

## 3.1 Designing Climate Resilient Agricultural Systems with Digital

Climate risk is a major and growing challenge faced by farmers and agricultural industries. The burden of that risk falls disproportionately on the poor and small-holder farmers. Although there are national and state level plans for climate change, local implementation of adaptation at village, district or panchayat level are absent in most states. Rural development remains a community-driven imperative.

*Stake-holders, policy-makers and institutions need to come together to redesign farm systems, taking into account historical and future climate analyses, resilience and market opportunities, to enhance adaptive capacity.*

Climate knowledge is key. Incorporating it into context-specific advice for farmers remains a challenge. TIGR<sup>2</sup>ESS researchers from CRIDA, ICRISAT, IITM and IMD have crafted an advisory system, NextGen Agro-met to be a one-stop shop that combines data from multiple sources, visualising and integrating it into one-easy-to-read dashboard data, making it easier for extension services and the private sector to design climate-smart options.

The system sends out tailored advice in the form of text messages. A farmer or extension officer can also dial up information for their block to understand where they are in history and where forecasts are indicating specific actions. The system has spun off into a number of apps developed with partners all over India.

TIGR<sup>2</sup>ESS researchers in northern Telangana also worked with stakeholders on a multi-criteria analysis to develop an index for northern Telangana that listed all of the climate smart agricultural practices as well as the sources of capital, machinery, policy etc that would be needed to support them.

They designed mapping to visualise current cropping systems (see below) and how they might be changed for the future. This analysis and mapping could be replicated in other states of India to guide local policy on climate-smart agriculture.

*'The soul of India lives in its villages.'*  
**Mahatma Gandhi.**



Farmer using Plantix app on his phone.

*'Digital is a game changer: information on climate, markets, regulation, inputs, credit, insurance, etc. combined are bringing risk down for the smallholder.'*

### Anthony Whitbread, ILRI

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