة
4		أفريقيا		صحة التربة	برنامج بناء القدرات
5		آسيا			مقرر
6		أستراليا			احتياجات المعرفة
7		أمريكا الجنوبية			تعليم
8					مؤهل
9					دورة
10					إطار المؤهلات
11					مقدم التدريب (note this often refers to the teacher/facilitator rather than an organization)
12					NO TRANSLATION FOR "QUALIFICATION PROVIDOR" - similar reasons as for French, and even more so
13					تدريب مهني

Hierarchy	Time frame	Geographical location	Main Term	Secondary Term	Education Terms
1	2010 to now	Moyen-Orient et Afrique du Nord (MOAN)	Solutions basées sur la nature	Irrigation	Programme de formation
2	2000 to 2010	Moyen-Orient	Gestion de l'eau agricole	Ingénierie verte	Analyse des besoins en formation
3		Afrique du Nord		Ecohydrologie	Certification
4		Afrique		Santé des sols	Programme de renforcement des capacités
5		Asie			Programme d'études
6		Australasie			Besoins en connaissances
7		Amérique du Sud			éducation
8					Qualification
9					Cours
10					Cadre de qualification
11					prestataire de formation
12					fournisseur de qualification (SUGGEST NOT USING THIS SEARCH TERM)
13					formation professionnelle

Appendix 5. Library Database Search Results

Date compiled: May 27, 2025

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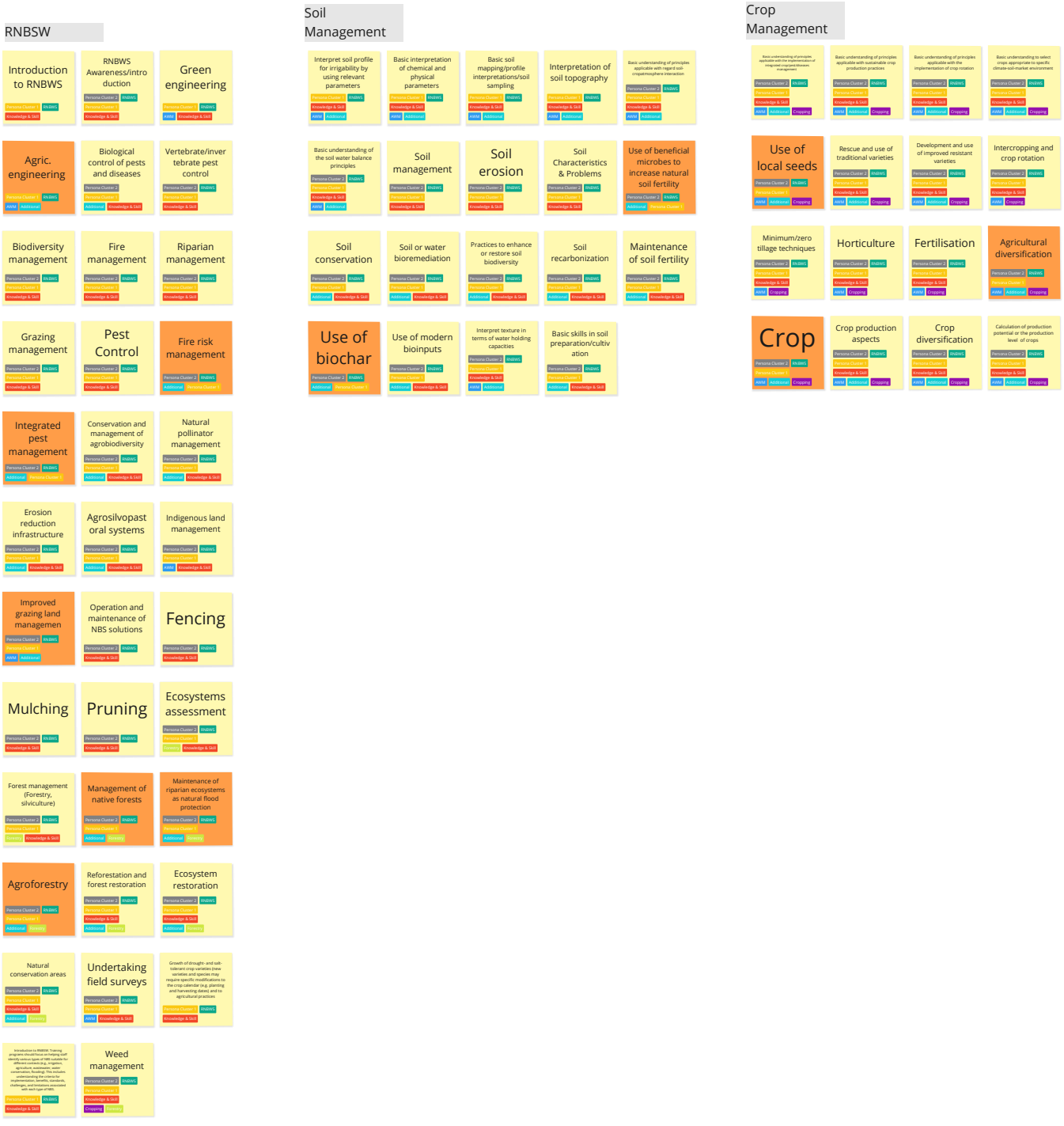
Appendix 7. Capabilities Framework Clustering and Categorization Figure


