Local Initiatives to Reduce Impacts of Climate Change (LIRIC)

Climate Field School (CFS) Concept

Background

Climate change has affected agriculture and livelihoods where rural farmers have weak ability to adapt to changing climate resulting in low production and crop failure in extreme situation. In this context, Local Initiatives to Reduce Impacts of Climate Change (LIRIC) project will be implementing Climate field School (CFS) which is basically Farmer’s Field School (FFS) focusing on technologies and practices to adapt to changing climate. It takes the form of experimental ‘learning by doing approach’ rather than imposed technical knowledge by experts thus, placing farmers themselves as the investigators. The CFS will have season long sessions with a particular crop/technology and is not an isolated training event. The role of facilitator is to encourage farmers to reflect and explore appropriate climate resilient practices. It is not a classroom training and the sessions will be conducted in experimental learning plot established by the group.

In LIRIC, the CFS will be run for four consecutive seasons (two seasonal crops per year) under the activity area 2.2.1 (in the proposal) where the project identified Civil Society Organizations (CSOs) and groups will have opportunities to experiment and learn continuously and be empowered to explore further on their own in post-project period. Engaging them for two years, this will orient the group members with the initiatives towards meeting the food and nutrition security at the household level in the short and long term. On an average, six sessions are planned in a season (running for 12 weeks) where groups can choose the frequency based on their preferences and crop season. The CFS group members can meet informally for the intercultural operations needed during the crop growth in between the sessions. Project will provide a fixed amount for learning materials and facilitators’ incentives. Rest of the logistics will have to be managed by the groups themselves.

Outside the learning plot, farmers may already be applying the technique on their own farm simultaneously. It is also possible to discuss marketing aspect in any of the session and prepare collective plan although the project does not have any marketing activity. There can be a mechanism to support that through local government or finding some alternative arrangement in the project.

Aim and objectives of the CFS:

The aim of the CFS is to demonstrate climate resilient farming practices and climate adaptive technologies towards enhancing the related knowledge, capacity and skills of CSOs members. More specifically, the CFS will enable the CSOs members-
• To understand the basics of climate change phenomena, its impacts on agriculture and livelihoods with relevant mitigation measures
• To analyze the historical and seasonal weather patterns and impact of climate change on the local farming system
• To identify, prioritize and select the climate resilient crops and varieties, technologies and approaches for the CFS with the active participation of the CSO members
• To set up learning and experiential plots and undertake field-based *Package of Practices (PoP)*¹ for the selected seasonal (and off-seasonal) crops
• To document the participants reflection, good practices, areas of improvement, challenges and issues

**Guiding Principle and approaches of Climate Field School**

• CFS will be implemented in the CSOs and interest groups as the farmers’ group
• CFS will cover season-long activities and selection of the crop(s) is done by group
• Regular sessions will be planned based on the curriculum
• The resilient model farm will remain as a study-learning plot to practice and compare the improved practices with traditional/ existing practices
• CFS believes local farmers have strong experiences and knowledge on the farming system
• CFS provide opportunity to the members for blending and exchanging their knowledge, skill and experiences.
• LIRIC’s Agriculture Assistant will orient the group on climate change and provide inputs in the selection and use of technologies, crops variety,
• The CFS Facilitator will be selected by CSOs members and trained by the project
• CFS participant will undertake CFS session on the demo plot and they observe plot to see the changes and any problems in the demonstration plot
• CFS facilitator keeps record of basic weather data, crop growth stages, members’ participation, day’s conduct with practices performed and reflection at each session with active participation of CSO members
• Follow GoN guidance for the COVID-19 as social distancing and other practical safety measures in the field condition

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¹ It includes a set of basic and standard intercultural operations during the different growth stages of any crop
**Target group/ Beneficiaries/ Audience:**

The climate field school will be targeted to the CSOs and the interest groups within them. Further,

- The members engage in farming for their livelihoods
- At least 50% of the participants are female
- Committed members for the participatory group involvement in the demo/experimental plots through the entire stages of crop growth until harvest

