What is AgroTutor?

AgroTutor is positioned as a digital public good for agri-food systems in the global south. It is an AI-driven, open architecture, decision-support solution that enables the demand and scaling partners to seamlessly reach to smallholder farmers with no or minimal digital infrastructure. It improves the livelihoods of smallholder farmers in the global south by providing them with accurate, context-specific recommendations and best practices that help increase their productivity, yield, and income.
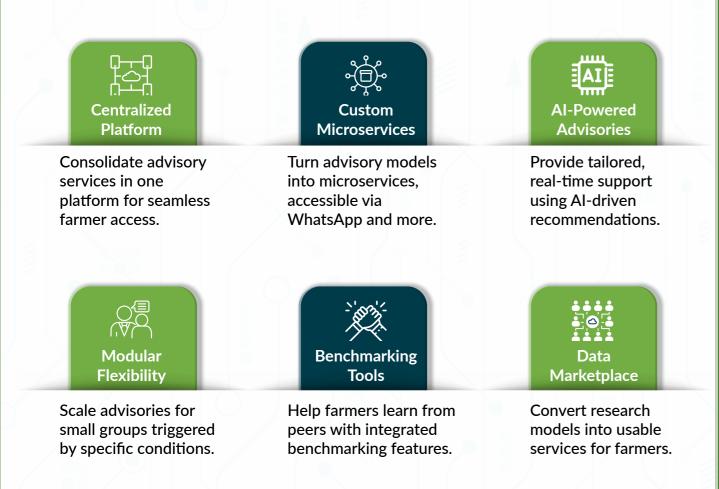
Why was AgroTutor developed?

Smallholder farmers in the Global South often need more knowledge and resources to improve their farming practices and implement innovative farming techniques. Many demand and scaling partners invest in developing systems to reach these farmers. AgroTutor gives these partners a common platform and framework that they could take and deploy to maximize effective reach to smallholder farmers. AgroTutor helps minimize reinventing the wheel and build efficient systems.

AgroTutor reduces information clutter and improves smallholder farmers' access to relevant information. It serves as an integrated platform for all farming service providers, thereby saving farmers from the hassle of downloading multiple applications that provide limited or generic recommendations that are confusing and difficult to implement.

AgroTutor provides user-centric, localized solutions keeping the global south in mind. Through AgroTutor, smallholder farmers get quick and reliable answers to their queries in their local languages. It helps them access expert advice through their phones from the comfort of their homes. Additionally, farmers get detailed information on how to integrate context-specific best practices to increase their yield and improve their livelihoods.

How Advisory Service Providers and Scaling Partners Can Leverage AgroTutor?

Streamline Advisory Delivery and Empower Farmers with the AgroTutor Platform:

Centralized Platform

Consolidate advisory services in one platform for seamless farmer access.

Custom Microservices

Turn advisory models into microservices, accessible via WhatsApp and more.

AI-Powered Advisories

Provide tailored, real-time support using AI-driven recommendations.

Modular Flexibility

Scale advisories for small groups triggered by specific conditions.

Benchmarking Tools

Help farmers learn from peers with integrated benchmarking features.

Data Marketplace

Convert research models into usable services for farmers.

How was AgroTutor developed?

Following the key principles of digital development, the AgroTutor platform follows a human-centered design and deploys the spiral approach to develop AgroTutor to provide tailored, context-specific advice to resource-poor farmers.

Since then, AgroTutor has expanded to diverse regions through pilot programs in India, Malawi, and Mexico.

Features of AgroTutor

CIMMYT's AgroTutor has been developed with the the following characteristic features:

Decision-support solution

AgroTutor digitalizes farming advisory services to make them easily accessible for smallholder farmers in the Global South, thereby promoting regenerative agriculture and sustainable agri-food systems.

Flexible architecture

AgroTutor's interoperable nature allows advisory service providers to create project use cases and publish research models. As a result, AgroTutor uses multiple data sources and models for creating microservices.

Digital public good

AgroTutor serves as an integrated platform for digital advisory service providers. Its open architecture makes AgroTutor a common model and data marketplace and enables the creation of microservices for farmers.

