



INFORMATION SHEET

# Setting up localized climate services for agriculture in Chitwan

## Background

Rapidly changing climate and frequent extreme weather events have reduced agricultural productivity in Nepal. This decline in yield and income has affected Smallholder farmers in particular. On a global scale, plant diseases and pests account for 20–40% of total crop losses annually. Environmental stresses and external threats can further aggravate this.

Nepalese farmers have limited access to agricultural extension services and lack the support they need to identify and address crop issues autonomously. Therefore, effective agricultural advisory services are vital to address the needs of farmers, help them with decision making and build resilience to cope with climate shocks and environmental change.

## Agromet advisories in Nepal

The Nepal Agricultural Management Information System (NAMIS), under the Ministry of Agriculture and

Livestock Development (MoALD), in collaboration with the Department of Hydrology and Meteorology (DHM) and the Nepal Agricultural Research Council (NARC) has been providing the seven-day Agromet Advisory Bulletin (AAB) since 2015 for 25 pilot districts in Nepal. The bulletin includes a summary on weather, crops, livestock, tables on weather and agrometeorological parameters, current and past week weather information along with weather forecasts, and information on pests and diseases, so that farmers and stakeholders can make on-farm decisions to reduce the adverse impacts of climate change and increase agricultural production for enhancing food security. The NAMIS Advisory is the first effort to demonstrate effective use of multidisciplinary knowledge integration for supporting farmers on in-season farming practices by communication through digital means. In its current form, the advisory process is highly centralized and based in the federal capital Kathmandu. It involves experts and deals with large and highly variable agriculture conditions across Nepal. The value of such processes can be substantially improved by taking this to the sub-national level.

## A digital platform to support localized agromet advisory system in Chitwan, Nepal

Building on earlier efforts at strengthening agromet advisories in Nepal, ICIMOD's Climate Services Initiative collaborated with the Agriculture Knowledge Centre (AKC) in Chitwan to further enrich advisories, make them more relevant to farmers' needs and deliver them in a timely manner. Formulation of a district level multidisciplinary agromet advisory committee has also been planned.

The technical advisory committee will deliver weekly agromet advisory bulletins supported by the state-of-the-art scientific data and associated technologies. Use of Information and Communications Technology (ICT) tools will enable in-season agronomic profiling, crop reporting, monitoring, data collection and analysis of crop conditions (Figure 1). For better reach and dissemination, agriculture experts will translate scientific data into commonly understandable advisories to help farmers to plan agricultural operations such as land preparation, sowing, and harvesting (Figure 2).