RNBSW
Introduction to RNBWS
RNBWS Awareness/introduction
Green engineering
Agric. engineering
Biological control of pests and diseases
Vertebrate/invertebrate pest control
Biodiversity management
Fire management
Riparian management
Grazing management
Pest Control
Fire risk management
Integrated pest management
Conservation and management of agrobiodiversity
Natural pollinator management
Erosion reduction infrastructure
Agrosilvopastoral systems
Indigenous land management
Improved grazing land managemen
Operation and maintenance of NBS solutions
Fencing
Mulching
Pruning
Ecosystems assessment
Forest management (Forestry, silviculture)
Management of native forests
Maintenance of riparian ecosystems as natural flood protection
Agroforestry
Reforestation and forest restoration
Ecosystem restoration
Natural conservation areas
Undertaking field surveys
Weed management
Soil Management
Interpret soil profile for irrigability by using relevant parameters
Basic interpretation of chemical and physical parameters
Basic soil mapping/profile interpretations/soil sampling
Interpretation of soil topography
Basic understanding of the soil water balance principles
Soil management
Soil erosion
Soil Characteristics & Problems
Use of beneficial microbes to increase natural soil fertility
Soil conservation
Soil or water bioremediation
Practices to enhance or restore soil biodiversity
Soil recarbonization
Maintenance of soil fertility
Use of biochar
Use of modern bioinputs
Basic skills in soil preparation/cultivation
Crop Management
Use of local seeds
Rescue and use of traditional varieties
Development and use of improved resistant varieties
Intercropping and crop rotation
Minimum/zero tillage techniques
Horticulture
Fertilisation
Agricultural diversification
Crop
Crop production aspects
Crop diversification

Appendix 8. Overview of Training and Certification Landscape in MENA Project Countries

Jordan	
At present, there are ten public, nineteen private and two regional universities in Jordan. Both these public and private universities offer Bachelor's degrees, while Master's and Doctorate degrees are offered in the public universities, and only in a few private universities. Key Points: · Education in Jordan is centralised. · There are a mix of public and private institutions. · Programs follow the American or British education models. Jordan currently does not have a formalised national qualifications' framework; however, it is a member of the AQF and of the Arab Network for Quality Assurance in Higher Education (ANQAHE). Their national framework is still under development and referencing processes have not yet been launched.	
Ministry of Higher Education and Scientific Research	https://mohe.gov.jo/Default/En
The Ministry of Education of Jordan	https://moe.gov.jo/ar/node/15782
Education System Jordan	https://moe.gov.jo/node/19404
Universities and Institutes	https://mohe.gov.jo/EN/List/Universities__and_Institutes___
Lebanon	
Ministry of Education and Higher Education (MEHE) maintains a list of accredited universities and programs on their website. Key Points: · Education in Lebanon is conducted in either English or French with Arabic. · Administration is centralised with the MEHE. · There is one public institution and a range of private institutions at higher education level. There is currently a draft Lebanese Qualification Framework (LQF), but it is not yet official (not approved or published). In the interim various universities refer to the EQF in their diploma supplement. Some are also using the EQF when reviewing diplomas coming from EU for purposes of recognition. A draft version of the LQF which is similar to the EQF is also being used by Antonine University, but again this is not official nationally.	
Ministry of Education	https://www.mehe.gov.lb/ar
Accredited Universities in Lebanon	http://www.higheredu.gov.lb/arabic/privuniv/personal_univ.html
OPT	
OPT plans an eight-level qualifications framework (NQF) based on learning outcomes and covering all education and training sectors. The Ministry of Education is responsible for general education from kindergarten to upper secondary school, while the Ministry of Higher Education and Scientific Research is responsible for higher education in universities and technical colleges. In VET, in addition to the MoE, other players are the centres affiliated to the Ministry of Labour (MoL), the Ministry of Social Development, the Ministry of Former Detainees, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), civil society organisations (CSOs), including those that are faith-based, and private for-profit training providers e.g. the Electricity Company. The Vocational Training Centres (VTCs) are non-formal VET providers, either operated and overseen by the Ministry of Labour or privately run. They offer flexible provision, day and evening courses. The state-run centres number circa 15-29, while the private sector runs almost 200.	
European Training Foundation	https://www.etf.europa.eu/en/where-we-work/countries/palestine
Policies for human capital development in Palestine (ETF 2021)	https://www.etf.europa.eu/en/publications-and-resources/publications/trp-assessment-reports/palestine-2020
Enable Palestine	https://www.enabel.be/country/palestine/

Egypt	
Development on the NQF for Egypt started in 2005 and continued through to the present, culminating in its approval by the Egyptian government. Key ministries involved in TVET include the Ministry of Education and Technical Education (MoETE), the Ministry of Industry, the Ministry of Trade and Small and Medium-Sized Enterprises, and the Ministry of Manpower and Migration (MoMM). Additionally, the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) and Egyptian TVET Quality Assurance and Accreditation National Authority (ETQAAN) play significant roles. Egypt has 28 public universities with 450 faculties, 26 private universities, 162 colleges, 158 higher institutes, and more than 2.7 million students (NAQAAE). Other types of higher education institutions include: • Higher specialised institutes. • Technology colleges. • Middle institutes. • Higher Technical Institutes. • Academies (e.g. military) (EU, 2017:1).	
The full set of guidebooks on accreditation of higher education institutions is gathered under the first section - "Accreditation Manuals" – of Publications and Templates in NAQAAE website	https://naqaae.eg/en/about_us/Executive_Regulation

Appendix 9. Insights from Extension Research Literature[5]

A 2014 AgResearch report undertaken in support of the Red Meat Profit Partnership (RMPP) programme *(Informing Extension Pilot Project Design: Final Report)* addresses extension, farm performance, innovation, and life-long learning; it identified the following six key findings:

1. Extension projects are more likely to influence practice change when they are designed to match the characteristics of the problem being addressed, the technology being implemented, and the potential users of the technology.
2. Nine different extension approaches can be distinguished. These approaches differ in key aspects, which need to be designed to fit the circumstances of the opportunity, including:
   a. The sources and flows of knowledge.
   b. The role of the participants (farm team, project team, rural advisors, and scientists) as sources of knowledge and determiners of priorities for the project.

3. Key factors that need to be understood when deciding which extension approach is best suited to particular circumstances are:
   a. Awareness of the particular issue or opportunity.
   b. The complexity of the issue.
   c. The desired benefits to farmers from the practices to address the issue.
   d. The compatibility of the new practices with existing practices.
   e. Farmer ability to implement the practice.

