



Ministère de l'Agriculture,
des Ressources Hydrauliques
et de la Pêche



Direction Générale
de l'Aménagement
et la Conservation des Terres Agricoles



Workshop Report

How to create an innovation package and assess its maturity for scaling- up

Date: 30 April 2024

Venue: Hotel Sidi Bouzaid, Sidi Dhrif, Tunisia

10h00

- The meeting started with the presentation of the participants. Participants are mainly partners from the National Institute of Field Crops (INGC), Olive Institute (IO), Technical Center for Organic Agriculture (CTAB), livestock and pasture office (OEP), the German International Cooperation (GIZ) and farmers.
- Mr. Udo (ICARDA) presented ICARDAS's SWC@scale project in the framework of GIZ's ProSol global initiative, the purpose of the workshop and the different activities of the training. The main objectives of the workshop are:
 - To familiarize ProSol partners with the principle of scaling up innovations (IPSR / PIMME approach).
 - To learn how to develop innovation packages.
- Mr. Haithem (GIZ) asked for the reports and outputs of the knowledge hub and the different workshops and trainings. Mr Udo explained that all three partners have been interviewed concerning Knowledge Management and that results are in the process of being analysed. All three partners have sent their Knowledge Hub concept and feedback has been sent for improvement.
- During the presentation Mr. Udo explained the IPSR approach, the process of the identification of the innovation packages, the utilization level and the maturity level of the innovation packages based on evidence. This helps to convince the policymakers and funding to define investment and up scaling strategies.
- Mr. Udo explained that the partners (CTAB/IO, INGC and OEP) started profiling the selected innovation during the previous meeting. During this workshop partners will identify the innovation packages. Using specific examples, he presented the different enablers (sensibilization, trust, availability, financing, compatibility, knowledge, regulation, coordination with the different stakeholders, ...). He also presented the different activities of the workshop related to the identification of utilization level and the maturity level of the innovation packages. He explained the various levels (from 0 to 9) with examples.
- The participants formed three groups based on the selected innovations which are biofertilization of legumes with Rhizobia, utilization of microorganisms in compost,

and direct seeding). The participants presented the Results of the different group sessions and discussed during plenary sessions between the different activities.

- The workshop was closed at 16:00pm.

Group sessions

Group activities reported by Asma Souissi

Innovation Profile

INNOVATION: Direct Seeding

Partner INGC

Title of the innovation	Direct seeding for water and soil conservation	
Description of the innovation	<ul style="list-style-type: none"> - Sol and water conservation technique - crop (seeds) cultivation without disturbing the soil via a specific tool (the direct seeder) 	
Nature of the innovation	<ul style="list-style-type: none"> - Technical innovation 	
Type	<ul style="list-style-type: none"> - Incremental 	
Developer and Collaborators	<ul style="list-style-type: none"> - Support structure: APIA, API - Professional structure: UTAP, SYNAGRI - Development structure: AVFA, CRDA, OEP, ONF - Farmers organisations (GDA, SMS, associations) - Research institutions IRESA - Finance structure: Banks, microfinancing, ONA, BFPME - Input suppliers, seeders suppliers, Startup 	
Challenges	<ul style="list-style-type: none"> - Resistance from farmers and decision-makers, traditions such as grazing which does not allow maintaining soil cover, customs, etc. - Lack of national strategy - Low diffusion of technology - Acquisition cost of machines - Lack of support from research structures in the national program (no continuity of the programs) 	
Ambition	2025	2030
Partners: OTD, UCP, SMVDA, ONF	In 2025 and within the framework of the said project we will: <ul style="list-style-type: none"> - Improve the conservation system by strengthening the crop rotation matrix. - Ensure better networking of Prosol and other projects (NATAE, ADAPT+), and the agroecology association. - Make the system more sustainable. - The interventions will affect: <ul style="list-style-type: none"> • 1700ha • 50-60 farmers 	In 2030, the ambition is that the adoption rate of the technology by farmers and by the different structures will improve by 30%: <ul style="list-style-type: none"> • OTD:13500 ha • Farmers: 6000 ha • SMVDA: 500 ha • 500 farmers.

