

# Farmers' Climate Information Centers (Farmers' - CLIC)

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Managing local climate variability for securing crops and livestock production is a major challenge; the need is much more felt in the context of global climate change.

Over the last three years of intense participatory research with farmers under the ACCA program on adaptation to climate change, it has been realized that just providing weather information to farmers will not suffice. For farmers' to make meaningful use of such information in the context of their local production systems, an array of tools are developed which together shaped into the concept of 'F-CLICs'.

F-CLIC is a combination of the following:

- a. *Agro-met advisory* – the weather forecast of the IMD is further processed into an agriculture related advisory provided twice a week; presented in a visual format that farmers' can make sense of easily. (see Annex 1)

The agro-met advisories are generally pasted in accessible locations, broadcast over loud speakers or disseminated through various other means.

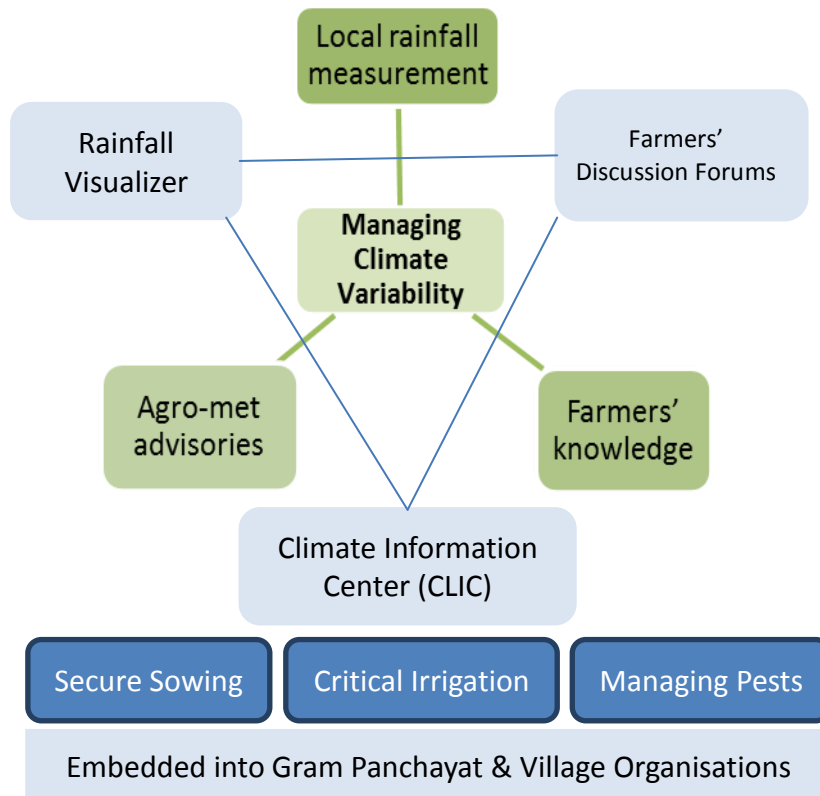


Figure 1. How Farmers' -CLICs integrate knowledge for managing climate variability at the village level

- b. *Local Rainfall Measurement*: A rain-gauge station in each village with an arrangement for regular measurement and recording as a part of the Gram Panchayat's routine.

Note on CLICs from WASSAN

- c. *Farmers' Knowledge:* It is important for farmers to make sense of the agro-met advisories and their own local measurements in the context of the accumulated heuristic knowledge base on crop performance in the past, out breaks of pest and diseases etc.

The triad of Agro-met Advisory– Local rainfall measurement – Local knowledge (the green boxed in the Figure 1) when integrated and processed can generate potential local adaptation options to deal with uncertain rainfall scenarios. For farmers to convert this information into options for securing crops, appropriate tools to visualize data and emerging scenarios, quick access to related information/ knowledge and a forum for them to share/ discuss / debate on options are much needed. These are the 'instruments' for farmers to evolve their own options and to make choices.

The ACCA program developed and tested these three 'instruments' in several field situations.

- i. **Rainfall Visualiser:** This is a simple plot of the cumulative rainfall measured locally on to a graph that also shows:
  - a. Plot the current and accumulated rainfall data to date onto the graph
  - b. Contrast this season's rainfall with recent 'wet' and 'dry' years and with the last season and their trajectories over the season picking up from the last 30 years of rainfall data from IMD
  - c. Shows the probability of 'finish' – i.e. what is the probability of the total rainfall in the season (highest and lowest)

Farmers can visualize the rainfall data in terms of the emerging scenarios and compare them with the relative occurrences in the near past.

- ii. **CLIC : Information System:** is a computer based off-line (with links to on-line) information system that generates the rainfall visualizer, maintains database of the past, with information related to agriculture, livestock, fisheries, machinery etc. all packaged for easy access. The CLIC information system will be a growing repository of information – with visuals, videos, narrations and animations on varied subjects that are easily accessible to farmers. The CLIC is managed by a dedicated person. This will be made more robust to make all required information available to the farmer within the Gram Panchayat. In the context of the CLIC, the static data in the agro-met advisory is linked to databases where farmers can easily access entire knowledge bases on subjects such as pest/ disease, its occurrence and various options in its management.

- iii. **Farmers' Discussion Forum:** is an important institutional instrument to convert the data and analysis into options and choices for farmers. Farmers' Clubs existing in the villages or the federations of SHGs or the Gram Panchayats by themselves can organise these discussion forums, more actively engaged during the rainy season and during early rabi to make crop choices.

With the background of these triads of information and instruments of converting them into choices, the ACCA project has developed some thumb rules related to :

- a) **Secure Sowing:** that helps to farmers to decide on the right sowing time to secure proper germination and growth. The 75mm thumb rule is one example.
- b) **Protective Irrigation:** in time of prolonged drought spells secure crops and also increase water productivity.

- c) **Managing Pests and Diseases:** linking the weather observations to the incidence of pests and diseases helps farmers to be prepared and also to take appropriate remedial actions.

Together these three areas of management of crops and livestock will bring-in substantial resilience to rainfed agriculture.

The protocols in all the above are developed in a participatory research mode involving scientists from ANGRAU, CSIRO (Australia), WASSAN, LNRMI, facilitating NGO partners on ground and Farmers' Clubs.

An integration of all the above (see Figure 1) emerged into a framework of 'F-CLIC'

As a next step, CLICs have to integrate into e-panchayats and need to mobilize some funds to standardize the software and improve the content

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