Multi-model delivery channels

AgroTutor is available on the phone, both offline and online, depending on the location, needs, and context of the farmers. WhatsApp functions as the primary delivery channel of AgroTutor.for cultivation.

AI-driven

AgroTutor's AI-driven models are calibrated for different crops and regions to provide farmers with accurate context-specific advisory services.

Crowdsourced data

AgroTutor collects farmers' data via their input parameters, which are then used for peer-to-peer comparison. This data helps farmers share knowledge and experience to determine context-specific best practices for cultivation.

Six Core Modules of AgroTutor

AgroTutor works as a digital public good for advisory service providers as well as a decision-support solution for smallholder farmers. It spans across six core modules.

Peer-to-peer strategy comparison

AgroTutor helps farmers learn from each other and adopt best practices to improve their yield and income.

AgroTutor's crowdsourced data can be used by the farmers to determine effective strategies used by their peers in similar situations. These strategies can then be implemented on their own farms to increase productivity, maximize yield, and improve their livelihoods.

Recommendation logic builder

Generalized and blanket digital recommendations cannot be actionable and feasible for farmers. Each farm has variations in terms of agroclimatic type, crops grown, sowing time, soil type, and area of cultivation, which may need to be considered while sending the advisory. This is where AgroTutor enables the knowledge partners to frame the logic to tailor context-specific messages to the farmers.

By using the logic builder, the recommendation now can be specific to the farmer's condition. Integrating the calendar into the logic will allow the dispatch of timely advice at critical stages of crop development enhancing productivity.

AI-driven, audio-based GPT

AgroTutor gives farmers quick, accurate, and reliable responses to their varied queries, that too in their local languages. This is made possible through AgroTutor's AI-driven, audio-based GPT wherein farmers can send their audio-based queries through their mobile phones. The answers are generated using a specially curated, context-specific knowledge corpus, which helps farmers receive responses that are region-specific and actionable.

AgroTutor's AI-driven GPT uses trusted information sources to provide helpful responses to farmers' queries and reduces the burden placed on extension workers.

Common model and data marketplace to create microservices

Collaborative pooling of crop models and data will allow the researchers to accelerate the innovation. It will enable the researchers to access data from diverse agro-climatic zones, increasing the robustness of the crop models. The models can be calibrated and validated with large datasets.

The models can then be adapted as microservices within the AgroTutor to build a tangible output as use cases. Microservices like yield prediction and resource management will enable the farmers to anticipate the potential effects of weather variability and mitigate them using management strategies accordingly. Crop models as microservices will enable the researchers to deploy their models across platforms fostering innovation and experimentation.

Technical assistance and expert advice

AgroTutor helps farmers access expert advice and technical assistance from the comfort of their homes through mobile phones or the web. This facilitates the easy escalation of queries to the subject matter specialist if the technical staff find it difficult to solve them. All types of media can be used, including audio, video, images, and documents.

If the response received to their query from AgroTutor's AI-driven GPT seems insufficient, farmers can get further technical assistance from AgroTutor's experts through WhatsApp.

Advisory scheduling mechanism

AgroTutor makes issuing advisories easier and more convenient for advisory service providers. It enables them to preset parameters, and based on the context, the messages can be delivered to farmers at critical times in the farming process. This enables farmers to plan their crops better, optimize resources, and take preventive measures, reducing crop losses and ensuring better yields.

AgroTutor For Farming Advisory Service Providers

CIMMYT welcomes all advisory service providers/ scaling and demand partners to use AgroTutor — our AI-driven integrated marketplace for farmer advisory services.

You can develop project use cases and publish research models, establish input and output parameters for context-specific recommendations, create micro-groups, send advisories or schedule them well in advance, and reach out to farmers easily— all through AgroTutor.

About Us

CIMMYT or the International Maize and Wheat Improvement Center, is a cutting-edge, non-profit, international organization dedicated to solving tomorrow's problems today.

As a core CGIAR research center, CIMMYT fosters impactful multi-level partnerships to solve critical global challenges such as food insecurity and malnutrition, climate change, and environmental degradation.

To successfully implement CIMMYT's 2030 strategy, we work on scaling research and innovation for capacity building, innovations, and policy through systems transformation, genetic innovation, and resilient agri-food systems.

Contact Us