

Use of Conservation Agriculture in Crop–Livestock Systems (CLCA) in the Drylands for Enhanced Water Use Efficiency, Soil Fertility and Productivity in Near East, North Africa (NENA) and Latin America and the Caribbean (LAC) Countries

SWOT Analysis Instrument Tool

**A SWOT Analysis on
Profitable and Sustainable Integrated Crops-Livestock Farming
Systems under Conservation Agriculture in North Africa**

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1. Contextual 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 Near 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 within integrated crop–livestock systems in drylands in LAC and NENA regions (Algeria and Tunisia).

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 systems. However, If CLCA systems are effective, then a key question to ask would be: Why is CLCA not spreading more rapidly? It might be because CLCA is a knowledge-intensive and a complex system to learn and implement. As such, the current problems that CLCA adoption is facing are varied. Such problems include the need for increasing understanding among stakeholders, the need for crop diversification for better nutrition, and limited area under CLCA per farmer due to lack of access to information, land fragmentation, and the conversion of agricultural lands into other uses. Additionally, there is less governmental interest in financially supporting and promoting CLCA systems.

2. Interaction between Crops and Livestock under Conservation Agriculture: The Concept of CLCA

Climate change, erratic environmental conditions and the increase of the population make pressure on agricultural systems. This reduces productivity as a result of long-term impoverishment of natural resources (land and water). CLCA technologies appear as smart agricultural practices to optimize climate-resilient and integrated crop-livestock systems under CA to sustainably intensify production in fragile areas of NENA and LAC countries. These areas are characterized by unpredictable and variable rainfall making the populations highly vulnerable. The increased frequency of limited rainfed, droughts, extreme weather events and climatic risks further impact crop productivity and biomass in general.

Through the ability of CLCA technologies to improve resources use efficiency in a flexible way, it makes such technologies suitable for different production sites. This should be accompanied by appropriate livestock and crop management practices, offering transformative solutions to many of the challenges that dryland farmers face. By – improving rotations with legume-based forages and crops and leaving crop residue in the field for reduced land degradation, improved soil fertility and water conservation – balancing yields, conserving resources, and increasing efficiency, mixed smallholder sedentary land users optimize yields while reducing production costs and improving soil health. CLCA technologies are also environmentally friendly through the reduced application of fertilizers, pesticides, and herbicides.

3. Purpose of the SWOT Analysis

Within this framework, the CLCA project team is conducting a SWOT (strengths, weaknesses, opportunities, and threats) with participants from the project in both countries who are actively engaged in promoting the adoption and mainstreaming of CLCA systems. The purpose of this analysis is to gather-up to date information on the status of the CLCA and discuss the challenges and opportunities to accelerate the adoption and mainstreaming CLCA. The outcome from this initiative will help decision makers and extension program planners to accelerate the uptake and spread of CLCA systems and consequently conduct towards how opportunities could be mobilized and what mitigating actions are required.

4. Implementation of the SWOT Analysis Tool

The overall characteristics of the tool are as follows:

- **Length of the interview:** The interview is around 20 minutes long.
- **Reason for choosing the interviewee:** You have been identified as an interviewee because you are actively engaged in promoting and mainstreaming CLCA systems.
- **Number of interviewees:** 25–30 of persons in each country (scientists, developers, extensionists, technicians, private sector, lead farmers, etc.) actively engaged in promoting the adoption of CLCA systems.
- **Objective of the questionnaire:** The focus of this interview is on questions related to your reflections on the strengths, weaknesses, opportunities and risks linked to accelerate the adoption of CLCA systems:
 - What is already in place that is conducive to accelerating the uptake and spread of CLCA systems?
 - What are the challenges that need to be addressed to accelerate the uptake and spread of CLCA systems and how?
 - What are the existing and future opportunities to accelerate the adoption process of CLCA systems and how they can be effective?
 - What are the existing and dynamic risks to be guarded against in order to widespread the adoption of this CLCA systems and what mitigation actions are needed to put in place to overcome these threats?
- **Questionnaire distribution and flow:**
 - A technical synthesis report from this analysis will be made available for all potential stakeholders and decision makers in the CLCA farming system in both countries.
 - 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.

5. SWOT Analysis Instrument Tool

The following matrix presents the components of the SWOT analysis through a set of questions. Please provide max 5 responses in bullet points to each one of the questions below.

<p style="text-align: center;">STRENGTHS</p> <p>Question: What is already in place in Algeria (Tunisia) that is conducive to accelerating the uptake and spread of CLCA farming systems?</p>	<p style="text-align: center;">WEAKNESSES</p> <p>Question: What are the challenges that need to be addressed to accelerate the uptake and spread of CLCA farming systems in Algeria (Tunisia) and how?</p>
<p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p>	<p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p>
<p style="text-align: center;">OPPORTUNITIES</p> <p>Question: What are the present and possible future opportunities to accelerate the uptake and spread of CLCA farming systems in Algeria (Tunisia) and how can they be mobilized?</p>	<p style="text-align: center;">THREATS</p> <p>Question: What is the risk to be guarded against in order to accelerate the uptake and spread of CLCA farming systems in Algeria (Tunisia), and what mitigating actions are required?</p>
<p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p>	<p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p>