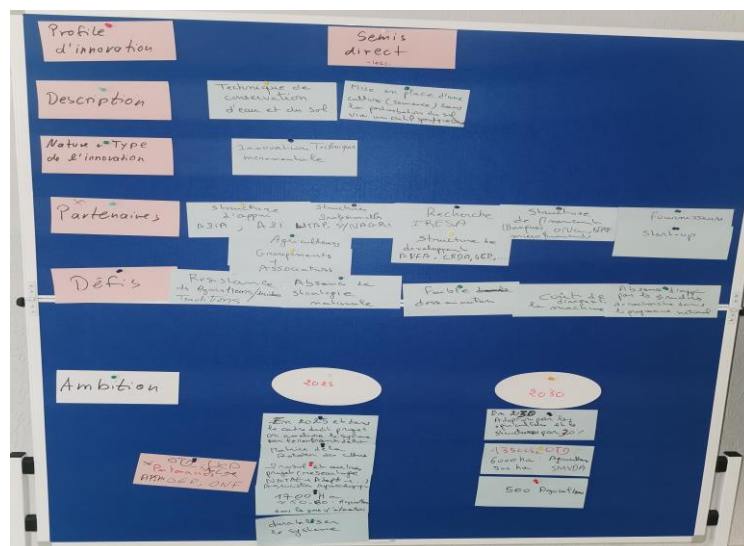


Figure 1. the innovation profile and scaling ambition

CONSTRAINTS / SOLUTIONS / COMPLEMENTARY INNOVATION

	Constraints	Solutions
Awareness	<ul style="list-style-type: none"> - Problem of transmitting messages to different targets - Lack of capacity building 	<ul style="list-style-type: none"> - Diversifying transmission tools (written, radio spots audiovisual, informative days, etc.) - Academic training and capacity building, training, etc.
Trust	<ul style="list-style-type: none"> - Risk management issues 	<ul style="list-style-type: none"> - Leading farmer - Demo Plots - Innovation platform
Know-How	<ul style="list-style-type: none"> - Limited number of experts (technicians and specialized farmers) 	<ul style="list-style-type: none"> - Academic and professional training
Financing	<ul style="list-style-type: none"> - Land situation which represents a barrier to access to financing 	<ul style="list-style-type: none"> - Revising the legislation relating to the land system, incentives, and subsidies - Twinning of land ownership
Compatibility	<ul style="list-style-type: none"> - Soil nature - Crop system and type - Tradition and mindset 	<ul style="list-style-type: none"> - Management - Targeting the educational system - Identifying suitable areas - Targeting the crop-livestock mixed system
Gender and Social Inclusion	<ul style="list-style-type: none"> - Low female involvement (social norms) 	<ul style="list-style-type: none"> - target rural women's GDAs and strengthen regional structures
Availability and Access	<ul style="list-style-type: none"> - Lack of equipment and rental service - Lack of human resources for support 	<ul style="list-style-type: none"> - Design of suitable equipment and machines - Provide and ensure rental services

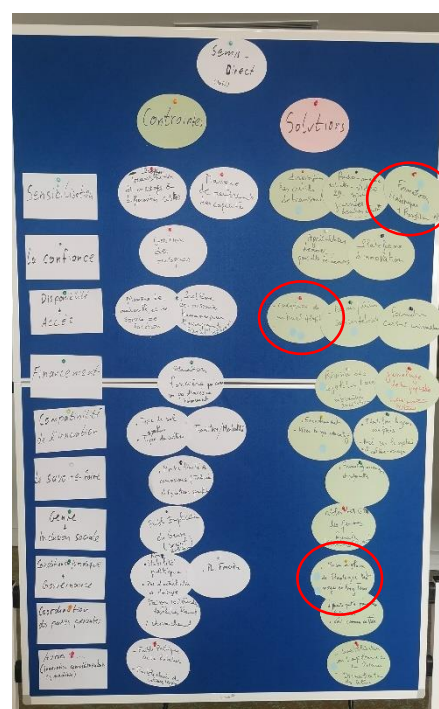


Figure 2. Constraints and solutions

	-Problem accessing information	-Training and courses during the university curriculum	
Legal Conditions and Governance	-Lack of political stability -No strategy updates -Land ownership problem	-Implementation of medium- and long-term national strategy	
Stakeholder Coordination	-Weak stakeholder coordination and overlap	-Development of communication skills -Partnerships development	
Other	-Poor rotation practice -Poor choice of crops/species	-Raising awareness of the importance of crop rotation and diversification	

Voting results for the main solutions or complementary innovations:

- For the direct seeding: (S1. **Implementation of medium- and long-term national strategy** regarding the legal conditions and governance enabler domain, S2. **Professional and academic training** regarding the know-how and awareness enablers and S3. **Design of suitable equipment and machines** regarding the availability and access enabler domain).

Complementary Innovations/ Solutions/ Enablers

Group spokesperson: INGC team

ICARDA facilitator: Asma Souissi

Solution 1. Implementation of medium- and long-term national strategy

Group members:

-Mona Mechri
-Hayet Maaroufi
-Rochdi Rouissi
-Mohamed Ali Hannachi

What is the enabler category?

