Intelligent Agricultural Systems Advisory Tool (iSAT)

An ICT linked platform delivering context-specific, climate-informed agro-advisories at scale

Challenge and background

Lack of access to decision-making tools and digital services

Farmers in the Global South, especially smallholders face numerous challenges like climate variability and change, despite their critical role in ensuring food security, their adoption of climate-smart agricultural practices remains low. Mainly due to lack of awareness and access to digital tools and technologies, most of the farmers do not have access to location specific climate information and context specific decision making tools that equip them to identify and plan the best farming strategies and practices for their individual farms which directly impacts their productivity and livelihoods.

Recognizing this opportunity, **ICRISAT** and its partners have developed and piloted a digital platform **Intelligent Agricultural Systems Advisory Tool (iSAT)** that serves as a one stop solution centre for all issues related to climate, weather and agro-advisories.


Innovation

Intelligent Agricultural Systems Advisory Tool (iSAT)

The **Intelligent Agricultural Systems Advisory Tool (ISAT)** is a collaborative effort involving ICRISAT, Microsoft and the India Meteorological Department. Initially developed as a Sowing app, it evolved into ISAT under the **Monsoon Mission project, a joint initiative with IMD and the Indian Institute of Tropical Meteorology (IITM)**.

ISAT's primary objective is to provide farmers with timely and precise farming advisories, considering various location specific factors.

Reaching the farmers

ICRISAT strongly emphasizes on capacity building among various stakeholders and farmers for a successful uptake. Our tailored programs focus on educating farmers on the significance of weather patterns and their impact on agricultural decisions. A key aspect of our initiative is to involve and **empower women in agricultural decision-making processes,** recognizing their pivotal role in this sector.
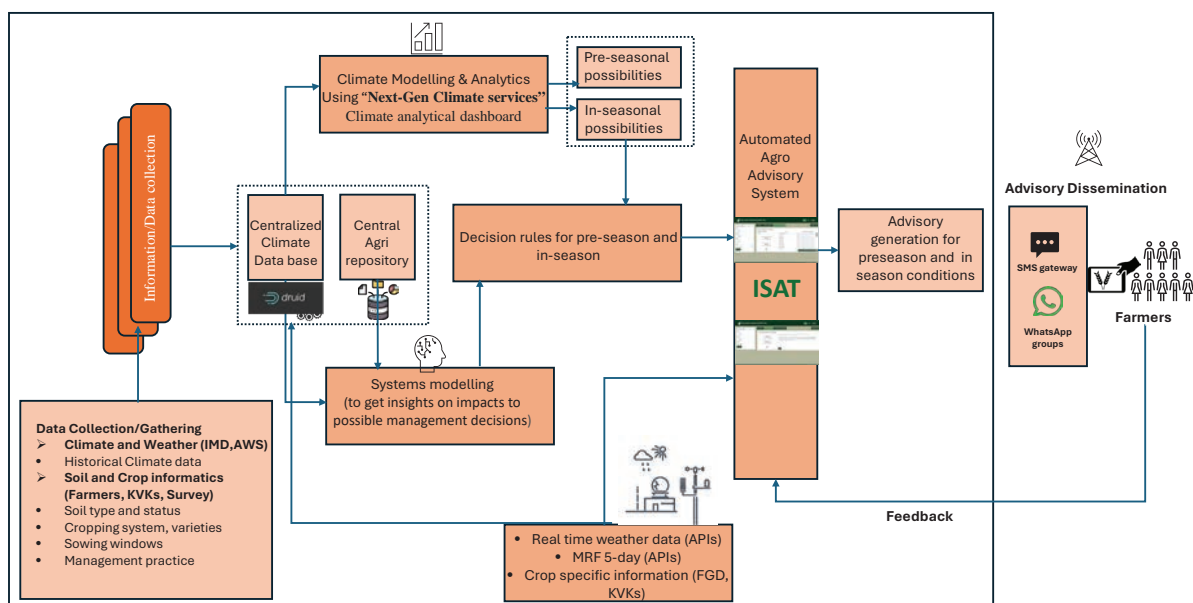
The advisory framework

ISAT's system effectively integrates with weather APIs, utilizing forecast, current and historical data from sources such as IMD or various independent stations to cover a range of weather conditions. Decision tree algorithms analyze this data to produce agronomy advisory content.

Impact

During **2017-2020**, a pilot study in Anantapur district, Andhra Pradesh, benefited **720** farmers over three cropping seasons. **80%** of the farmers used advisory information for harvesting decisions, **79%** for sowing, and **65%** for land preparation. Crop productivity increased by **1% to 56%** in climate-informed villages compared to uninformed ones. Under scaling-up activities in Odisha, **6,000** farmers from four blocks across two districts were onboarded. Awareness on the use of digital tools was also a key focus during the scaling-up efforts.

- Odisha
- Andhra Pradesh
- Maharashtra

For partnerships & collaborations

Dr Shalander Kumar
Deputy Global Research Program Director- Enabling Systems Transformation
Cluster Leader: Markets, Institution & Policies, ICRISAT
Shalander.Kumar@icrisat.org

Dr ML Jat
Global Research Program Director
Resilient Farm and Food Systems, ICRISAT
Mangilal.Jat@icrisat.org

Voice from the field

📞 I have been sharing the advantages of receiving these messages with my neighbors in the village. These messages help me in planning my farm operations and guide my decisions about land leasing.

These messages give me confidence about my decisions.

Nazeer Ahmed
Farmer, Hussainapuram Village,
Kurnool, Andhra Pradesh

I have a smart phone but I don't know about useful agri apps and how to use them. Trainings and more awareness programs focused on how to use these digital tools would be incredibly helpful,"

Tikadhar Majhi,
Farmer from Gajapati, Odisha.

The original quote was provided in Odia and has been translated into English to reach a broader audience.

Publications

- https://oar.icrisat.org/11074/
- https://www.sciencedirect.com/science/article/pii/S2405880723000651
- https://pressroom.icrisat.org/raising-awareness-of-isat-climate-information-services-in-odisha

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