ICIMOD

GRAPE
Green Resilient Agricultural Productive Ecosystems

Community Learning Centres

FOR CLIMATE-RESILIENT AGRICULTURE

Seeing is believing

The Community Learning Centre (CLC) operates on the principle of 'seeing is believing'. At the local level, CLCs are established with a clear purpose: to facilitate the co-design, replication, and scaling of simple solutions, in the realm of climate-resilient agriculture. They also serve as regional learning centres and knowledge hubs, fostering peer-to-peer learning and knowledge sharing, and enabling wider dissemination, adoption, and replication of these innovative solutions. By bringing together farmers, agriculture experts and practitioners, CLCs create a dynamic and inclusive environment for collaborative learning on climate-resilient agriculture.

At a CLC, the spotlight is on agricultural technologies and the primary beneficiaries are farmers who cultivate in similar agroecological and soil conditions. These farmers actively engage in the CLCs through farmer groups, allowing them the flexibility to research, experiment, and innovate their farming techniques. The goal is to provide context-specific guidance and a package of practices, recommendations and solutions that are customised, affordable, gender responsive, and nature based. Visitors can witness firsthand demonstrations of these solutions, enabling them to inquire, replicate, and adopt effective practices on their own farms.

Another aspect of the CLC is the emphasis on participatory action research, which emphasises participation by the communities affected by the research. The centre validates both innovative technologies and traditional knowledge-based solutions through this participatory approach. By generating scientific evidence, in combination with partnering with the affected communities, the CLC enhances the effectiveness and uptake of the approaches. Additionally, it integrates traditional ecological and climate knowledge to tailor solutions to the specific conditions and impacts of climate change on agriculture in these rural settings.

Rationale and objectives

According to IPBES, socio-ecological systems are complex adaptive systems in which people and nature are inextricably linked. Such systems face challenges due to climate and socioeconomic change. The CLC addresses these vulnerabilities by disseminating practical solutions to manage risks associated with changing environmental conditions. Beyond its role as a hub for disseminating agricultural knowledge, the CLC is a platform for knowledge development and sharing, facilitating dialogue and collaboration between community, local government agencies, academia, and civil society.

The CLC has three main objectives:

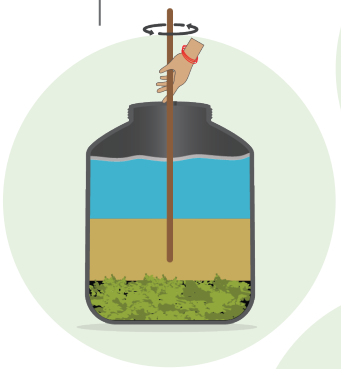
Showcasing context-specific solutions
Exhibit simple, affordable, gender-responsive, and nature-based solutions, so visitors can identify need-based solution packages and gain in-depth knowledge for wider adoption.

Generating scientific evidence
Contribute to research by collecting evidence, carrying out analyses, and validating innovative technologies and traditional knowledge-based solutions; increasing farmers' confidence in these approaches and encouraging their adoption.

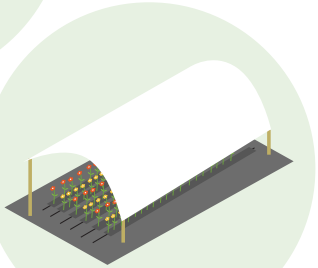
Scaling proven solutions
Scale out and up successful solutions and technologies at local, provincial, and national levels for broader impact.

Community learning centre

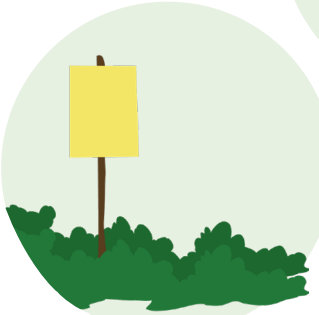
Jholmal
Homemade bio-fertiliser and bio-pesticide prepared using locally available materials to improve plant health and protect against fungal and vector-borne diseases.

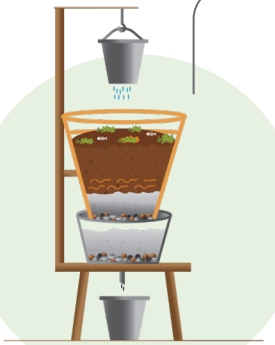


Plastic tunnel
A structure made of plastic sheeting stretched over a frame, typically made of metal or PVC pipes, to create a controlled environment for crop cultivation.