- ☒ Improves beneficiary/ user awareness of the core innovation
- ☒ Improves legal conditions and governance required to scale the core Improves beneficiary/ user confidence/ trust in core innovation
- ☐ Improves availability and beneficiary/ user access to core innovation
- ☐ Improves beneficiary/ user access to finance/ affordability of the core innovation
- ☐ Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
- ☐ Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
- ☐ Improves gender equality and social inclusion related to scaling the core innovation

<input type="checkbox"/> innovation (by-laws, policies, regulations and business models) <input type="checkbox"/> Improves stakeholder coordination and scaling partnerships <input type="checkbox"/> Improves beneficiary confidence in the innovation _____
What is it? Make it as concrete/ tangible as possible (E.g., <i>A training program</i>) Implementation of medium- and long-term national strategy for water and soil conservation
What does it do? (E.g. <i>to improve on post-harvest storage and management of maize</i>) <ul style="list-style-type: none"> - Monitoring human and legal resources - Opening new opportunities for adoption and expansion
Whom does it target? (E.g. <i>for female maize processors</i>) <ul style="list-style-type: none"> - Different ministries (Ministry of Agriculture, Ministry of Finance, Ministry of Higher Education, Ministry of the Environment, etc.) and stockholders (farmers, NGO, etc.)
Long title (max 30 words)*: Combine above “what it is?” + “what it does?” + “whom does it target?” <ul style="list-style-type: none"> - The implementation of a medium- and long-term national strategy for water and soil conservation is crucial for sustainable development. Monitoring human and legal resources and opening new opportunities for adoption and expansion targeting various ministries (such as the Ministry of Agriculture, Ministry of Finance, Ministry of Higher Education, Ministry of the Environment, and engaging stakeholders like farmers and NGOs) play a vital role in ensuring the effective execution of these strategies.
Short name (10 words)*(to be written also on the sticky note): Medium- and long-term national strategy for water and soil conservation
Does it already exist? There is just a national adaptation plan (water and soil)
Who is already working on it? the Ministry of Agriculture and the FAO
Proposed Innovation Readiness level (0-9)*: 2 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: <ul style="list-style-type: none"> - Second, third and fourth Mediterranean meetings on direct sowing - Feasibility study on conservation agriculture/direct seeding - AED consult - Direct seeding situation in Tunisia: status and outlook (FERT) - Scientific papers (Mouna Mechri) - A draft presented to the parliament (Hayet Maaroufi)
Proposed Innovation Use level (0-9)* 2 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: <ul style="list-style-type: none"> - No evidence yet

Solution 2. Professional and academic training

Group members:

-Mona Mechri
 -Hayet Maaroufi
 -Rochdi Rouissi
 -Mohamed Ali Hannachi

What is the enabler category?

- ☒ Improves beneficiary/ user awareness of the core innovation
- ☒ Improves legal conditions and governance required to scale the core Improves beneficiary/ user confidence/ trust in core innovation
- ☒ Improves availability and beneficiary/ user access to core innovation
- ☒ Improves beneficiary/ user access to finance/ affordability of the core innovation
- ☒ Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
- ☒ Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
- ☒ Improves gender equality and social inclusion related to scaling the core innovation
- ☒ innovation (by-laws, policies, regulations and business models)
- ☒ Improves stakeholder coordination and scaling partnerships
- ☒ Improves beneficiary confidence in the innovation _____

What is it? Make it as concrete/ tangible as possible (E.g., *A training program*)

Professional and academic training and capacity building
 Doctoral program in Agroecology (ESA-Kef) and courses in agroecology

What does it do? (E.g. *to improve on post-harvest storage and management of maize*)

To raise awareness and train specialists (engineers, technicians, researchers) in conservation agriculture.

Whom does it target? (E.g. *for female maize processors*)

-Student (engineers, masters, PhD)
 -Extension workers, public and private technicians

Long title (max 30 words)*:

Combine above “what it is?” + “what it does?” + “whom does it target?”

To enhance professional and academic training and capacity building, a doctoral program in Agroecology (ESA-Kef) and courses in agroecology have been established to raise awareness and train specialists including engineers, technicians, and researchers in conservation agriculture. This initiative targets students at various levels (engineers, masters, PhD) as well as extension workers and public and private technicians, aiming to develop a skilled workforce equipped to address the challenges of conservation agriculture effectively.

Short name (10 words)*(to be written also on the sticky note):

Professional and academic training and capacity building

Does it already exist?

Program of the doctoral school of ESA kef and INAT
 The INGC trains engineers through internships and end-of-study projects

Who is already working on it?

Academic institutions such as ESA-Kef and INAT and development institutions such as INGC
 The OEP, INRAT and ATAE are also contributing

Proposed Innovation Readiness level (0-9)*:

6

Also write on the card that is put on the graph

List evidence to support the above score:

- www.ingc.com.tn

Proposed Innovation Use level (0-9)*

3

Also write on the card that is put on the graph

List evidence to support the above score:

-Innovation platform (Kodia Bouselem)

Solution 3. Design of suitable equipment and machines

Group members:

-Mona Mechri
-Hayet Maaroufi
-Rochdi Rouissi
-Mohamed Ali Hannachi

What is the enabler category?

