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Science for resilient livelihoods in dry areas

Survey tool for assessing the effectiveness of agricultural extension service delivery

Application to CLCA technologies transfer methods

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Background

The project “Use of conservation agriculture in crop–livestock systems (CLCA) in the drylands for enhanced water use efficiency, soil fertility and productivity in North East, North Africa (NENA) and Latin America and the Caribbean (LAC) countries” aims to develop contextually relevant processes for enhancing the broad uptake of conservation agriculture (CA) within integrated crop–livestock systems in drylands and in NENA regions (Algeria and Tunisia).

Experience across North African countries has shown that the adoption and dissemination of CA technologies is low. Farmers are considered very conservative in regard to change and are unaware of CA technologies when it comes to the integration between cropping and livestock. Wide-scale adoption of these technologies remains a challenge, especially among smallholder farmers in arid areas.

There is evidence that extension activities can help to accelerate the adoption of new technologies, particularly if the new technologies can be proved to be more successful than existing ones, if their effects can be observed, and if they are socially compatible, simple to learn, and can be trialed or tested—as is the case with CLCA technologies. However, the level of adoption should not always be used as a measure of the success or failure of an extension program because it is the effectiveness of the extension delivery mechanism that is, to a large extent, responsible for the success or failure of an extension program. An alternative means of evaluating CLCA extension programs is through the assessment of the technology transfer methods applied by the project. This mainly consists of the measurement and empirical evaluation of the learning situations provided—the extension delivery mechanism or process—as a means of measuring the effectiveness of extension methods as part of a transfer model for these improved and sustainable technologies.

Within this framework, the CLCA project team is conducting interviews with CLCA adopters and those who plan to adopt these technologies in future (‘planners’) to (i) determine farmers’ (both adopters and planners) perception of the effectiveness of extension methods for the CLCA technologies, and (ii) determine their perceptions of the impact of extension activities on their livelihood. The findings will help decision makers and extension program planners to accelerate the adoption process and consequently conduct a rigorous assessment of its impact relative to the effectiveness and efficiency of the extension delivery process for CLCA technologies.

Characteristics of the tool

The overall characteristics of the tool are as follows:

- **Length of the interview:** The interview is around 30 minutes long.
- **Reason for choosing the interviewee:** You have been identified as an interviewee because of your experience with CLCA technology packages (as a current or future adopter) and your knowledge and experience of CA and sustainable cropping systems methods.
- **Number of interviewees**: 15–20 current farmer adopters of CLCA and 15–20 future farmer adopters per site.
- **Objective of the questionnaire:** The focus of this interview is on questions related to your perceptions of CLCA technologies transfer methods:
  - Effectiveness of the agricultural extension system.
  - Major factors influencing the effectiveness of the extension methods in transmitting agricultural information.
  - Effectiveness of the agricultural technology transfer methods for CLCA technologies.
  - Potential impacts of extension activities on the livelihood of adopters/planners of CLCA technologies.
- **Questionnaire distribution and flow:**
  - This report will be made available for all potential stakeholders and decision makers in the CLCA farming system.
  - You may have more to say for some questions or may choose not to answer a specific question. In both cases, please feel free to state this and respond to the questions to the best of your knowledge.

Survey tool

Effectiveness of the agricultural extension system

1. In general, how satisfied are you with the ability of the extension system and extension organizations to transfer technology and disseminate knowledge about improved agricultural/livestock technologies?

Please check the appropriate box and, where relevant, provide more detail.

CLCA technological package	Assessment options				
	Completely satisfied	Somewhat satisfied, but there are some areas that can be improved	It is OK but not very efficient	Somewhat dissatisfied	Completely dissatisfied
CLCA Package I: CLCA–Agronomic-related practices					
CLCA Package II: CLCA–Livestock-related practices					
CLCA Package III: CLCA–Natural resources-related practices					

Note:

- **CLCA Package I**: CLCA–Agronomic-related practices (crop mixtures options in rotation with cereals, etc.).
- **CLCA Package II**: CLCA–Livestock-related practices (forage production systems and stubble management/grazing).
- **CLCA Package III**: CLCA–Natural resources-related practices (soil erosion, soil organic matter (SOM), and water use efficiency (WUE)).

2. Please determine (on a scale of 1 to 5) the priority of the following activities in strengthening agricultural extension and advisory systems (where 1 is not important and 5 is high priority). Please check one box only per question.