4. When awareness of an opportunity is lower, the issue is complex, or a new practice is less compatible with existing practices and/or difficult to implement, it becomes even more important to include the farm team and rural advisors in setting project priorities and serving as sources of knowledge in the extension project.
5. To determine the best extension approach for the circumstances, information about the particular opportunity and practices required to realise the opportunity need to be gathered from sheep and beef farmers, and rural advisors.

[5] Note that this was developed for a separate assignment, and its development, although relevant, is not part of this work.

6. Successful extension projects include monitoring and evaluation as a key aspect of implementation. This is necessary to:
   a. Demonstrate the benefits of the project.
   b. Identify where changes to the project are needed while it is ongoing.
   c. Achieve uptake of practices that do not have immediately observable benefits.

This report illustrated the relationship of the nine different extension approaches identified relative to context (Figure 1 below) and design factors (Figure 2 below).

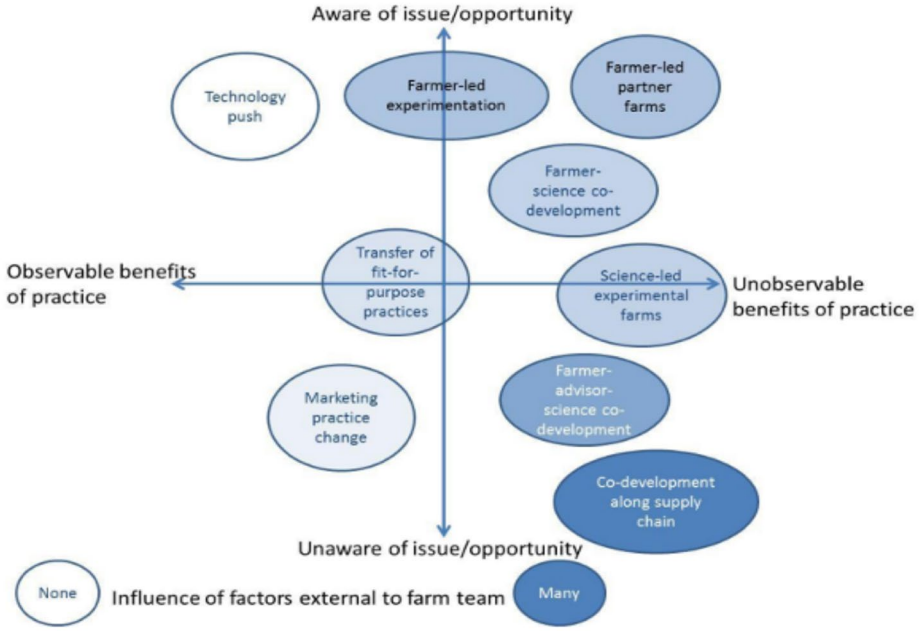


Figure 1. Typology of extension approaches showing the different contexts in which the extension approaches are likely to be most successful.

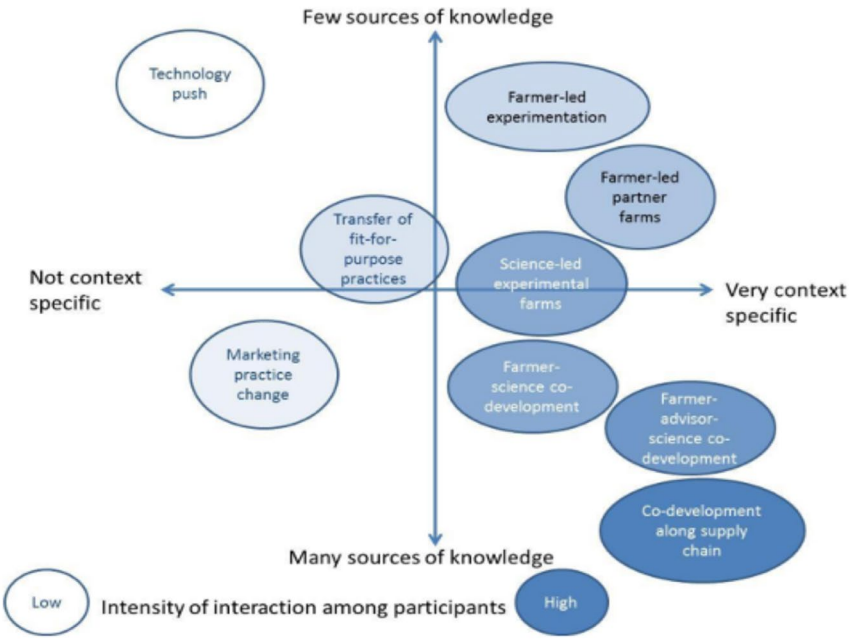


Figure 2. Typology of extension approaches showing the different design factors of the extension approaches.

The report also mapped the nine different extension approaches against the Ministry of Primary Industries extension framework (Figure 3 below).