**Basic steps and process of CFS implementation**

For the systematic and effective implementation of CFS, the following steps and process will be adopted-

1. **Step-1:** Preparation of CFS curriculum and facilitation manual
   - The CFS manual is developed by involving the related expert/consultant as the resource person. It should have simple and clear instruction to facilitators and staffs throughout to run different sessions with the necessary backup from the project staffs. It will basically be a process guide for the agro-ecology analysis, related technical sessions including Packages of Practices (PoP) in the specific crop growth stages and final reflection workshop/field day. In specific, the CFS facilitation manual includes-
     - Session plan of each session aligning with the CFS curriculum
     - Implementation modality for the different sessions in CFS as per the guiding principles and approaches
     - Simple formats to record the basic weather data, crop growth stages, members’ participation, day's conduct with practices performed and reflection from each session
     - Separate technical reference materials for the selected crops

2. **Step-2:** Selection and training to 100 CFS facilitator
   - For the first year, the consultant should also be able to help the project identify 4-5 topics for CFS and collect reference technical materials.

3. **Step-3:** CFS field implementation at 100 CSOs

4. **Step-4:** Monitoring, Evaluation and documentation
Step-2: Selection and training to 100 CFS facilitators

- Selection Criteria’s for the CFS Facilitator
- Selection of CFS Facilitator- lead farmers to be selected by groups themselves following the selection criteria, facilitated by project staffs
- Training of CFS facilitators- Training of Trainers (ToT) in climate smart technologies/practices in agriculture as well as CFS facilitation skills (multiple training over a period rather than a single training)
- Defining the roles and responsibilities of the Agriculture Technician, Field Facilitator and LIRIC technical staffs

Step-3: CFS field Implementation

- Basically, aligning with the sessions as outlined in the curriculum matrix below (Table 1)

There will be six sessions spread uniformly in a crop season (approx. 12 weeks) that may vary depending on the crop grown and related operations required during the season. Each facilitator will conduct CFS in their respective groups where 2-3 sessions (technical orientation) will be run by the project staffs engaging the group members in a participatory way. Each session will be about 3-4 hours long where the groups gather in an agreed venue/experimental learning plot. Recording temperature and weather pattern during the cropping season is an integral part of each session. In case of technical orientation sessions, there will be participatory exercises, appropriate game tool in between to keep the participants engaged. There should be agreement on monitoring and care of experimental field plots in between the sessions. In addition, there will be recording formats, attendance sheets in each session.

The climate change orientation is done in the initial session followed by the agro-ecology analysis for the identification of crops, cropping patterns and technologies in the demonstration plots. The sessions that will follow consist of the group's involvement in intercultural operations and related technical sessions at the different crop growth stages. Each CFS is closed with a session to reflect the overall learning and experience during the season. It includes discussion on what they learned, what worked/what did not work, good practices, what could have been done better to overcome the issues and challenges. It can also be combined with other CFS to share and exchange learning in the form of field day.

In addition, after the completion of the CFS sessions in each year, learning and experience sharing and reflection workshops will be organized at the LG level (12 events in two years). The event will be participated by the selected CFS participants from CSOs, project staffs, related LG office staff and local media where the learning will be disseminated at a wider level.

Basically, in each session, following will be carried out-
• Reflection of previous sessions learning and work
• Observe and discuss the crop performance
• Reflect the observation and compare with their traditional knowledge or with traditional practices done side by side in the learning plot
• Taking basic measurement of crop data
• Outlining on things to learn and apply in the session
• Brief theoretical discussion if required
• Field work as per the crop growth and need of intercultural operation during that time
• Reflection of each session
• Documentation- filling attendance, reflection logbook, crop and weather data in the recording formats
• At the end, briefly discuss what they are learning in next session

Step-4: Monitoring, evaluation and documentation

• Pre-training assessment before beginning the CFS
• Self-reflection by the participants after each session
• Monitoring by Project staffs randomly at different sessions running in the CFS
• Joint monitoring with LGs
• Final review after the implementation of CFSs- Organizing reflection workshop at LGs level or project level and its proper documentation
• Produce knowledge product of the CFS process and its outcome