Strengthening agricultural extension and advisory systems: options and priorities	High priority (5)	Very important (4)	Important (3)	Average (2)	Not important (1)
Increase technical capacity of extension agents					
Increase number of experts and subject matter specialists (CA practices, CLCA system) working in extension					
Enhance capacity of extension program managers and agents on participatory and new extension approaches					
Enhance capacity of extension program managers and agents on inclusion of women as direct beneficiaries/participants in extension programs					
Enhance capacity of extension program managers and agents on inclusion of youth as direct beneficiaries/participants in extension programs					
Increase capacity of extension personnel on marketing, value chain, and post-harvest					
Organize farmers into farmers' associations/organizations/community and/or SMSA groups					
Increase number of extension agents					
Strengthen information and communications technology for farmers (SMS, expert systems, online discussion, etc.)					
Change the extension policy toward more decentralization					
Change the extension policy toward more market-oriented approaches					
Develop model farms and conduct on-farm research and demonstration activities					
Establish/enhance connections with universities, research and development institutions, and organizations (NGOs, etc.)					
Develop/improve training facilities and equipment at the regional and sub-regional offices (farmers field schools, farmers business schools, etc.)					
Increase number of vehicles available for extension activities					
Strengthen the involvement of agricultural inputs companies in extension activities					
Develop or enhance private advisory services to serve medium to large farmers or farmers' associations against direct payment					
Involve private companies in delivering extension services to all farmers under government management and control					

Effectiveness of agricultural technology transfer methods for CLCA improved technologies

3. Please score (on a scale of 1 to 5) the effectiveness of the following technology transfer methods used to transmit information on CLCA improved technologies to you and other farmers in your region (where 1 is least effective and 5 is most effective).

Agricultural technology transfer method	CLCA Technological Package I: CLCA–Agronomic-related practices	CLCA Technological Package II: CLCA–Livestock-related practices	CLCA Technological Package III: CLCA–Natural resources-related practices
Farmer-to-farmer			
Households/neighboring			
Individual farm visit			
Study groups (travelling workshops, trainings)			
Research center (demonstration, trials, etc.)			
On-farm trials and research			
Printed materials			
School: lecture			
Farmers field school			
Field days (exchange field visits, cross-site visits, etc.)			
Extension staff (visits)			
Extension office calls			
Mass media – radio			
Mass media – mobile phone (green number, SMS, agricultural application for youth)			
Mass media – video			
Mass media – TV			
Mass media – posters			
Mass media – newspaper			
Other (specify……)			

Note:

- **CLCA Package I**: CLCA–Agronomic-related practices (crop mixtures options in rotation with cereals, etc.).
- **CLCA Package II**: CLCA–Livestock-related practices (forage production systems and stubble management/grazing).
- **CLCA Package III**: CLCA–Natural resources-related practices (soil erosion, soil organic matter (SOM), and water use efficiency (WUE)).

Factors affecting effectiveness of the extension methods in agriculture information transmission

4. There are several agricultural extension methods used to transfer/transmit information on CA/CLCA technologies to farmers. However, several factors could affect the effectiveness of the extension methods used by various actors in the technology transfer space.

Please score the importance of the following factors on a scale from 1 to 5, where 1 is least important and 5 is most important.

Factor	CLCA Technological Package I: CLCA–Agronomic-related practices	CLCA Technological Package II: CLCA–Livestock-related practices	CLCA Technological Package III: CLCA–Natural resources-related practices
Cost of the extension method			
Type of farmer being targeted			
Geographic location of the farmer (agro-ecological context)			
Sociocultural conditions of the farmer			
Economic conditions of the farmer			
Age of extension officers			
Sex of extension officers			
Years of experience of extension officers			
Qualifications/skills of extension officers			
Ability to reach women beneficiaries			
Number of farmers per extension officer and categories of farmers			
Nature of the technology transferred (element of the technology)			
Location and availability of extension offices			
Availability of resources (transport for extension officers, information technology and equipment, etc.)			
Other (specify……)			

Note:

- **CLCA Package I**: CLCA–Agronomic-related practices (crop mixtures options in rotation with cereals, etc.).
- **CLCA Package II**: CLCA–Livestock-related practices (forage production systems and stubble management/grazing).
- **CLCA Package III**: CLCA–Natural resources-related practices (soil erosion, soil organic matter (SOM), and water use efficiency (WUE)).

Potential impacts of extension activities on the livelihood of adopters/ planners of CLCA technologies

5. There are several agricultural extension activities used to transfer/transmit information about agricultural technologies to small farmers. However, these extension activities could affect the livelihood of the adopters/planners of CA/CLCA technologies in several ways (farm production, yield or output and profitability).

Please score the impact of extension activities on the following factors from 1 to 3, where 1 is no impact, 2 is low impact, and 3 is high impact.

Factor	CLCA Technological Package I: CLCA–Agronomic-related practices	CLCA Technological Package II: CLC–Livestock-related practices	CLCA Technological Package III: CLCA–Natural resources-related practices
Improved your farm production yield and profitability			
Improved your management practices			
Increased your rate of adoption of new CLCA technologies			
Improved your ability to identify your own needs and problems and to solve them			
Improved your ability to effectively understand marketing issues			
Improved the food security of your household			
Improved the nutrition quality of your household			
Decreased the farming work burden			
Please score the specific factors indicated in the columns on the right	Improved your agronomic practices	Improved livestock output with the inclusion of more and better complementary feed and nutritious fodder crops in the rotation systems	Decreased losses of cropland
Other (specify…….)			

Note:

- **CLCA Package I**: CLCA–Agronomic-related practices (crop mixtures options in rotation with cereals, etc.).
- **CLCA Package II**: CLCA–Livestock-related practices (forage production systems and stubble management/grazing).
- **CLCA Package III**: CLCA–Natural resources-related practices (soil erosion, soil organic matter (SOM), and water use efficiency (WUE)).

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