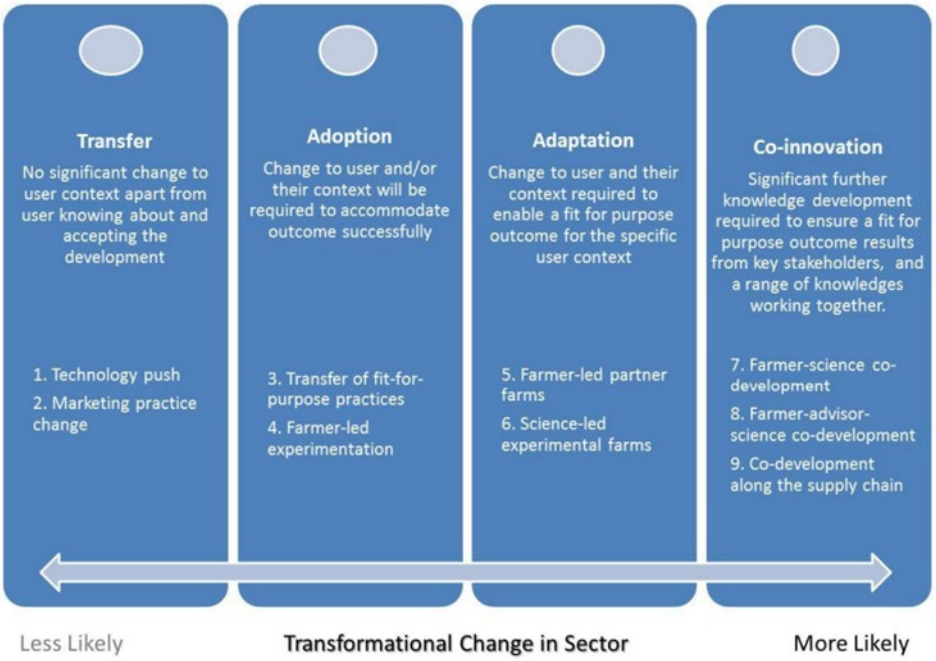


Figure 3. MPI framework of extension approaches and where the nine extension approaches fit within the MPI framework.

A 2016 research article by a team of Massey University researchers *(Improved Extension Practices for Sheep and Beef Farmers)* identified the following key findings:

1. To foster an effective learning community, facilitators need to build relationships based on trust and mutual respect, provide time and space for dialogue, and ensure power is shared by the actors.
2. Reinforcement both over time and through different learning activities is important for learning.
3. Extension activities need to help farmers to become evidence-based inquirers into their own practice.

The report identified the following five critical success factors pertinent to extension planning:

1. Development of a learning community.
2. Ensuring farmer interest.
3. Making connections to their farming systems.
4. Ensuring alignment between the learning activities and the science behind the new technology.
5. Supporting evidence-based farmer inquiry into their current practices.

The report further identified the following seven educational principles that are important for extension planning:

1. Build respectful and trusting relationships.
2. Provide opportunities for dialogue.
3. Share power between scientists and farmers.
4. Design a variety of activities that interest farmers.
5. Make deliberate connections to farmers' farming systems.
6. Plan repeated activities that align to the science underpinning a new technology.
7. Support farmer reflection and inquiry into current practices based on evidence.

The report mapped the relationship between the five critical success factors and seven educational principles (Figure 4 below).

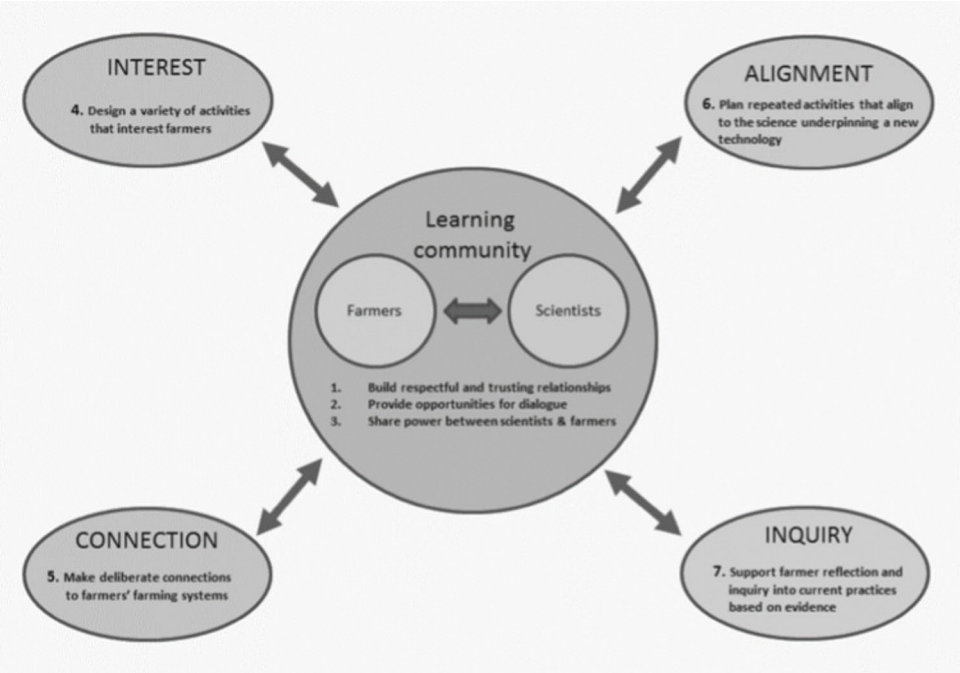


Figure 4. Critical success factors and educational principles that promote farmer learning and practice change.

The 2019 Red Meat Profit Partnership (RMPP) report, *(Extension Design Project: Final Report)* found that, while most farmers have a sense of what needs to be done to perform highly, only the top performers know how to consistently execute decisions at a very high level.

The report identified key farm business performance drivers for the top performing farmers within the model illustrated in Figure 5 (below), emphasizing that no one driver is more important for top farmers, as all the drivers are connected.

