Women after the female empowerment training within the Mind the Gap project (ICARDA)

Lessons learned from the "Mind the Gap" project: Improving Dissemination Strategies (Tunisia)

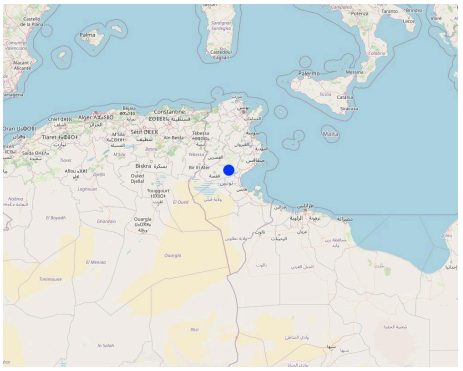
DESCRIPTION

The “Mind the Gap” project researched the adoption gap between agricultural research and women and men farmers. Its objective was to determine most effective and cost-efficient technology transfer strategies and give recommendations to national extension institutes and development partners to adapt their scaling strategy

Research into innovative agricultural technologies for the livestock-barley system in semi-arid Tunisia has yielded success. However, adoption of these has remained low for decades, not only in Tunisia but across developing countries (Noltze et al. 2012; DFID 2014; Syngenta Foundation 2015). Bridging this 'adoption gap' has proved to be a challenge, and there has been limited emphasis on improving agricultural extension methods. In this context, the International Center for Agricultural Research in Dry Areas (ICARDA) together with partners set up the "Mind the Gap" project, funded by the BMZ and GIZ.
This project aimed to fill this gap by developing and testing new models for transferring sustainable technology packages to smallholder farmers. Four transfer models were implemented across four test groups:
T1: Technical training and SMS.
T2: Technical training, SMS, economic, and organizational training.
T3: Technical training, SMS, economic and organizational training, with a focus on female empowerment.
T4: Technical training, SMS, and female empowerment.

The transferring models are thus (a) Technical training and SMS; (b) Economic training; (c) Organization training; (d) Female empowerment.
Technical training and SMS involved sending weekly text messages containing technical and organizational information to 560 farmer households from August 2017. Workshops were conducted in 2017 and 2018 to develop these messages in collaboration with regional extension services and other stakeholders.
Economic training included one-day sessions in 2017 to demonstrate the economic benefits of innovations. In 2018, a Farmer Business School (FBS) approach was adopted to enhance farmers' entrepreneurial skills, with a tailored curriculum and seven five-day courses delivered to 280 farmer households.
The organizational training aimed to enhance farmers' understanding cooperative management. Through classroom sessions and visits to existing cooperatives, farmers received insights into cooperative creation, management challenges, and the benefits of collective action.
Female empowerment activities engaged women from 280 farmer households, focusing on visits to female cooperatives and sensitization events to encourage their participation in agricultural activities and access to credit.

LOCATION



Location: Tunisia

Geo-reference of selected sites

- 9.47276, 34.50866

Initiation date: 2016

Year of termination: 2019

Type of Approach

- ☐ traditional/ indigenous
- ☐ recent local initiative/ innovative
- ☑ project/ programme based

The adoption of two innovations was evaluated through this methodology. The first innovation, "Kounouz," is an improved barley variety designed to better withstand drought conditions. The second innovation involves feedblocks, also known as nutrient-dense pellets, which serve as an alternative livestock feed made from by-products.

The project rigorously evaluated these transfer models through randomized controlled trials, focusing on their impact on innovation adoption rates and cost-efficiency. The combined approach, carried out under T3, showed the highest adoption rates, particularly among female-headed households. Field visits were identified as a significant contributor to technology adoption, while SMS proved most cost-effective.
Most importantly, it showed that the four transferring models should be used in combination for the highest adoption.
In conclusion, the research underscores that addressing the 'adoption gap' in agricultural innovation requires comprehensive approaches encompassing technical, economic, organizational, and gender empowerment training. By combining these elements significant strides can be made in cost-efficiently enhancing technology adoption rates among smallholder farmers, offering valuable insights for agricultural extension efforts not only in Tunisia but also across the MENA region and potentially beyond.

