

Conservation Agriculture and Livestock Integration - Module 1

Learning Outcomes At the end of this course, participants should be able to:

1. Analyze the current crop-livestock situation and identify factors that affect crop-livestock systems/conflicts
2. Identify the constraints and opportunities for sustainable crop-livestock integration into conservation agriculture systems
3. Identify potential solutions to Crop-Livestock conflict
4. Set priorities for what strategy to promote in the community

Pre-Requisites: In order to benefit fully from this class, participants should have already attended the following classes:

1. Situation Analysis: Why CA?
2. Importance of Soil Cover
3. Cover crops

Timing of this Lesson: This lesson should take place just after harvesting. Depending on the outcome of the 10-seed exercise, this module should be followed by the module on crop/fodder production and/or the module on livestock management/policy in order to help them develop an action plan for how they will implement the strategies identified in this module.

References:

Jaleta, Kassie, & Shiferaw. 2013. Tradeoffs in crop residue utilization in mixed crop–livestock systems and implications for conservation agriculture. *Agricultural Systems*.



Centre for Sustainable Development. [10 Seed: How-To Card](#).

Materials Needed:

1. Flip chart
2. Markers or chalk
3. Copies of the district / ward bylaws on grazing
4. Seeds (at least 10 per participant)

Preparation:

1. Review all discussion questions and be prepared to guide the discussion appropriately.
2. Make sure all the posters are in place and ready for display.
3. Recruit 2 groups of 3-6 people for the role play. Make sure there is a gender balance and a mix of skills and expertise in each group.
4. Familiarize yourself with the 10-Seed Method for participatory decision making (see reference, above).

Learning Activities (Total time required = 3.25 hours)

I. Introduction: (30 minutes)

A. Role Play 1 – Livestock enthusiasts vs CA adopters (15 mins)

The goal of this activity is to:

- a) Introduce participants to factors that affect crop-livestock integration in conservation agriculture systems; and,
- b) Help participants think about the current crop-livestock tensions in their context and how these tensions could be resolved.

Scene 1: Group A - You are farmers who are interested in livestock more than crop production. You discuss angrily how farmers that are adopting conservation agriculture as threatening your feed supply for your animals since these farmers are fencing off plots and encouraging controlled grazing. From your perspective, it is good that animals can roam the fields after harvests as that means more fodder and less work driving livestock to faraway places in search of pastures.

Scene 2: Group B - You are farmers that have just learned about conservation agriculture. You discuss how you are excited about this technology but are frustrated by the fact that the livestock keepers are letting their cattle into your fields and consuming all the mulch. You have tried to involve the local leadership, but because the local leadership also has a lot of livestock, the mediation was in favor of people with livestock. As CA adopters, you can't keep mulch to cover your soils, and you have challenges harvesting grasses from the fields for mulch since livestock are also competing for the same resource.

Scene 3: In this scene, the two groups meet each other in the market place. At first they are angry with each other, but then they try to discuss the issues between livestock enthusiasts and CA adopters and develop a strategy to resolve these issues.

B. Discussion Questions (15 mins)

1. What did you see?
2. Have you experienced any of these crop - livestock conflicts in your village?
3. Did they find ways to resolve the conflict between them?
4. What are some other ways the two groups could have benefitted each other?

II. Brainstorming on constraints and opportunities for sustainable crop-livestock integration in CA (40 minutes)

A. Identifying opportunities and constraints (30 mins)

The goal of this activity is to get participants thinking of the challenges in integrating crop-livestock systems into conservation agriculture, and the potential opportunities that may arise.

1. Introduce the activity by referring to the role play and some of the discussion that occurred during the activity and debriefing.
2. Ask the participants to form two groups. Make sure there is a gender balance and a mix of skills and expertise in each group.
3. Assign one group to think of advantages/opportunities of integrating livestock and CA, and the other group to think of challenges in integrating livestock and CA.
4. Bring groups together and ask each group to present what they discussed.

B. Discussion (10 mins)

1. Can you think of any other advantages that haven't been mentioned?
2. Can you think of any other challenges that haven't been mentioned?

III. Strategies to improve crop-livestock integration in CA (45 minutes)

The goal of this activity is to help participants identify potential strategies to integrate crop-livestock needs.

A. Group work:

1. Introduce the activity by referring to the role play and some of the strategies that were discussed for resolving crop-livestock conflicts.
2. Ask the participants to form two groups. Make sure there is a gender balance and a mix of skills and expertise in each group.
3. Assign the 1st group to discuss strategies that farmers can use to produce more fodder and/or mulch in their communities. Ask them to answer the following questions and to write them on a flip chart:
 - a) What ways we can manage the crops we grow now so that they provide both livestock feed and soil cover?
 - b) What new crops might we grow to increase the fodder and mulch resources in our farming system?
 - c) How do these crop/fodder system strategies address the CA principles and livestock needs?
4. Assign the 2nd group to discuss strategies that farmers can use to protect crops from livestock in their communities. Ask them to answer the following questions, and to write them on a flip chart:

- a) What are ways that we can prevent livestock from entering our CA fields?.
- b) What are some ways that we can discourage livestock herders from letting their cattle into our CA fields?
- c) What are some ways that we can increase knowledge or advocate for efficient crop-livestock integration in our farming systems?

B. Discussion (10 mins)

- 1. Ask each group to share what they discussed.
- 2. Allow the other participants go give feedback and make suggestions to each group.
- 3. What are some of the challenges with enforcing some of the non-crop/fodder approaches and how can those challenges be resolved?

IV. Select an priority strategies for conservation agriculture crop-livestock integration (30 minutes)

A. Develop a strategy

The goal of this activity is to have participants develop a strategy for crop-livestock integration in conservation agriculture in their context.

1. General Discussion

- a) Review the flip charts and be sure all participants understand the strategies which were presented. If the group is mostly illiterate, use drawings to illustrate each strategy.
- b) Ask participants to discuss the advantages and challenges of each strategy.

2. 10 Seed Exercise

- a) Cut up the large flip charts into individual strategies, and place the papers on a table, or on the floor where all can see them.
- b) Give every participant 10 seeds (or stones, or any other small objects). If you want to separate the answers of different groups (e.g. men and women) give a different kind of seed to each group.
- c) Explain that each individual will use their seeds to indicate which option they prefer. They may put all their seeds on one paper, to indicate that they highly prefer this option, or they may distribute their seeds between several options which they like.
- d) Allow everyone to place their seeds on the paper indicating the options they prefer.
- e) Count the seeds on each paper to determine the 2-3 priority strategies
- f) Ask Participants to discuss why they voted for the different options.
- g) If, during the discussion, people's opinions are changed by the arguments of other group members, a second vote may be taken to finalize the decision.

V. Concluding Discussion (30 minutes)

- 1. Summarize what has been discussed during the sessions

2. Ask if participants have any questions.
3. Make a plan for future training in order to fully develop their strategy for livestock-crop integration.