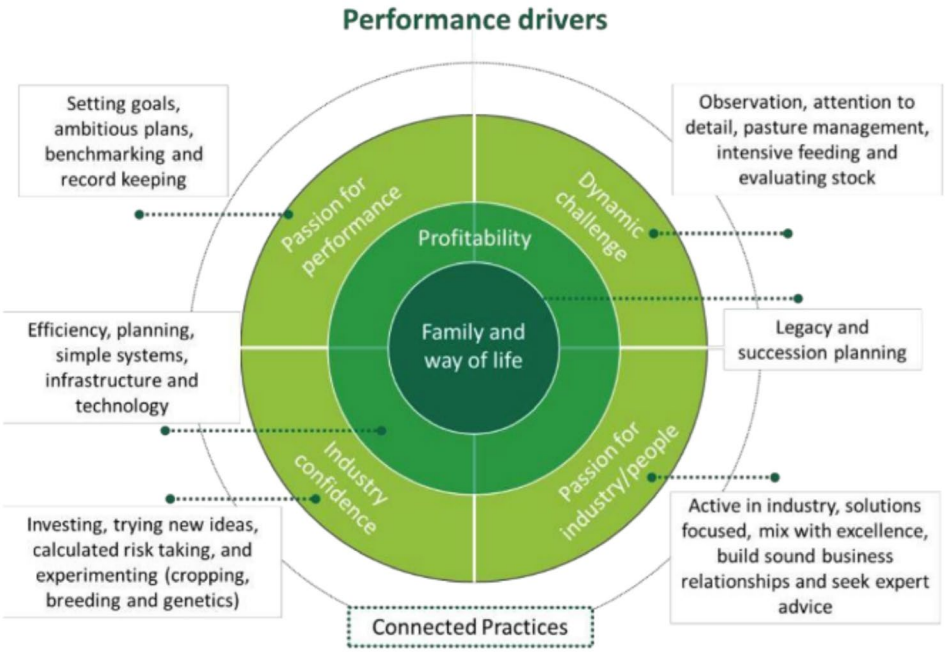


Figure 5. Top farmer performance drivers.

The report presented an RMPP extension model designed to support groups of seven to nine farmers, based on evidence demonstrating the impact that groups have on supporting practice change on-farm and showing that the ideal number of farmers in a group to maximise its effectiveness is seven to nine.

The RMPP extension design model (illustrated in Figure 6 below) places the farm team at the centre, promoting the idea that it is important to involve more than one decision maker from a farm business. The model identifies four supporting roles critical to extension success (connector, facilitator, experts, and mentors) and three essential components of an effective extension program (extension activities, extension resources, support for adoption/practice change).

Appendix 10. Guidance for Populating the RNBWS Training and Certification Framework

Glossary: Interpreting the framework. Row 1.

A. **Broad Category:** Very high-level knowledge and skill category. Only three have been identified; AWM (Agricultural Water Management), RNBW (Resilient Nature Based Water Solutions) and Governance, Management & Operations.
B. **Category:** Grouping of domain relevant individual knowledge and skills i.e. similar topics or subjects.
C. **Knowledge and Skills:** Individual needs identified.
D. **Person Cluster:** Persona Cluster. Cluster 1: Shared skillsets & government or civil society roles (both policy & operational). Cluster 2: Shared skillsets & capabilities across personas with 'on the ground' roles.
E. **Course:** Name or title of the course, subject, or training.
F. **Aligned Qualification, Certification and or Program**: Is this course part of a larger program, qualification, or certification? I.e., is it a component of something larger?
G. **Continuous Professional Development (CPD):** Is the course part of professional development program i.e. some professions, for example lawyers, engineers and accountants, often need to complete a specified amount of CPD.
H. **Short courses:** Short courses are specialized classes that aim to teach specific knowledge and skills in a short amount of time.
I. **Micro Credential:** Small, stand-alone awards with set learning outcomes.
J. **Description:** What does the course cover, specified learning outcomes, who is it targeting.
K. **NQF (National Qualification Framework) Level (1-8) or specify other:** A NQF is a formal system describing qualifications. Refer to pages 11 & 12 of Version 3 Defining the capacity skillsets and capabilities needed for implementation of NBSW and AWM.
L. **Relevance to RNBWS or AWM:** Is this course relevant? Describe why you think it is relevant.
M. **Delivery method (online, face to face, blended):** How is the course delivered, online, face to face, correspondence/distance, or a blend of different delivery methods?
N. **Delivered in the Workplace (On the job training):** Work or vocationally related training is often delivered in the workplace or on a farm. Assessment can also often be conducted in the workplace.
O. **Duration:** How long does the course run for? I.e. the length of time. This could be measured in hours, days, weeks, months, semesters, trimesters, years etc.
P. **In MENA region Yes/No:** Is the course currently offered in the MENA Region
Q. **Location:** Where is the course located, run, or offered.
R. **Delivery languages:** What languages is the course currently delivered in e.g. Arabic, French, English etc.
S. **Cost US$:** Cost of course fee if any, and if known. This does not include attendees time, travel, accommodation, venues etc.
T. **Cost local currency:** Cost of course fee if any, and if known. This does not include, attendees time, travel, accommodation, venues etc.

U. **Funding: Public Sector, Private Sector or Donor Funded:** Is there funding available for the training, and if so from what source and what does it cover?

V. **Developed/ Under Development/ Proposed/Closed.** When will it be available and what is the status of the course?
    a. Developed: Is the course ready to be delivered. If so, when?
    b. Under development: Is the course under construction. If this is the case, when will it be ready for delivery?
    c. Proposed: Is the course being planned for or considered by others? If so who?
    d. Closed: These are courses that are no longer being offered. If it is closed, why was it closed, lack of funding, lack of demand?

W. **Provider or Institution name:** What is the name of the provider or organisation that owns and or delivers the course?

X. **Website:** The relevant URL/website link.

Y. **Contact Person:** Is there a contact person? This may be a Program Manager, Extension Officer, Lecturer, Tutor, Teacher etc.

Z. **Contact detail email:** Contact persons email address. Sometimes this will just be an organisation, department, or faculty.

AA. **Phone Number:** Telephone number of contact person or organisation.

Guidance notes: When completing the Framework, we will rely on those completing it to make a judgement call as to what information they include based on the descriptions above. Sometimes a column may not be relevant – in which case write NA (Not Applicable), and sometimes a Yes or No answer may not make any assumptions explicitly known, so provide a brief justification as to your judgement call. Having said this, please don't labour unnecessarily on your answers.

Training Selection Criteria

To provide guidance in selecting training with which to populate the Framework, we have developed the following decision-making rubric. This decision support tool aims to ensure that chosen providers remain relevant to RNBWS in the MENA Region.