Acknowledgement:
We would like to thank BMZ/ GIZ who supported this innovative research through their contributions to the “Mind the Gap” project as well as Tunisian NARES (INRAT, AVFA, OEP, CRDA) for co-implementing project activities.

Indicators		Treatment groups					
		T1	T2	T3	T4	Control	Total
Number of households		140	140	140	140	140	700
Transfering models	Technical training and SMS	x	x	x	x		
	Economic training		x	x			
	Organizational training		x	x			
	Female training			x	x		
Households adopting technology	Kounouz barley adopters in 2017	67	69	86	54	16	292
	Kounouz barley adopters in 2018	31	19	46	32	10	138
	Feed block adopters in 2018	6	2	4	2	0	14

Results of adoption per treatment group (ICARDA)

A road map drawn during a training within the project. (ICARDA)

APPROACH AIMS AND ENABLING ENVIRONMENT

Main aims / objectives of the approach

To better understand the adoption gap of new sustainable farming technologies, and discover cost-efficient and effective approaches to improve adoption of these technologies.

Conditions enabling the implementation of the Technology/ ies applied under the Approach

- **Availability/ access to financial resources and services**: Access to financial resources allowed purchase of technologies (Kounouz seeds or feed blocks)
- **Institutional setting**: The right institutions were selected (OEP, INRAT, AVFA) to implement MtG project activities
- **Collaboration/ coordination of actors**: Collaboration between the partners (NARES) was good and important; eg INRAT multiplied Kounouz seeds ; OEP and CRDA distributed Kounouz seeds and AVFA trained farmers on Kounouz production
- **Knowledge about SLM, access to technical support**: Technical support to practice the technology (eg feed block composition) is important and was guaranteed by OEP

Conditions hindering the implementation of the Technology/ ies applied under the Approach

- **Social/ cultural/ religious norms and values**: Participation of women at trainings was sometimes low (no availability to due household tasks)
- **Policies**: Feed block production has strict regulations
- **Markets (to purchase inputs, sell products) and prices**: Prices of substitute feed like subsidized wheat bran and barley hinder the adoption of feed blocks.
- **Workload, availability of manpower**: Workload for feedblock production is high and manpower not always available.

PARTICIPATION AND ROLES OF STAKEHOLDERS INVOLVED

Stakeholders involved in the Approach and their roles

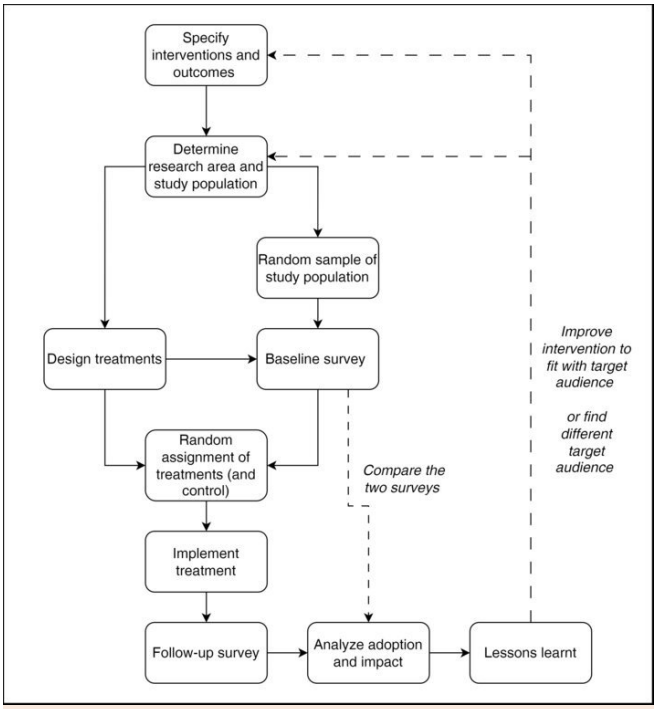
What stakeholders / implementing bodies were involved in the Approach?	Specify stakeholders	Describe roles of stakeholders
local land users/ local communities	No communities but individual farmers	Inviting farmers to trainings, Organization of baseline and follow up survey with OEP
SLM specialists/ agricultural advisers	AVFA (National Agricultural Training and Extension Service) CTV (Local Extension Service) OEP (Livestock and Pasture Office)	AVFA: Organizational and economic trainings (FBS, BUS, cooperatives, etc) to 280 HH Organized logistics (transport, restoration, training room) OEP: Technical training on feed blocks to 560 HH Distribution of inputs to CTV, selection of cooperatives.
researchers	University of Goettingen INRAT (National Agricultural Research Institute)	University of Goettingen: Project development, PhD students, data collection for baseline and follow up survey INRAT: Development of new barley variety (Kounouz) in collaboration with ICARDA Technical training on barley with OEP to 560 HH
international organization	ICARDA GIZ	ICARDA: Overall technical and administrative coordination GIZ: Trained AVFA trainers on FBS and BUS