- ☐ Improves beneficiary/ user awareness of the core innovation
- ☐ Improves legal conditions and governance required to scale the core Improves beneficiary/ user confidence/ trust in core innovation
- ☐ Improves availability and beneficiary/ user access to core innovation
- ☒ Improves beneficiary/ user access to finance/ affordability of the core innovation
- ☐ Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
- ☐ Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
- ☐ Improves gender equality and social inclusion related to scaling the core innovation
- ☐ innovation (by-laws, policies, regulations and business models)
- ☐ Improves stakeholder coordination and scaling partnerships
- ☐ Improves beneficiary confidence in the innovation _____

What is it? Make it as concrete/ tangible as possible (E.g., A training program)

Design of adapted or local equipment and machines

What does it do? (E.g. to improve on post-harvest storage and management of maize)

To improve the direct seeding efficiency and use

Whom does it target? (E.g. for female maize processors)

-For farmers, SMVDA, OTD, OEP, INGC

-Input and machinery suppliers

Long title (max 30 words)*:

Combine above “what it is?” + “what it does?” + “whom does it target?”

Design of adapted or local equipment to improve the direct seeding efficiency and use, targeting farmers, SMVDA, OTD, OEP, INGC, and suppliers.

Short name (10 words)*(to be written also on the sticky note):

Adapted or local equipment

Does it already exist?

Yes, two prototypes were developed. First one was imported from Syria and the second one was designed by the INGC

Who is already working on it?

INGC

Proposed Innovation Readiness level (0-9)*:

Also write on the card that is put on the graph

5

List evidence to support the above score:

The prototype made by the INGC obtained an award during the International exhibition of agriculture, agricultural machinery and fishing (2015)

Proposed Innovation Use level (0-9)*

Also write on the card that is put on the graph

1

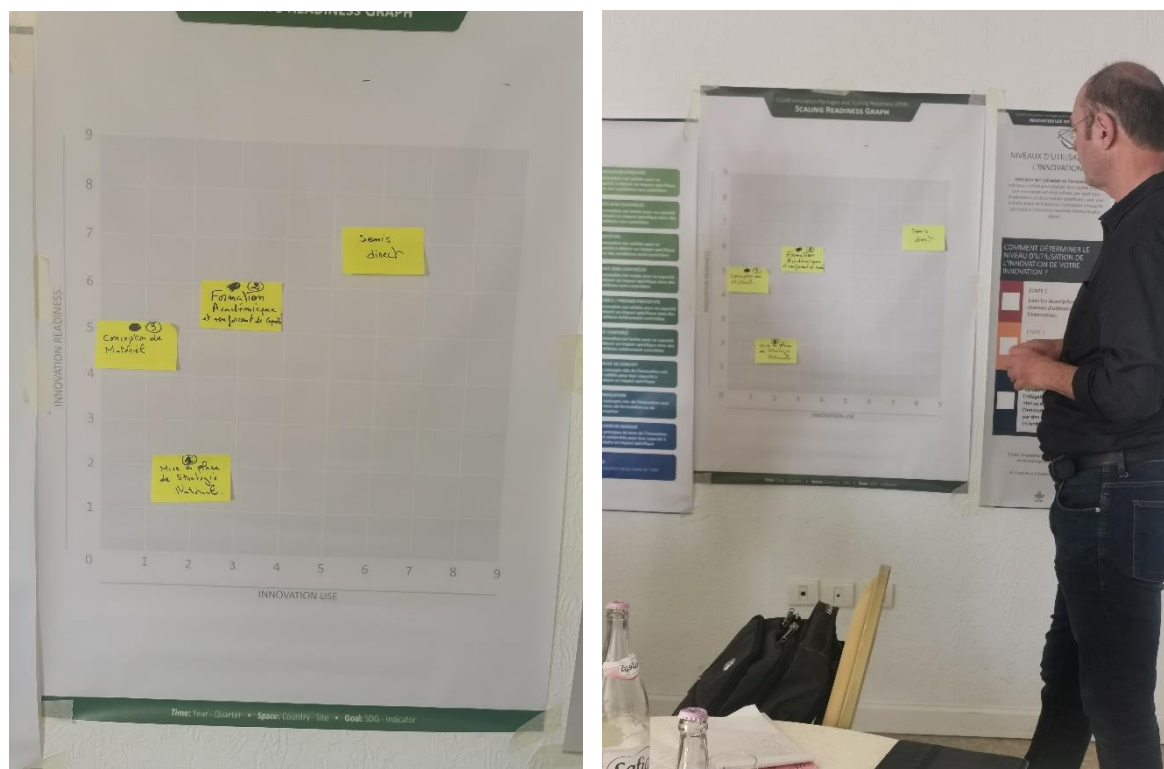
List evidence to support the above score:

Figure 3. Scaling readiness/utilisation graph for the direct seeding and the selected complementary innovations