FIGURE 1

CONCEPTUAL DIAGRAM OF ICT-SUPPORTED INFORMATION FLOW FOR LOCALIZED AGROMET ADVISORY

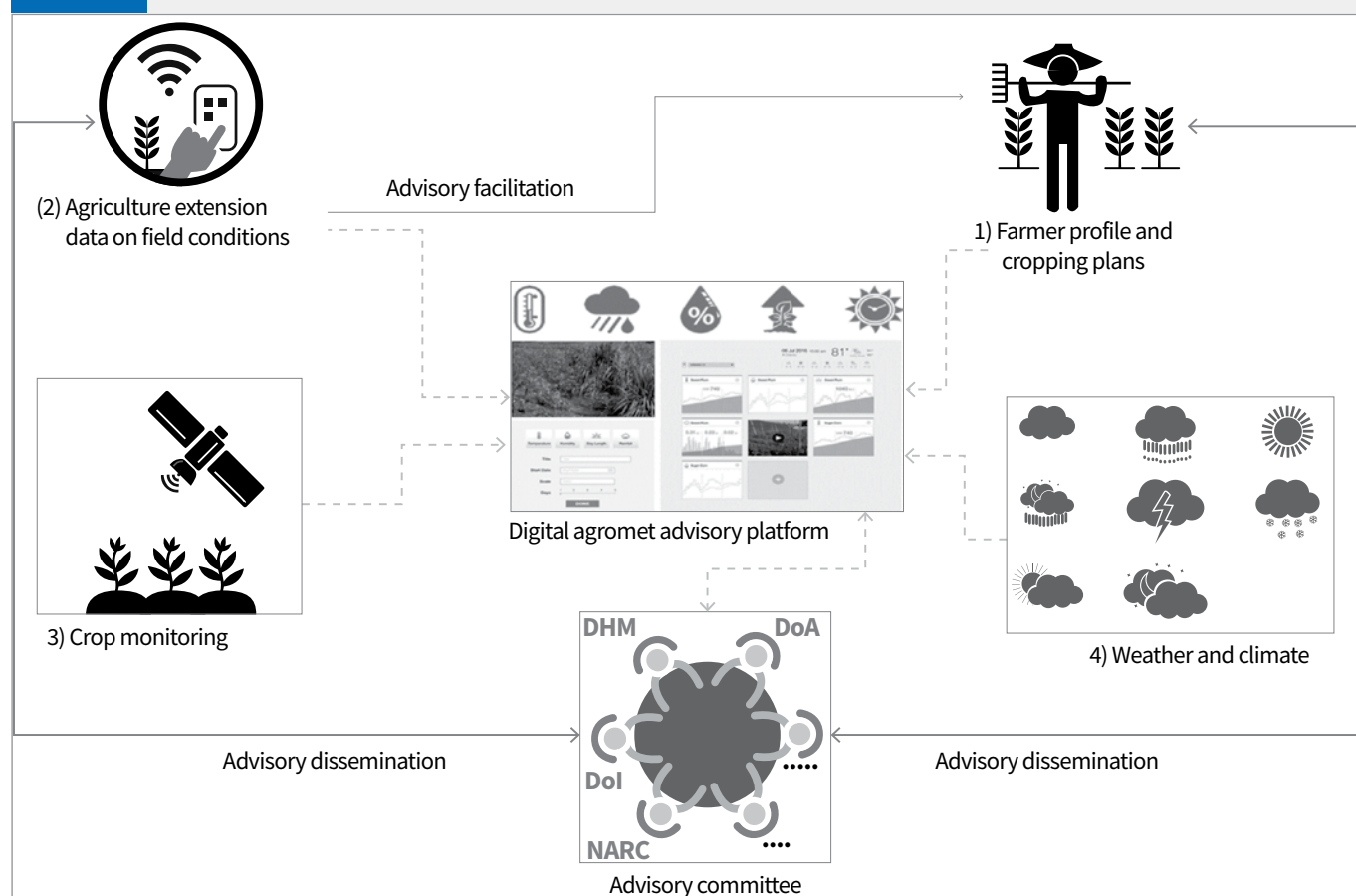


FIGURE 2

PRIMARY ELEMENTS OF LOCALLY CONTEXTUALIZED AGROMET ADVISORY

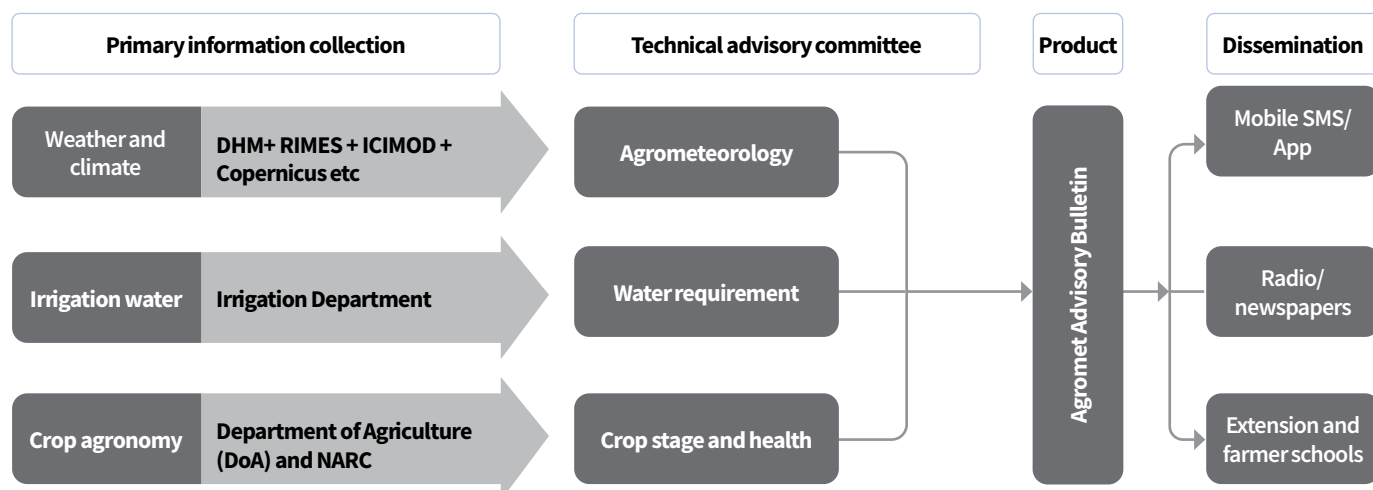
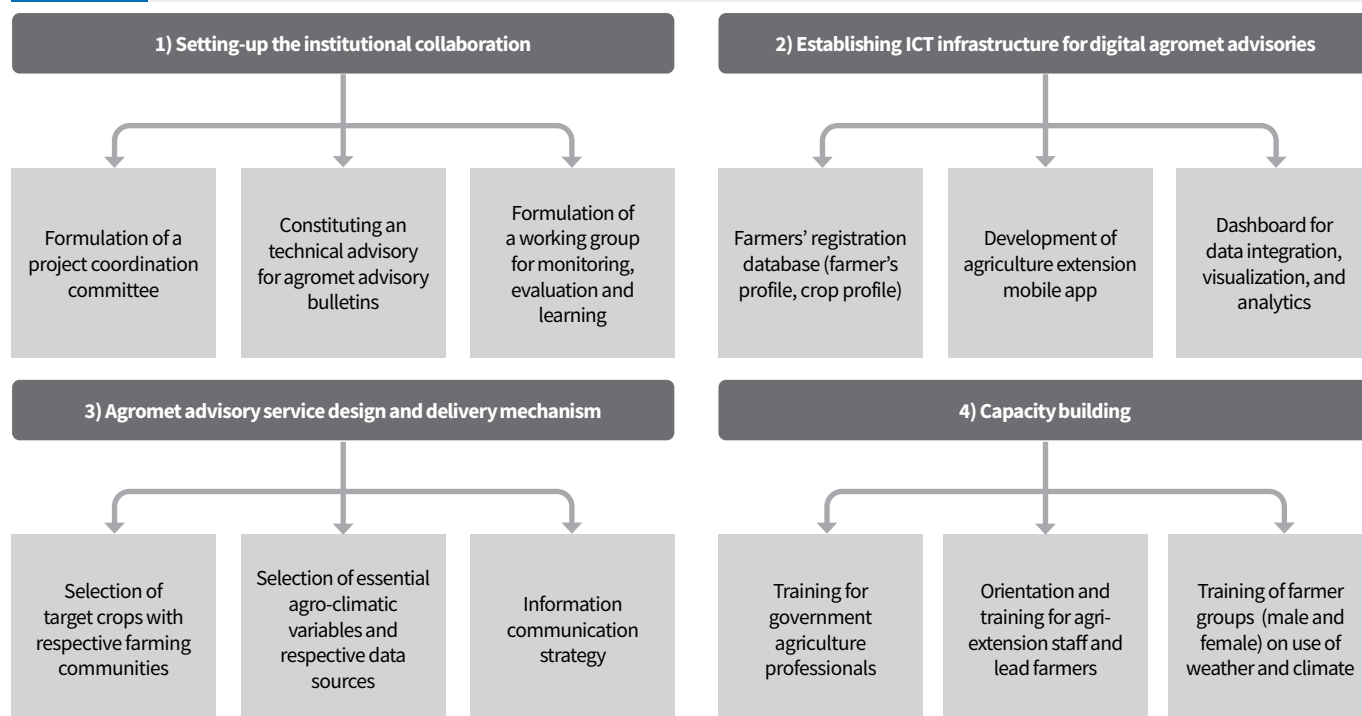