In this respect, a reflection logbook will be maintained for recording the learning and issues after each session of the CFS. These notes will be consolidated, analyzed to generate findings and learnings. After the completion of a seasonal CFS (almost 12 weeks long), experience learning and reflection workshop will be organized where participants and facilitators will have opportunity of reflecting their experiences and learning from each other.
<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Contents</th>
<th>Session objectives</th>
<th>Time (Hr.)</th>
<th>Method/Tool</th>
<th>Materials</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Agro-ecology analysis</td>
<td>Seasonal crop calendar&lt;br&gt;Climate resilient practices in Agriculture and farming&lt;br&gt;Local and improved Practices&lt;br&gt;Roles of facilitator, group members and project staffs&lt;br&gt;CFS implementation in the group- definition, objective, working modality, guiding principles and steps&lt;br&gt;Opportunities and overcoming challenges</td>
<td>• To discuss and identify the crops, technologies to implement in CFS in the current season and for additional 3 seasons in the consecutive two years’ time&lt;br&gt;• To decide the experimental learning plot and on its management&lt;br&gt;• To agree on the crops selected, technologies topics and sessions in the CFS&lt;br&gt;• To clarify and internalize on the concept, purpose and need for CFS implementation</td>
<td>4</td>
<td>• Participatory, interactive sessions&lt;br&gt;• Buzz group/small group discussion&lt;br&gt;• Note taking</td>
<td>Newsprint, meta-cards, Markers, pen</td>
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<tr>
<td>2</td>
<td>Nursery establishment</td>
<td>Direct sowing and transplantation in crops</td>
<td>• To inform on the basics of crop nurseries&lt;br&gt;• To establish nursery of</td>
<td>4</td>
<td>• Discussion-learning and sharing</td>
<td>Seeds of the crop variety, bamboo, tilling</td>
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| 3       | Land preparation and transplanting seedlings | Purpose and types of nursery (raised and flat)  
Process- soil preparation, FYM application, levelling, row lining and dropping seeds in row trenches, filling and levelling, watering | the selected crops                                            |            | • Group engaging in the nursery establishment in the field plot                              | tools, water cane, plastic                     |
| 3       | Land preparation and transplanting seedlings | Land preparation, levelling, FYM application, proper crop spacing (plant to plant and row to row), irrigation                                                                                      | • To demonstrate crop seedling transplantation in the experimental plots | 4          | • Group engaging in the land preparation  
• Learning by doing (action learning)                                                   | Tools for land preparation and transplanting, water cane    |
| 4       | Disease and pest management                | Different disease and pests in crops occurring normally and in altered weather patterns  
Control measures focusing on the biopesticides and IPM measures                                           | • To know the most common diseases and pests in the crops grown  
• To apply appropriate control measures and methods                                                       | 4          | • Field based practices and observation  
• Experience sharing, reflection and documentation                                                 | Flash card of pest, disease and management practices        |
| 4       | Crop harvesting                            | Crop maturity  
Single and multiple harvesting                                                                                               | • To know about on the crop maturity for harvesting with purpose  
• To know and practice proper harvesting                                                                      | 4          | • Field based practice, experience sharing and reflection                                      | Harvesting tools, Collection tray/ bins, sacks, cleaning materials |
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<td>Harvest time for crops and with purpose</td>
<td>techniques</td>
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<td>Harvesting method, tools</td>
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<td>6</td>
<td>Experience learning and reflection workshop</td>
<td>Strengths, area of improvement, issues and challenges, learning and participation</td>
<td>• To review overall process in form of learning, self-reflection</td>
<td>4</td>
<td>SWOT Analysis</td>
<td>Newsprint, Meta-cards, Notebook, Markers, Pen</td>
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<td>• To share the experience, learning participating in the CFS</td>
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<td>Individual experience, learning sharing</td>
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<td>• To provide with the feedbacks, inputs for the better</td>
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<td>• To document the good practices, learnings, issues and challenges</td>
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