Group activities reported by Hassen Ouerghemmi

INNOVATION: Biofertilization of legumes with Rhizobia

Partners: OEP and INRAT

Title of the innovation	Biofertilization of legumes with Rhizobia
Description of the innovation	Seed inoculation with specific bacteria (fixators of atmospheric nitrogen) to sustainably improve crops productivity.
Nature of the innovation	incremental innovation
Type	Technical
Developer and Collaborators	Developer : OEP, INRAT, CBBC, INGC
Challenges	Limited knowledge (farmers) Low implication of key actors Limited human resources Nonexistence of structured officialised partnership Limited financing and structuration of the laboratory

Ambition	2025	2030
Experimental plots	150 farmers	10000 farmers (all the country)
Informed farmers	1000	-
Branding the product	1 prototype	1 brand / crop

CONSTRAINTS / SOLUTIONS / COMPLEMENTARY INNOVATION

	Constraints	Solutions / Complementary innovation (number of votes)
Awareness	Low logistic assets	Mediatization (Radio/FB/TV) (5)
Trust	Low access to the innovation and low visibility and trust in the success of the innovation	Exchange visits (5)
Availability and Access	Absence of a functional production unit	Accelerating the procedure (3)
Financing	No funding for the unit	Lobbying for the unit (0)
Compatibility	Preference for chemical fertilization	Experimental comparison between biofertilization and chemicals (0)
Know-how	Limited technical knowledge (operational)	Trainings/Field days (2)
Gender And Social Inclusion	-	-
Legal Conditions and Governance	No PPP No subsidies	PPP creation (5) Initiating a law for subsidies (0)
Stakeholder Coordination	Limited implication of key actors	Engaging other actors like AVFA, Private, UTAP..etc (1)
Other	Small scale agriculture (land size)	Facilitating the process of FO creation (0)

Voting results for the main solutions or complementary innovations:

- For the biofertilization of legumes with Rhizobia: (S1. **Exchange visits** regarding the trust enabler domain, S2. **Mediatization (Radio/FB/TV)** regarding the awareness enabler and S3. **PPP creation** regarding the legal conditions and governance enabler domain).


Document Complementary Innovations/ Solutions/ Enablers

Group spokesperson: Anis Zaiem (OEP)

ICARDA facilitator: Hassen Ouerghemmi

Solution 1: Exchange visits between farmers in different regions and to present and exchange the ideas targeting the farmers

Group members: - Setti Adel - Zaiem Anis - El Ayed Monia - Hemissi Imen - Med Radhouani - Tebourbi Rahma
What is the enabler category? <input checked="" type="checkbox"/> Improves beneficiary/ user awareness of the core innovation.

<input checked="" type="checkbox"/>	Improves legal conditions and governance required to scale the core innovation
<input checked="" type="checkbox"/>	Improves beneficiary/ user confidence/ trust in core innovation
<input checked="" type="checkbox"/>	Improves availability and beneficiary/ user access to core innovation
<input checked="" type="checkbox"/>	Improves beneficiary/ user access to finance/ affordability of the core innovation
<input checked="" type="checkbox"/>	Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
<input checked="" type="checkbox"/>	Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
<input checked="" type="checkbox"/>	Improves gender equality and social inclusion related to scaling the core innovation
<input checked="" type="checkbox"/>	innovation (by-laws, policies, regulations and business models)
<input checked="" type="checkbox"/>	Improves stakeholder coordination and scaling partnerships
<input checked="" type="checkbox"/>	Improves beneficiary confidence in the innovation _____
	What is it? Make it as concrete/ tangible as possible (E.g., <u>A training program</u>)
	Visit
	What does it do? (E.g. <u>to improve on post-harvest storage and management of maize</u>)
	Exchange visit between in different regions
	Whom does it target? (E.g. <u>for female maize processors</u>)
	To present and exchange of ideas and experience.
	Long title (max 30 words)*:
	Combine above “what it is?” + “what it does?” + “whom does it target?”
	Exchange visits between farmers in different regions and to present and exchange the ideas targeting the farmers
	Short name (10 words)*(to be written also on the sticky note):
	Exchange visit
	Does it already exist?
	Yes
	Who is already working on it?
	OEP-INGC-INRAT-Dev/R- SMSA
	Proposed Innovation Readiness level (0-9)*:
	5
	Also write on the card that is put on the graph
	List evidence to support the above score:
	➔ AEi / ProSol (kef/Siliana)
	Proposed Innovation Use level (0-9)*
	3
	Also write on the card that is put on the graph
	List evidence to support the above score:
	-Exchange visit Rhahla/Kesra

Solution 2: The mediatization to disseminate and inform the farmers about the innovation

Group members: - Setti Adel - Zaiem Anis

- El Ayed Monia
 - Hemissi Imen
 - Med Radhouani
 - Tebourbi Rahma

What is the enabler category?

