ICARDA

Science for resilient livelihoods in dry areas

Farmers Behaviour Survey Questionnaire Instrument

Behaviour of Tunisian Smallholder Farmers Towards Adoption of Conservation Agriculture Under Crop-Livestock Integrated System

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

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1. 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 Tunisian CLCA project team is embarking a study to understand the barriers to adoption of conservation agriculture under crop-livestock integrated systems in Tunisia. Whilst literature is replete with information on the benefits of CLCA improved technologies and specifically its ability to strike the balance between the crop and livestock components, the adoption of such improved technologies remains low and not within the expectations of the different stakeholders. The study therefore seeks to understand some of the barriers to adoption.

The findings from this study 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 improved technologies.

2. Implementation Process of the Survey

The overall characteristics of the tool are as follows:

- **Length of the interview:** The interview is around 25 – 30 minutes long.
- **Reason for choosing the interviewee (Framer):** You have been identified as an interviewee because of your experience with CLCA technology packages and your knowledge and experience of CA and sustainable cropping systems methods.
- **Number of interviewees**: 35–40 of farmers (in each location) in direct relation with the CA and CLCA systems (*Note: It is also important if we consider non-adopters of CA and CLCA improved technologies*).

- **Objective of the questionnaire:** The focus of this interview is on questions related to your socio demographic profile, your awareness, advantages, accessibility and affordability of CA and CLCA improved technologies, and finally your perceptions on risk factors in CA and CLCA adoption.
- **Questionnaire distribution and flow:**
  - A synthesis report from this survey will be made available for all potential stakeholders and decision makers in the CLCA farming system in Tunisia.
  - Your participation in the survey is voluntary. If you have discomfort in answering any question, you can just skip that question. Alternatively, you can also withdraw any time from the survey.

3. Survey Questionnaire Components

PART A: FARMERS SOCIO-DEMOGRAPHIC PROFILE

Kindly answer the following questions about yourself by putting an X on the chosen answer.

1. What is your age?
21 – 30 ○ 31 – 40 ○ 41 – 50 ○ 51 and above ○

2. State your sex.
Female ○ Male ○

3. State your marital status
Single ○ Married ○ Separated ○ Divorced ○ Widowed ○

4. How many adult members are staying at the household?
○
○
>10 ○

5. What is your level of education?
None ○
Primary ○
Secondary ○
Diploma excluding Diploma in Agriculture ○
1st Degree or Higher ○

6. What Agricultural Training do you have?
None ○
Certificate in Agriculture ○
Diploma in Agriculture ○
Degree or Higher Degree in Agriculture ○
Master Farmer Certificate○
Advanced Master Farmer Certificate ○

7. What is your experience in agriculture?

Less than 5 years ○
5 – 10 years ○
10 – 15 years ○
Greater than 15 years ○

8. What is your main source of labour?
Family ○
Hired ○

9. What is your main income source?
Agriculture ○
Off Farm Employment ○
Remittances/Monetary Gifts ○

10. (a) Do you belong to any social group? Yes/No
(b) If an answer to the above is yes, state the type of social group.
SMSA ○
Cooperative ○
Farmers group ○
Other (specify) ○

11. What is the major cost associated with CA / CLCA?
Cost of equipment ○
Cost of fertilizers ○
Cost of herbicides ○

12. Do you belong to any farming group? Yes/No

13. Have you visited experimental/demonstration plots on CA/CLCA? Yes/No

14. Have you attended Agricultural shows/short courses/ conferences or workshops/meetings? Yes/No

15. What is the approximate distance and or time spent travelling to the nearest place to get CA equipment and other agricultural inputs?
<4 hrs ○
4–8 hrs ○
8–12 hrs ○
>12 hrs ○

16. What is the approximate distance and or time spent travelling to the nearest place to sell agricultural outputs?
<4 hrs ○

4–8 hrs ○
8–12 hrs ○
>12 hrs ○

17. What is the major crop grown at your farm?
Wheat ○
Barley ○
Legumes ○
Cash crops ○
Horticultural crops ○
Others (specify) ○

18. Do you practice crop rotation? Yes/No

19. What is your total arable area?
<1 ha ○
2–5 ha ○
5–10 ha ○
>10 ha ○

20. How much area is under CA?
0 ○
1 - 3 ha ○
3 – 6 ha ○
>6 ha ○

21. How many years have you been practicing CA/CLCA?
Zero years ○
Less than 5 years ○
5 – 10 years ○
Greater than 10 years ○

PART B: AWARENESS, ADVANTAGES, ACCECCIBILITY, AND AFFORDABILITY OF CLCA IMPROVED TECHNOLOGIES

B.1. Level of Knowledge on CA/CLCA improved technologies

Please indicate your level of agreements with statements listed below by choosing from these answers: Strongly Disagrees (SD), Disagree (D), Neither Agrees or Disagrees (N), Agree (D), and Strongly Agrees (SA). Just tick on your preferred answer. Please note that there is no wrong or right answer.

Knowledge Factors	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Performance of CLCA improves over time					
Results in observable yield increments					
CLCA is easy to practice					
CLCA reduces soil erosion					
CLCA restore degraded lands					
CLCA is environmentally friendly					
CLCA controls pests and diseases					
CLCA reduces costs of labour					
CLCA reduces costs of inputs					
CLCA improves yield					
CLCA improves forage production					
CLCA improves stubble management/grazing					
CLCA improves rotations					
CLCA improves management practices					
CLCA improves livestock output with the inclusion of more and better complementary feed and nutritious fodder crops in the rotation systems					
CLCA improves agronomic practices					
CLCA decreases losses of cropland					
CLCA improves income					
CLCA improves the food security at household (quantity)					
CLCA improves nutrition quality at household (quality					
CLCA improves income					

B.2. Intension to adopt CA/CLCA improved technologies

Adoption status

Are you using CA and/or CLCA packages (Or element of the package) Yes No?

If Yes: What package or element from the following packages you are using?

CA/CLCA Packages	Yes	No
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)).		
Simplified Agronomic Practices (**TCS**)		
No Till (**NT**)		
Conventionnel Agriculture		

Perceived Risk Factors in CA/CLCA Adoption

Please indicate your level of agreements with statements listed below by choosing from these answers: Strongly Disagrees (SD), Disagree (D), Neither Agrees or Disagrees (N), Agree (D), and Strongly Agrees (SA). Just tick on your preferred answer. Please note that there is no wrong or right answer.

Perception Perceived Risk	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Adopting CA and/or CLCA system is a challenge if there is no equipment					
Adopting CA and /or CLCA system will lead to decline in yield					
Adopting CA and/or CLCA system may lead to reduce livestock output					
Adopting CA and/or CLCA system will lead to decline in income					
Adopting CA and/or CLCA system will lead to serious problems if there are no qualifications/skills of extension officers					
Adopting CA and/or CLCA system is a challenge if there are no extension packages to address the needs of crop and livestock enterprises in in a mixed cropping system					
Adopting CA and/or CLCA is a challenge if there is no access to credit					
Adopting CA and/or CLCA is a challenge if there I don't receive training on CA and /or CLCA					

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)).