Decision-Making Rubric for Selecting Training

Criteria	Score 3 (High)	Score 2 (Moderate)	Score 1 (Low)	Score 0 (Not Met)	Score
Alignment with Broad Categories	The training directly aligns with and falls within predetermined 'Broad Categories' in the Framework.	The training is somewhat aligned with 'Broad Categories,' but minor deviations may exist.	The training has limited alignment with 'Broad Categories,' and its relevance is questionable.	The training does not align with any specified 'Broad Categories' in the Framework.	
Category	The training aligns well with an identified category/s of training, demonstrating a clear fit within the Framework.	The training moderately aligns with an identified category/s, with some aspects fitting within the Framework.	The training has limited alignment with identified category/s in the Framework.	The training does not align with any identified category/s in the Framework.	
Individual Knowledge and Skill Focus	The training is explicitly designed to enhance individual knowledge and skills, providing practical and applicable learning experiences for RNBWS.	The training addresses individual knowledge and skills to some extent, but practical application may be limited.	The focus on individual knowledge and skills is minimal, and the training lacks practical applicability for RNBWS.	The training does not significantly contribute to individual knowledge or skill development in the context of RNBWS.	
Total					

Instructions for use:

1. **Scoring:** Evaluate each criterion based on the given descriptions and assign a score of 3, 2, 1, or 0 for each criterion.
2. **Overall Scoring:** Add up the scores for each training provider to obtain an overall score.
3. **Interpretation:**
    - **9:** Excellent fit for the RNBWS Framework.
    - **6-8:** Moderate fit; may require additional consideration.
    - **3-5:** Limited fit; significant adjustments needed.
    - **0-2:** Not suitable for the RNBWS Framework.

Guidance notes: We don't need the table to be completed perfectly. You are highly unlikely to find training that matches each individual knowledge, skill, and capability line item. As a guide, use the individual line items as a way of informing your decision as to the relevance of the training and where to include it in the framework.

Search Hierarchy

The following search hierarchy (Figure 1) has been developed to guide your search approach. We envisage in most instances a desktop online search of the internet will surface most of the training, particularly that relevant to formal Qualifications and Certification Programs. We suggest you start by looking at the project countries' National Qualification Framework (NQF), and we have provided you with some local country context and initial web links in Table 2 to get you started on your search.

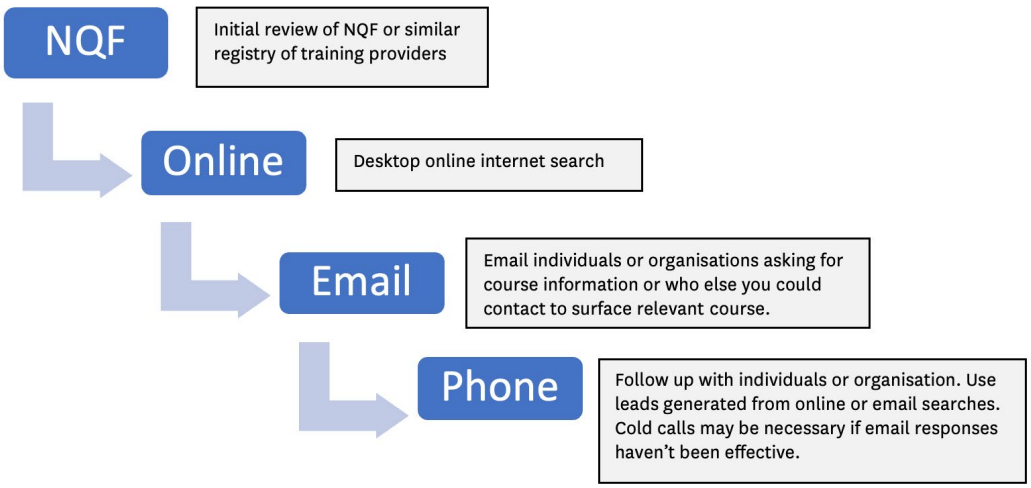


Figure 1. Flow diagram of search hierarchy for national review.

Guidance notes: Often 20% of our effort yields 80% of the results, we call this the 80/20 rule. We recommend you apply this rule to your national review and to populating the Framework. As a guide, allocate 1/3 of your time to the desktop internet search and the review of the NQF, and spend the remaining 2/3 of your time emailing and interviewing providers.

Resources for undertaking review

Questionnaire for written response (email or letter)
Note that text in brackets would be critical to modify if this content is used outside of the context of the Al Murunah project.

Dear Training Provider,

Greetings from the [Al Murunah Project, an initiative by the Foreign and Commonwealth Development Office of the UK government, aimed at enhancing water security in the MENA region]. With two-thirds of shared surface and groundwater facing increasing demand, coupled with challenges in agriculture due to land degradation and runoff, the project focuses on Resilient Nature-Based Water Solutions (RNBWS).

Led by the International Water Management Institute (IWMI) in collaboration with the International Union for the Conservation of Nature (IUCN), the Al Murunah Project operates in Jordan, Lebanon, Occupied Palestinian Territories (OPT), and Egypt. The primary goal is to implement RNBWS, combining Nature-Based Solutions for Water (NBSW) and Agricultural Water Management (AWM), addressing water scarcity and climate change impacts.

Objective of the Assignment: [The Al Murunah Project] seeks your valuable input to define and review the training landscape related to RNBWS, inclusive of NBSW and AWM, in the project countries. [This information will guide our implementation activities, support upscaling proposals, and contribute to institutional gap and benchmarking analyses.]

Training Provider Questionnaire: Thank you for taking the time to complete the questionnaire below. Your responses will play a crucial role in shaping the training framework for RNBWS, aiding us in achieving our objectives and fostering sustainable water solutions in the region.