- ☐ Improves beneficiary/ user awareness of the core innovation
- ☒ Improves legal conditions and governance required to scale the core Improves beneficiary/ user confidence/ trust in core innovation
- ☐ Improves availability and beneficiary/ user access to core innovation
- ☐ Improves beneficiary/ user access to finance/ affordability of the core innovation
- ☐ Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
- ☐ Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
- ☐ Improves gender equality and social inclusion related to scaling the core innovation
- ☐ innovation (by-laws, policies, regulations and business models)
- ☐ Improves stakeholder coordination and scaling partnerships
- ☐ Improves beneficiary confidence in the innovation _____

What is it? Make it as concrete/ tangible as possible (E.g., *A training program*)

Media

Mediatization of the innovation on Radio, TV, Social media

What does it do? (E.g. *to improve on post-harvest storage and management of maize*)

To disseminate and inform about the innovation

Whom does it target? (E.g. *for female maize processors*)

Farmers (Cereals)

Long title (max 30 words)*:

Combine above “what it is?” + “what it does?” + “whom does it target?”

The mediatization to disseminate and inform the farmers about the innovation.

Short name (10 words)*(to be written also on the sticky note):

Mediatization

Does it already exist?

Yes

Who is already working on it?

Mediatization of private products

Proposed Innovation Readiness level (0-9)*:

5

Also write on the card that is put on the graph

List evidence to support the above score:

Radio station session (CTAB-INRAT)

Radio Tatouine, Gabes

Radio UTAP ProSol

Proposed Innovation Use level (0-9)*

2

Also write on the card that is put on the graph

List evidence to support the above score:

-

Solution 3: PPP for product distribution addressing Farmers and NARES

Group members: - Setti Adel - Zaiem Anis - El Ayed Monia - Hemissi Imen - Med Radhouani - Tebourbi Rahma
What is the enabler category? <input checked="" type="checkbox"/> Improves beneficiary/ user awareness of the core innovation <input checked="" type="checkbox"/> Improves legal conditions and governance required to scale the core Improves beneficiary/ user confidence/ trust in core innovation <input checked="" type="checkbox"/> Improves availability and beneficiary/ user access to core innovation <input checked="" type="checkbox"/> Improves beneficiary/ user access to finance/ affordability of the core innovation <input checked="" type="checkbox"/> Improves compatibility of core innovation with existing farming/ market/ policy systems or business models <input checked="" type="checkbox"/> Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation <input checked="" type="checkbox"/> Improves gender equality and social inclusion related to scaling the core innovation <input checked="" type="checkbox"/> innovation (by-laws, policies, regulations and business models) <input checked="" type="checkbox"/> Improves stakeholder coordination and scaling partnerships <input checked="" type="checkbox"/> Improves beneficiary confidence in the innovation _____
What is it? Make it as concrete/ tangible as possible (E.g., <u>A training program</u>) Private Public Partnership
What does it do? (E.g. <u>to improve on post-harvest storage and management of maize</u>) For product distribution
Whom does it target? (E.g. <u>for female maize processors</u>) Farmers / NARES System
Long title (max 30 words)*: Combine above “what it is?” + “what it does?” + “whom does it target?” PPP for product distribution addressing Farmers and NARES
Short name (10 words)*(to be written also on the sticky note): PPP
Does it already exist? Yes
Who is already working on it? Cotugrain-INRAT
Proposed Innovation Readiness level (0-9)*: 0 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score:
Proposed Innovation Use level (0-9)* 1 <i>Also write on the card that is put on the graph</i>

List evidence to support the above score:

INRAT-OEP

Cotugrain-CBBC



Figure 4. Scaling readiness/utilization graph for Biofertilization of legumes with Rhizobia and the selected complementary innovations

Group activities reported by Zahra Shiri

INNOVATION: Micro-organisms in compost

Partners (IO, CTAB and Farmers)

Title of the innovation	Micro-organisms in compost	
Description of the innovation	The use of micro-organisms as catalysts in the compost-making process is a significant innovation in organic and conservation agriculture. These micro-organisms, such as bacteria and fungi, play a crucial role in accelerating the decomposition of organic waste. As a result, composting becomes faster and more efficient.	
Nature of the innovation	Incremental innovation	
Type	Capacity development	
Developer and Collaborators	Developer: CTAB + IO Collaborators: farmers, researchers, private sector (e.g. EM Fertitech), GIZ, ICARDA, CRDA, OPAs...	
Challenges	The challenges of this innovation include the limited awareness among farmers, with only a small number being familiar with it. Additionally, the compost maturation period typically ranges between 6 to 8 months, posing a time constraint. The quality of compost may also require improvement, and the quantity produced tends to be small.	
Ambition	2025	2030
The presence of "microorganisms in liquid or powder form" on the market; a product of superior quality at a reasonable price.	-	-
The creation of start-ups specializing in the manufacture and improvement of micro-organisms	50	100
The quantity of compost produced	(+) 40%	(+) 60%
Number of farmers aware of and adopting this innovation	20	40
Quantity of organic waste valorised (valorisation rate)	(+) 40%	(+) 60%
Production cost	(-) 20%	(-) 40%
Compost maturation period	4/6 months	4 months

