

## Bhutan

Though the Bhutan agromet service system started in 2019 at the Extension Wing of the Department of Agriculture (DOA) and formally institutionalised, but on the operational aspect, much could not be done. Under agromet initiatives, there are number of issues and challenges. Two national agencies i.e., National Centre for Hydrology & Meteorology (NCHM) and DOA are jointly operating this service in Bhutan. All the weather observation data and weather forecast are received from NCHM. Presently, there is insufficient workforce in DOA to carry out mandated service. However, various organisations like Agriculture Research & Development Centre, National Plant Protection Centre, National Soil Survey Centre, Extension Division, IT Centre etc. are involved in this system. At present agromet service is at infancy stage in Bhutan. Agriculture Decision Support System (ADSS) prepared by RIMES for generating agromet advisory is being used on pilot mode in the country. This ADSS web portal is used for preparation and as well as dissemination of agromet advisories. Though some training is given, agromet advisories generated through ADSS is still not used at community level as it is in pilot mode operated in some districts and need for more validation. Research development, capacity building and training in IT application is essential for successful implementation of the program



**Manned Class A Station in Bhutan**

Because of insufficient and inaccurate data/information fed into the system, the performance of ADSS is not up to the mark. ADSS is developed on machine learning and the deliverables coming out of the system were tested last few years. It appeared that the information like crop calendar and other data should be rectified and it was also felt that ADSS alone would not serve the purpose, other areas should also be ventured. Though sizeable weather observatories are functioning, more weather observatories are required to carryout agromet advisory service in the country at district & block level. At present Government of Bhutan is focussing on the advancement of AGROMET system. Some funds like Green Climate Fund (GCF) which are also supporting the project. Under the support of World Bank. presently "A Roadmap for Strengthening of Operational Agromet Advisory Services in Bhutan" have been prepared for onward activities on operational Agromet Advisory in Bhutan.