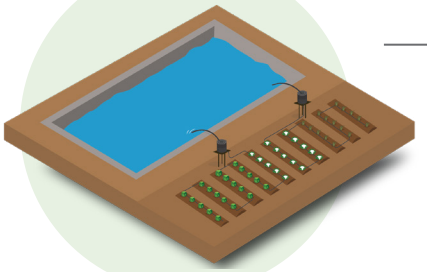


Yellow sticky trap
Adhesive sheets or cards typically in bright yellow to attract flying insects, commonly used for controlling pests, including whiteflies and aphids.





Vermiwash
This liquid, obtained from earthworm-produced compost, is abundant in essential nutrients for plant growth and development, nitrogen, phosphorus, and potassium.



Soil-cement tank
A semi-permanent structure made of a mixture of red soil, sand, and cement to store residual tap water, rainwater, and spring water.

Drip irrigation
A system for watering plants by delivering small amounts of water directly to their roots through a network of tubes or pipes, to conserve water and promote efficient plant growth.

Vermicompost
Waste material converted into compost by earthworms, traditionally used as natural fertiliser for enhancing plant growth.

Note: The front cover image is a conceptual layout of a Community Learning Centre. Featured on this page are a selection of the many climate-resilient agriculture (CRA) solutions and technologies that are demonstrated on site.

Integrated components of the Centre

Knowledge centre: The CLC serves as a dynamic hub for community engagement and knowledge exchange. The Local Resource Person (LRP) at each CLC acts as a focal point for disseminating information on climate-resilient agriculture. The Centre welcomes diverse visitors and provides them opportunities to observe and learn about tested and proven climate-resilient agricultural practices.

Demonstration site: Each CLC is designed as a demonstration site for tangible examples of cost-effective, environmentally friendly water, soil, and crop management practices and technologies. Through hands-on experiences and demonstrations, visitors gain practical insights and acquire the skills needed to implement these technologies within their own communities.

Research and innovation: The CLC serves as a site for agricultural research and innovation, fostering collaboration between farmers and researchers to address challenges posed by climate change. By facilitating participatory action research, the Centre enables co-creation of novel practices and technologies tailored to local contexts and challenges. Additionally, the research validates both innovative approaches and traditional knowledge-based solutions, bridging the gap between theory and practice.

Governance and operations

The operational and governance structure of the CLC follows a systematic approach aimed at engaging various stakeholders and enhancing local ownership for sustainability. In addition to the primary beneficiaries, other stakeholders include farmers from different regions, cooperatives, farmers' groups, entrepreneurs working in climate-friendly, environmentally sustainable, and organic agriculture, NGOs, students, researchers, and extension staff.

The process follows several steps:

Initial consultation and exploration: Meetings are convened with local government personnel, agriculture department technicians, and representatives from NGOs to initiate the establishment of a CLC. Discussions focus on identifying suitable areas considering factors such as accessibility and the local context. Lead farmers, known for their expertise and willingness to take risks, are identified as key collaborators. CLCs could be established on farmland owned by lead farmers, local government, Agricultural Knowledge Centers (AKCs), or schools, ensuring easy accessibility and visual representation of different technologies.

Field visit and feasibility study: A thorough field visit is conducted to assess the practicality of establishing a CLC in the identified location. Factors such as soil quality, water availability, and climate conditions are meticulously evaluated. The findings inform subsequent decision-making processes. Different plots or sections within the CLC could showcase various technologies such as bio-fertilisers, bio-pesticides, traps, and lures, providing visitors with a tangible understanding of their effectiveness.

Orientation: Once a suitable location is identified, selected farmers undergo comprehensive orientation sessions on various Climate-Resilient Agriculture (CRA) technologies and tools. Through these sessions, farmers become aware of the significance of their role in demonstrating these practices to the wider community. In past sessions, farmers have become empowered and were convinced of their crucial role.

The establishment process could be different depending on the context. The important considerations are engagement, coordination, and collaboration with governments at all levels, local institutions, NGOs, cooperatives, private sector entities, and other relevant stakeholders. Participatory tools such as climate change impact analysis, matrix ranking for prioritizing crop challenges and solutions, and participatory technology development may be used to design the CLC and develop packages of practices within them.

About GRAPE and CLC

The CLC concept emerged as part of the Green Resilient Agriculture Productive Ecosystems (GRAPE) project, specifically within Field of Action 2. This collaborative initiative is led by the International Centre for Integrated Mountain Development (ICIMOD) in partnership with CEAPRED (Center for Environmental and Agricultural Policy Research, Extension and Development) and LIBIRD (Local Initiatives for Biodiversity, Research, and Development). The project's overarching goal is to advance climate-resilient agricultural practices in the Karnali and Sudurpashchim provinces of Nepal. A total of twenty CLCs have been established under this programme. Initially, nineteen were planned—one for each Palika (local administrative unit). However, in response to a request from the local Rural Municipality, an additional CLC was established in Bhagawatimai, Dailekh.

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