



# Niruthi Climate and Ecosystems

Founding year: 2011  
Country in Operation: India

Niruthi is an Agritech company that offers solutions for monitoring, modeling and forecasting crop conditions through location-specific weather, crop health and crop yields. An array of tools and technologies derived from the Terrestrial Observation and Prediction System (TOPS, developed at NASA) is employed to capture and synchronize data from satellites, mobile phones, drones and automated weather stations to enable machine learning on cloud computing platform. Niruthi provides field-level insights needed by farmers, financial institutions, insurance companies and government agencies.

## Innovations

Niruthi provides field-level insights using big data analytics and Artificial Intelligence (AI) for applications in remote sensing and climate analysis to improve rural livelihoods. Niruthi's technology captures and combines fine scale data from satellites, weather stations, mobiles into sophisticated crop growth models empowered by advanced analytics. The data-to-decision analytical tools provided by Niruthi serve the insurance industry in a variety of ways in their business processes. Its CropSnap app allows for farmer enrollment in the insurance schemes and claims settlements via self-reporting with 'estimate by photo'. Its API services provide continuous crop assessments and crop advisories derived from the data-model assimilation system as well as create insurer's basis risk profiles by analyzing long-term historical climate and satellite data. Based on Niruthi's data intelligence, the company also provides insurers with loss forecasts, yield estimation and smart sampling schemes to identify geographic areas for insurers to conduct their own field surveys. Niruthi is currently working with the insurance companies such as National Insurance, Oriental, Chola, New India and Bajaj.

## Partnerships and Next Steps

Over the years, Niruthi has established partnerships with local and regional agricultural research institutes, the electronic National Agricultural Markets of India, and farmer producing organizations, to obtain farmer level data and agronomic knowledge to be used in modeling assumptions. Close working relationships with these organizations help Niruthi to test its technologies and quickly assess their potential. In addition, the company actively works with various local and state governments, mainly in crop yield monitoring through crop cutting experiments. These partnerships allow Niruthi to gather large amounts of high-quality data to test and improve various algorithms.

Niruthi considers rural banks to be one of the most important stakeholders in the insurance ecosystem. Often, crop insurance products are mandatory for loanee farmers in India. Because of the existing relationships between loanee farmers and financial institutions, partnering with them provides an ideal platform for enrolling farmers and enabling payments of premiums and settlements. Niruthi has been actively working on developing pilot studies with some of the rural banks to assess a variety of issues related to data security and business value.

In the short-term, Niruthi plans to enhance its algorithms to work on more crops, including horticulture and minor crops. In the mid-term, Niruthi will continue to create new services based on the core technology to improve access to credit markets, allow financial transactions such as premium collection and claims payout through the CropSnap app, provide market linkages and offer smart farm management that will utilize data and insights to minimize resource use and maximize yield. The long-term objective is to create a platform for agriculture, serving the entire agro-ecosystem with farm-level insights that can be aggregated to meet various stakeholder needs from farmers to financial institutions.

## Contacts

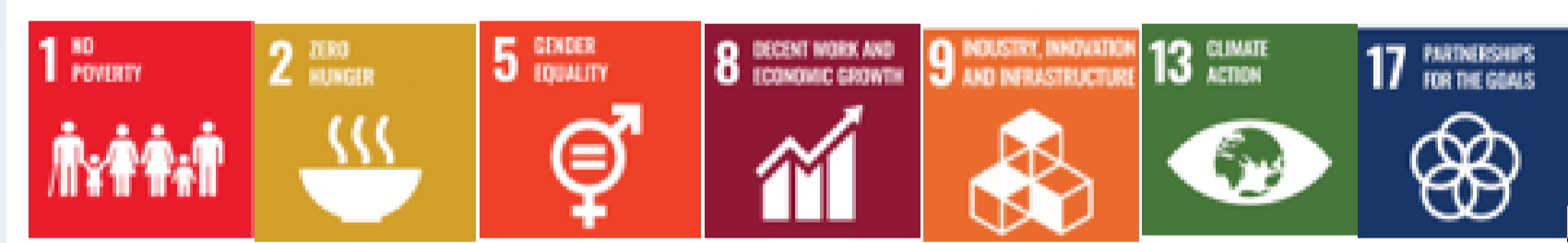
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## About the Agriculture Insurtech Challenge

The path to unlocking the full potential of agriculture insurance in improving livelihoods of 2.5 billion smallholder farmers, often poor and marginalized, comes with various challenges. Whatever changes the world undergoes in the coming decade towards the realization of SDGs by 2030, our progress can only be meaningfully measured against the welfare of those individuals. Purpose-led entrepreneurs and social enterprises perceive challenges as opportunities to stimulate creativity, progress and value creation as they envision and create a new reality, leveraging the benefits of technology. To partner with such innovators to advance insurance in rural Asia, GIIF organized an agriculture insurtech innovation challenge in 2019 to best select and endorse Asian-grown enterprises. Out of 100+ applicants, 9 startups won the financial support in the three categories: Data & Analytics, Sales & Distribution and Premiums & Claims.



## About the The Global Index Insurance Facility (GIIF)

The Global Index Insurance Facility (GIIF) is a dedicated World Bank Group's program that facilitates access to finance for smallholder farmers, micro-entrepreneurs, and microfinance institutions through the provisions of catastrophic risk transfer solutions and index-based insurance in developing countries. As of 2019, GIIF's regional partners have facilitated approximately 7.6 million contracts, covering close to 38 million beneficiaries primarily in Sub-Saharan Africa, Asia, and Latin America and the Caribbean. GIIF's objectives are to provide access to financing for the vulnerable; to strengthen the financial resilience of the poor against the impact of climate change and natural disasters, and to sustain food production for local communities and larger markets.