Questions:

1. What broad category of knowledge and skills does your course/s cover? Options: AWM (Agricultural Water Management), RNBW (Resilient Nature Based Water Solutions), Governance, Management & Operations.
2. Can you describe the specific knowledge, skills, and capabilities your course focuses on?
3. What is the name or title of the course, subject, or training?
4. Is this course part of a larger program, qualification, or certification?
5. What does the course cover? Specify learning outcomes and the target audience.
6. If applicable, what is the National Qualification Framework (NQF) Level (1-8) of the course?
7. How is the course relevant to RNBWS and the project objectives?
8. How is the course delivered? (Online, face to face, correspondence/distance, or a blend of different delivery methods.)
9. Is the course delivered in the workplace or involves on-the-job training?
10. How long does the course run for? Specify duration (hours, days, weeks, months, semesters, trimesters, years, etc.)
11. Is the course currently offered in the MENA Region? (Yes/No)
12. Where is the course located, run, or offered?
13. In what languages is the course delivered?
14. What is the cost of the course in US dollars and/or local currency (excluding attendees' time, travel, accommodation, venues, etc.)?
15. Is funding available for the training, and if so, from what source and what does it cover? (Public Sector, Private Sector, or Donor Funded)

If your institution does not offer relevant training, we would appreciate any recommendations for providers who do. Please provide the name and contact details of the recommended provider and/or contact person.

Close message

Guidance notes: Remember, adapt the email and questionnaire based on the specific context.

Interview discussion guide (in person, phone [audio] or video)

Interview Discussion Guide: Exploring Training Providers for RNBSW and AWM in the MENA Region

Introduction:

- Welcome and Introduction:
  - Begin with a warm welcome and introduce yourself.
  - [Provide a brief overview of the Al Murunah Project and its focus on enhancing water security through Resilient Nature-Based Solutions for Water (RNBSW) and Agricultural Water Management (AWM) in the MENA region.]
  - Explain the purpose of the interview, which is to gather information about training opportunities related to RNBSW and AWM.

Section 1: Background Information:

- Briefly discuss the background of the MENA region's water challenges, [the Al Murunah Project, and the role of the International Water Management Institute (IWMI) and the International Union for the Conservation of Nature (IUCN).]

Section 2: Understanding Training Providers:

- Question A: What broad category of knowledge and skills does your training cover? (Options: AWM, RNBSW, Governance, Management & Operations)
- Question B: Under what category does your course fall? (Grouping of domain-relevant individual knowledge and skills)
- Question C: Can you provide specific details about the knowledge and skills your training focuses on?
- Question D: Which persona cluster does your training target? (Cluster 1 or Cluster 2)

Section 3: Course Details:

- Question E: What is the name or title of your course, subject, or training?
- Question F: Is your course part of a larger program, qualification, or certification?
- Question G: Does your course contribute to Continuous Professional Development (CPD)?
- Question H: Is your course a short course? (Specialized classes taught in a short time)
- Question I: Does your course offer a Micro Credential? (Small, stand-alone awards with set learning outcomes)
- Question J: Can you describe what your course covers, including specified learning outcomes and the target audience?

Section 4: Course Logistics:

- Question K: What is the National Qualification Framework (NQF) Level (1-8) or other specification?
- Question L: Why do you believe your course is relevant to RNBSW or AWM?
- Question M: How is your course delivered? (Online, face to face, blended, etc.)
- Question N: Is your course delivered in the workplace or involves on-the-job training?
- Question O: How long does your course typically run? (Specify duration)

Section 5: Regional Considerations:

- Question P: Is your course currently offered in the MENA Region? (Yes/No)
- Question Q: Where is your course located, run, or offered?
- Question R: In what languages is your course delivered?

Section 6: Financial and Funding Aspects:

- Question S: What is the cost of your course in US dollars? (Exclude attendees' time, travel, accommodation, venues, etc.)
- Question T: What is the cost of your course in local currency? (Exclude attendees' time, travel, accommodation, venues, etc.)
- Question U: Is funding available for your training, and if so, from what source and what does it cover? (Public Sector, Private Sector, or Donor Funded)

Section 7: Course Status and Provider Information:

- Question V: What is the status of your course? (Developed/Under Development/Proposed/Closed)
- Question W: What is the name of your institution or organisation that owns and/or delivers the course?
- Question X: Can you provide the relevant URL/website link?
- Question Y: Who is the contact person for this course?
- Question Z: What is the contact person's email address?
- Question AA: What is the telephone number of the contact person or organisation?

Closing:

- Thank the respondent for their time and valuable information.
- Encourage them to provide any additional insights or recommendations.
- Confirm any follow-up actions or information exchange if necessary.

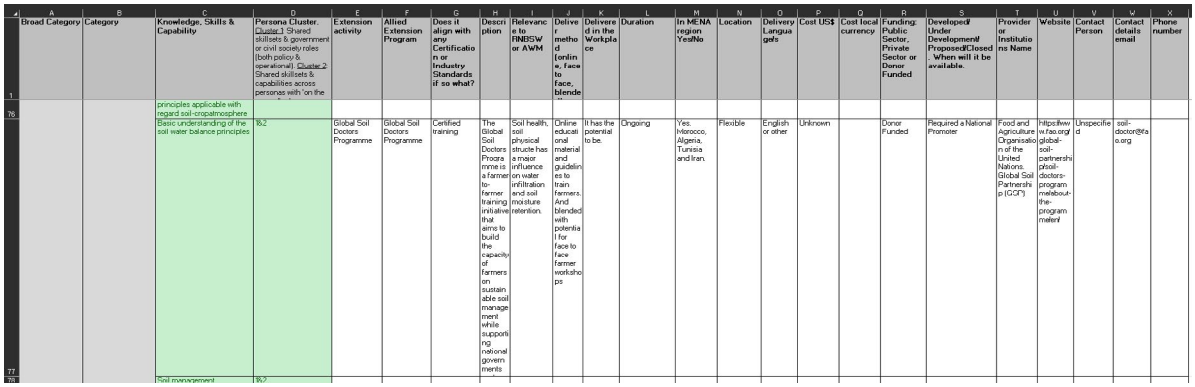
Guidance notes: Remember, adapt the guide based on the specific context and responses during the interview.

Entering search results into spreadsheet

1. Open the Excel Spreadsheet title 'DRAFT Component 3 Training and Certification Framework'.
2. You will see sheets titled, Tertiary, TVET, Extension, Certification and Other. Select the sheet that best represents the training you intend to populate the framework with. See the example below.