FIGURE 3

## THE STEPS INVOLVED IN SETTING UP THE LOCALIZED CLIMATE SERVICES FOR AGRICULTURE



The steps involved in setting up the localized climate services for agriculture (Figure 3).

Training modules will be developed to guide capacity development of agri-extension staff and farmers. The first module will orient local government service providers in integrating gender responsive climate services into the scheme of knowledge, skill, and technology dissemination, which are the mainstay of extension activities. Upon successful completion, the trainees are expected to acquire a collaborative and participatory perspective on service delivery. The second module will strengthen the scientific basis of cultural practices carried out during the production cycle. Factoring in climate information as necessary inputs enhances the productive potential of key agricultural commodities that are the mainstay of rural livelihoods and economy in Chitwan, Nepal.

## Project beneficiaries

Agriculture Knowledge Centre, municipalities, cooperatives, and individual farmers

## Project outcome

Improved capacity of local institutions, extension workers and farmers of Chitwan to integrate climate information services in their decision making

## Project outputs

Established mechanism to generate and deliver science-supported, timely, and locally relevant agromet advisory to support climate-responsive farming practices with feedback of climate services information

Digital agromet advisory dashboard and user interface platform in place

Increased capacity of women and men, government staff, extension workers and farmers to develop, maintain and use of climate information services

Established partnership and network for development and adoption of localized climate services information in Chitwan

## Ensuring sustainability

Adopting a co-creation and co-development approach, and engaging local partners like the AKC in Chitwan will ensure that we build on existing practices. Capacity building of stakeholders will also ensure the sustainability of the pilot. In addition, this activity can be integrated with the annual work plan of the AKC, local NGOs and farmers' cooperatives for continuity.

ICIMOD's Climate Services Initiative under the Regional Programme on Mountain Environment Regional Information System (MENRIS) is implementing a pilot project on localizing climate services in Chitwan, Nepal, primarily focusing on two sectors – agriculture and tourism. The three-year pilot project (2020–2022) is funded through UK Aid. The pilot aims to improve the capacity of stakeholders including local institutions, farmers, extension workers, tourism operators and guides in the agriculture and tourism sectors in Chitwan to integrate climate information services in effective planning and decision-making processes. This brief addresses climate services for the agriculture sector.

**For more information:**

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