CONSTRAINTS / SOLUTIONS / COMPLEMENTARY INNOVATION

	Constraints	Solutions	Complementary innovation
Awareness Trust Know-How	Lack of information, lack of demonstration stations in the PROSOL project area	SMS – Workshops – demonstration stations ...	Training and capacity building
Financing	High cost and lack of subsidies	Public-private partnerships (PPP)	Public-private partnerships (PPP)
Compatibility			
Gender and Social Inclusion			
Availability and Access	Unreasonable and very expensive price	Research topic on reducing production costs - Encouraging the creation of startups	
Legal Conditions and Governance			
Stakeholder Coordination	Involvement limited to the Ministry of Agriculture	Involvement of farmers - Participatory approach - Integration of this innovation into the university curriculum - Involvement of the three municipalities (Agriculture, Environment, and Education) - Subsidies (BTS, micro-credits, BTS, APIA, API...)	Involvement of the three ministries (Agriculture, Environment, and Education)
Other		composting machine	



Figure 5. The discussion about the innovation profile, scaling ambition, constraints, and solutions

Voting results for the main solutions or complementary innovations:

- For the direct seeding: (S1. **Involvement of the three ministries (Agriculture, Environment, and Education)** regarding the stakeholder coordination enabler domain, S2. **Public-private partnerships (PPP)** regarding Financing enabler and S3. **Training and capacity building** regarding the awareness, trust and know-how enablers.

Document Complementary Innovations/ Solutions/ Enablers

Innovations: Micro-organisms in compost

Group spokesperson: Yassine Hidri (IO)

Icarda Facilitator: Zahra Shir

Solution 1: Involvement of the three ministries (Agriculture, Environment, and Education)

Group members:

- Yassine Hidri (IO)
- Mohsen Abidi (GDA Hammam Biadha)
- Mouldi Jaoudi (GDA Hammam Biadha)
- Haithem Elouaer (CTAB)

What is the enabler category?

- ☐ Improves beneficiary/ user awareness of the core innovation
- ☐ Improves beneficiary/ user confidence/ trust in core innovation
- ☐ Improves availability and beneficiary/ user access to core innovation
- ☐ Improves beneficiary/ user access to finance/ affordability of the core innovation
- ☐ Improves compatibility of core innovation with existing farming/ market/ policy systems or business models
- ☐ Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation
- ☐ Improves gender equality and social inclusion related to scaling the core innovation
- ☐ Improves legal conditions and governance required to scale the core innovation (by-laws, policies, regulations and business models)
- ☐ Improves stakeholder coordination and scaling partnerships
- ☒ Other enabler functions: _____

What is it? Make it as concrete/ tangible as possible (E.g., *A training program*)

Networking between the three ministries (Agriculture, Environment, and Education)

What does it do? (E.g. *to improve on post-harvest storage and management of maize*)

To foster strong relationships among different administrations

Whom does it target? (E.g. *for female maize processors*)

three ministries (Agriculture, Environment, and Education) and different administrations

Long title (max 30 words)*:

Combine above “what it is?” + “what it does?” + “whom does it target?”

Networking between the three ministries (Agriculture, Environment, and Education) can foster strong relationships among different administrations to enhance the primary innovation.

Short name (10 words)*(to be written also on the sticky note):

Agreement between the three ministries

Does it already exist?

No

Who is already working on it?

-

Proposed Innovation Readiness level (0-9)*: 2 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -
Proposed Innovation Use level (0-9)* 1 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -

Solution 2. Public-private partnerships (PPP)

Group members: - Yassine Hidri (IO) - Mohsen Abidi (GDA Hammam Biadha) - Mouldi Jaoudi (GDA Hammam Biadha) - Haithem Elouaer (CTAB)
What is the enabler category? <input checked="" type="checkbox"/> Improves beneficiary/ user awareness of the core innovation <input checked="" type="checkbox"/> Improves beneficiary/ user confidence/ trust in core innovation <input checked="" type="checkbox"/> Improves availability and beneficiary/ user access to core innovation <input checked="" type="checkbox"/> Improves beneficiary/ user access to finance/ affordability of the core innovation <input checked="" type="checkbox"/> Improves compatibility of core innovation with existing farming/ market/ policy systems or business models <input checked="" type="checkbox"/> Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation <input checked="" type="checkbox"/> Improves gender equality and social inclusion related to scaling the core innovation <input checked="" type="checkbox"/> Improves legal conditions and governance required to scale the core innovation (by-laws, policies, regulations and business models) <input checked="" type="checkbox"/> Improves stakeholder coordination and scaling partnerships <input checked="" type="checkbox"/> Other enabler functions: _____
What is it? Make it as concrete/ tangible as possible (E.g., <u>A training program</u>) Collaboration between government entities and private sector organisations
What does it do? (E.g. <u>to improve on post-harvest storage and management of maize</u>) Strengthening public-private partnerships (PPPs)
Whom does it target? (E.g. <u>for female maize processors</u>) Public-private
Long title (max 30 words)*: Combine above “what it is?” + “what it does?” + “whom does it target?” Public-private partnerships (PPPs) involve collaboration between government entities and private sector organisations to promote the principal innovation micro-organisms in compost. PPPs can accelerate the adoption of innovative solutions. PPPs can facilitate the transfer of knowledge and expertise, promoting investment in rural areas.