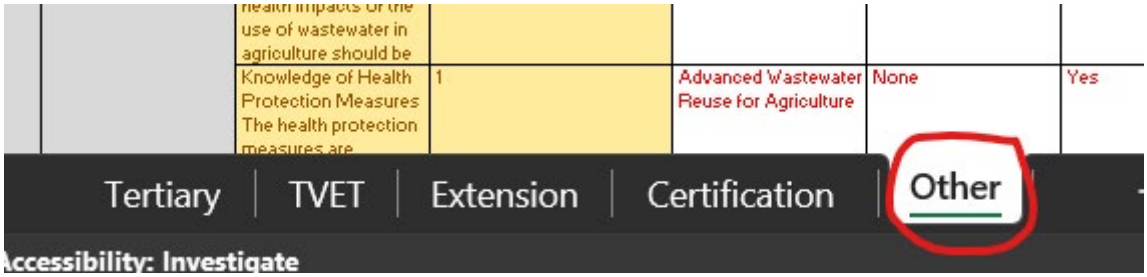
3. From column C select the knowledge, skill and capability that best reflects the training being entered into the framework. If it does not match any of those listed insert a new row[6] and in in RED lettering (the red lettering will make this change easily identifiable) enter the new title.
4. If more than one training reflects the same knowledge, skill and capability insert an additional row below.
5. If the course covers more than one individual knowledge, skill and capability use the copy and paste function and enter it next to all relevant rows.
6. Populate the relevant row with information that best fits row 1 column headings. See the example below. This example is also contained within the spread sheet.

[6] Right-click the whole row above which you want to insert the new row, and then select Insert Rows. https://support.microsoft.com/en-us/office/insert-or-delete-rows-and-columns-6f40e6e4-85af-45e0-b39d-65dd504a3246#:~:text=To%20insert%20a%20single%20row,and%20then%20select%20Insert%20Rows.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	Broad Category	Category	Knowledge, Skills & Capability	Persona Cluster. Cluster 1 Shared skillsets & government or civil society roles (both policy & operational). Cluster 2 Shared skillsets & capabilities across personas with 'on the	Extension activity	Allied Extension Program	Does it align with any Certification or Industry Standards if so what?	Description	Relevance to RNBSW or AWM	Delivered (online, Face to face, blende	Delivered in the Workplace	Duration	In MENA region Yes/No	Location	Delivery Language/s	Cost US$	Cost local currency	Funding: Public Sector, Private Sector or Donor Funded	Developed/ Under Development/ Proposed/Closed . When will it be available.	Provider or Institutions Name	Website	Contact Person	Contact details email	Phone number
76			principles applicable with regard soil-cropatmosphere																					
77			Basic understanding of the soil water balance principles	18.2	Global Soil Doctors Programme	Global Soil Doctors Programme	Certified training	The Global Soil Doctors Programme is a farmer-to-farmer training initiative that aims to build the capacity of farmers on sustainable soil management while supporting national governments	Soil health, soil physical structure has a major influence on water infiltration and soil moisture retention.	Online educational material and guidelines to train farmers. And blended with potential for face to face farmer workshops	It has the potential to be.	Ongoing	Yes. Morocco, Algeria, Tunisia and Iran.	Flexible	English or other	Unknown		Donor Funded	Required a National Promoter	Food and Agriculture Organisation of the United Nations. Global Soil Partnership (GSP)	https://www.fao.org/global-soil-partnership/pillars/soil-doctors-programme/about-the-programme/en/	Unspecified	soil-doctor@fao.org	
78			Soil management	18.2																				

Example 2. For this example, the titles in 'Column B' do not match the training I wish to enter into the framework. This example is also contained within the spread sheet.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Broad Category	Category	Knowledge, Skills & Capability	Persona Cluster. Cluster 3 Shared skillsets & government or civil society roles (both policy & operational). Cluster 2 Shared skillsets & capabilities across	Course	Allied Qualification and or Certification	Continuous Professional Development	Short Course	Micro Credential	Description	NQF (National Qualification Framework) Level (1-8) or specify other	Relevance to RNBSW or AWM	Deliver method (online, face to face, blended)	Delivered in the Workplace (On the job training)	Duration	In MENA Yes/No
26			Types of Irrigation Systems	NA												
27			Trickle Systems	18.2												
28		Wastewater Irrigation	Assessment of health risk	1	Advanced Wastewater Reuse for Agriculture	None	Yes	Yes	No	The course aims to integrate the key elements and technologies involved in the reuse of wastewater for agriculture to enhance the capacity of professionals working in this field.	None assigned	Water reuse is increasingly recognized as one of the key solutions to address water scarcity in MENA. To transition to a more and safer water reuse practices in the region, countries are increasingly interested in	Online	Possible	5 days (?)	Yes
29			Health protection measures	1	Advanced Wastewater Reuse for Agriculture	None	Yes	Yes	No	The course aims to integrate the key elements and technologies involved in the reuse of wastewater for agriculture to	None assigned	Water reuse is increasingly recognized as one of the key solutions to address water scarcity in MENA. To transition to a more	Online	Possible	10 days (?)	Yes

Annexes

Annex 1. RNBWS Capacity Framework

See the RNBWS Capacity Framework: https://hdl.handle.net/10568/175244

Annex 2. RNBWS Training and Certification Framework

See the RNBWS Training and Certification Framework: https://hdl.handle.net/10568/175244

The International Water Management Institute (IWMI) is an international, research-for-development organization that works with governments, civil society and the private sector to solve water problems in developing countries and scale up solutions. Through partnership, IWMI combines research on the sustainable use of water and land resources, knowledge services and products with capacity strengthening, dialogue and policy analysis to support implementation of water management solutions for agriculture, ecosystems, climate change and inclusive economic growth. Headquartered in Colombo, Sri Lanka, IWMI is a CGIAR Research Center with offices in 15 countries and a global network of scientists operating in more than 55 countries.

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