Lead agency
ICARDA

Involvement of local land users/ local communities in the different phases of the Approach

	none	passive	external support	interactive	self-mobilization	
initiation/ motivation		✓				The experiments were designed and set up by the research agency.
planning		✓				Methodology was also determined by the research agency.
implementation				✓		The approach to dissemination that proved successful was interactive.
monitoring/ evaluation		✓				The experiment was monitored by the research agency.

Flow chart
Flows of the applied Randomized Control Test



Author: ICARDA

Decision-making on the selection of SLM Technology

Decisions were taken by
- ☐ land users alone (self-initiative)
- ☐ mainly land users, supported by SLM specialists
- ☐ all relevant actors, as part of a participatory approach
- ☑ mainly SLM specialists, following consultation with land users
- ☐ SLM specialists alone
- ☐ politicians/ leaders

Decisions were made based on
- ☑ evaluation of well-documented SLM knowledge (evidence-based decision-making)
- ☑ research findings
- ☐ personal experience and opinions (undocumented)

TECHNICAL SUPPORT, CAPACITY BUILDING, AND KNOWLEDGE MANAGEMENT

The following activities or services have been part of the approach

- [x] Capacity building/ training
- [x] Advisory service
- [x] Institution strengthening (organizational development)
- [x] Monitoring and evaluation
- [x] Research

Capacity building/ training

Training was provided to the following stakeholders

- [x] land users
- [ ] field staff/ advisers

Form of training

- [ ] on-the-job
- [x] farmer-to-farmer
- [x] demonstration areas
- [x] public meetings
- [x] courses

Subjects covered

The four main trainings were given:
-Technical with SMS
-Economic (e.g., better farm management)
-Organizational (e.g., setting up farmer cooperatives)
-Female empowerment

Advisory service

Advisory service was provided

- [x] on land users' fields
- [x] at permanent centres

Advice was given through the training which included both on-site (e.g., demonstration fields) and meetings

Institution strengthening

Institutions have been strengthened / established

- [ ] no
- [ ] yes, a little
- [x] yes, moderately
- [ ] yes, greatly

at the following level

- [x] local
- [ ] regional
- [ ] national

Describe institution, roles and responsibilities, members, etc.
Training sessions regarding cooperation can be organized.

Type of support

- [ ] financial
- [x] capacity building/ training
- [ ] equipment

Further details

Monitoring and evaluation

Four treatment groups were made based on different combinations of training, they were evaluated for their adoption of Kounouz barley and feed blocks.

Research

Research treated the following topics

- [x] sociology
- [x] economics / marketing
- [ ] ecology
- [x] technology

Several research papers were published with authors from different partners.