Short name (10 words)*(to be written also on the sticky note): PPP
Does it already exist? Yes
Who is already working on it? CTAB IO EM Fertitech ...
Proposed Innovation Readiness level (0-9)*: 3 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -
Proposed Innovation Use level (0-9)* 2 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -

Solution 3. Training and capacity building

Group members: - Yassine Hidri (IO) - Mohsen Abidi (GDA Hammam Biadha) - Mouldi Jaoudi (GDA Hammam Biadha) - Haithem Elouaer (CTAB)
What is the enabler category? <input checked="" type="checkbox"/> Improves beneficiary/ user awareness of the core innovation <input checked="" type="checkbox"/> Improves beneficiary/ user confidence/ trust in core innovation <input checked="" type="checkbox"/> Improves availability and beneficiary/ user access to core innovation <input type="checkbox"/> Improves beneficiary/ user access to finance/ affordability of the core innovation <input type="checkbox"/> Improves compatibility of core innovation with existing farming/ market/ policy systems or business models <input type="checkbox"/> Improves beneficiary/ user capacity and knowhow to appropriately use the core innovation <input type="checkbox"/> Improves gender equality and social inclusion related to scaling the core innovation <input type="checkbox"/> Improves legal conditions and governance required to scale the core innovation (by-laws, policies, regulations and business models) <input type="checkbox"/> Improves stakeholder coordination and scaling partnerships <input type="checkbox"/> Other enabler functions: _____
What is it? Make it as concrete/ tangible as possible (E.g., <u>A training program</u>) A training program /SMS/Workshop...
What does it do? (E.g. <u>to improve on post-harvest storage and management of maize</u>) Improving knowledge and know-how, and raising awareness
Whom does it target? (E.g. <u>for female maize processors</u>) Farmers, extension workers, agricultural students, researchers, AVFA...
Long title (max 30 words)*: Combine above “what it is?” + “what it does?” + “whom does it target?”

Training and capacity building initiatives aimed at promoting innovation in the use of microorganisms in composting
Short name (10 words)*(to be written also on the sticky note): Training and capacity building
Does it already exist? Yes
Who is already working on it? CTAB, IO
Proposed Innovation Readiness level (0-9)*: 5 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -
Proposed Innovation Use level (0-9)* 4 <i>Also write on the card that is put on the graph</i>
List evidence to support the above score: -

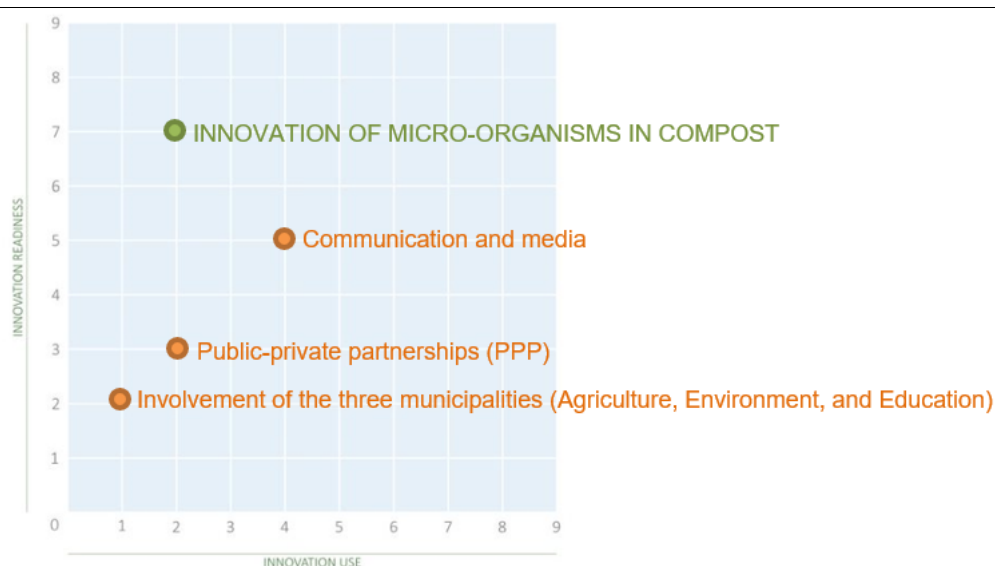


Figure 6. Scaling readiness/utilization graph for micro-organism in compost innovation and the selected complementary innovations