FINANCING AND EXTERNAL MATERIAL SUPPORT

Annual budget in USD for the SLM component

- [ ] < 2,000
- [ ] 2,000-10,000
- [ ] 10,000-100,000
- [ ] 100,000-1,000,000
- [ ] > 1,000,000

GIZ/BMZ

Precise annual budget: 400000.0

The following services or incentives have been provided to land users

- [ ] Financial/ material support provided to land users
- [ ] Subsidies for specific inputs
- [ ] Credit
- [ ] Other incentives or instruments

IMPACT ANALYSIS AND CONCLUDING STATEMENTS

Impacts of the Approach

	No	Yes, little	Yes, moderately	Yes, greatly
Did the Approach empower local land users, improve stakeholder participation?			✓	
Did the Approach help land users to implement and maintain SLM Technologies?				✓
Did the Approach mobilize/ improve access to financial resources for SLM implementation?			✓	
Did the Approach improve gender equality and empower women and girls?				✓
Did the Approach lead to improved food security/ improved nutrition?			✓	

Main motivation of land users to implement SLM

- [x] increased production
- [x] increased profit(ability), improved cost-benefit-ratio
- [ ] reduced land degradation
- [x] reduced risk of disasters
- [ ] reduced workload
- [ ] payments/ subsidies
- [ ] rules and regulations (fines)/ enforcement
- [ ] prestige, social pressure/ social cohesion
- [x] affiliation to movement/ project/ group/ networks
- [ ] environmental consciousness
- [ ] customs and beliefs, morals
- [x] enhanced SLM knowledge and skills
- [ ] aesthetic improvement
- [ ] conflict mitigation

Sustainability of Approach activities

Can the land users sustain what hat been implemented through the Approach (without external support)?

- [ ] no
- [x] yes
- [ ] uncertain

CONCLUSIONS AND LESSONS LEARNT

Strengths: land user's view

Strengths: compiler's or other key resource person's view

- Highest adoption rate for Kounouz was in T3 (61% in 2017 and 33% in 2018) where the whole package of extension was provided (technical training, SMS + economic and organizational training +female empowerment + access to input). This indicates that different adoption models should be combined rather than singled out.
- The treatment groups T3 and T4 which received the female empowerment training have the highest Kounouz variety adoption rates in 2018 (T3 = 33%, T4 =24%). The implication of women in the project has a positive influence on the adoption of innovative technologies. The gender dimension should be considered as a vector of adoption of new technologies especially in Tunisian agriculture.
- In terms of cost, the government can choose according to the available budgetary resources:
  i) Highest level of technology adoption with the highest cost of trainings 34% in T3 with a total cost of trainings estimated at 900 TND per person
  ii) Medium technology adoption rate with a lower cost of trainings 22% in T1 with a total cost of trainings estimated to 230 TND per person).

  T3 is most effective but T1 is more cost efficient.
- The strong collaboration between four public research and extension institutions (OEP, INRAT, AVFA and CTV) and one international agricultural institution (ICARDA) is one of the important factors for adoption and transfer of knowledge

Weaknesses/ disadvantages/ risks: land user's viewhow to overcome

Weaknesses/ disadvantages/ risks: compiler's or other key resource person's viewhow to overcome

- Concerning the technical extension methods, the field visit (with an intermediate cost) especially done in the similar areas is more efficient than the training (with a high cost) and the SMS text message (with a very low cost). However, these extension methods are complementary and encourage the project's farmers to adopt innovative technologies.

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Udo Rudiger - Innovation specialist
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Full description in the WOCAT database
https://qcat.wocat.net/en/wocat/approaches/view/approaches_7123/

Linked SLM data
Technologies: Small-Scale Nutrient-Dense Pellet Production https://qcat.wocat.net/en/wocat/technologies/view/technologies_6486/
Technologies: ICT2Scale – supporting smallholder farmers with cellphone-based services via SMS
https://qcat.wocat.net/en/wocat/technologies/view/technologies_7002/

Documentation was faciliated by

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Links to relevant information which is available online

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