

Eradicating pests and disease with an unique mobile application

Farmers in Vedaranyam Block, Nagapattinam district, Tamil Nadu, find need-based solutions with PANNAI App

Track my crops

Context ●●●

The coastal agro-ecosystem is a fragile ecological systems and highly vulnerable to the impacts of climate change. Crop productivity in this zone is well below the state average. Fertility status of the soil is moderate to poor, and a large area is under rainfed cultivation coupled with irrigation during summer season with small ponds and shallow borewells. The cropping intensity ranges from 100 to 200 percent. Paddy is the predominant crop in this region during monsoon season followed by pulses like blackgram and greengram in summer season. Apart from this, tobacco, jasmine and casuraina are cultivated. Vegetables like cluster bean and brinjal are cultivated in summer season using water from small ponds. More than 90% of the farmers are small and marginal landholders, facing different kinds of risks in agriculture. Of the several risks-insect and diseases incidence is the most critical factor in reducing the yield in the region up to 40 percent. The study by International Rice Research Institute also indicated that on an average a farmer loses 37 percent of rice yield to insect and diseases (IRRI, 2012). There is insufficient skill among men and women farmers in identifying insect/disease infection, and knowledge to make informed decisions on pest management. They largely depend on local agro input dealers to get advice and inputs, which encourages indiscriminate use of pesticides resulting in ineffective pest management, increased production costs, and negative environmental impact.



●●● Intervention

MSSRF developed the android-based PANNAI app (Pest – disease Advance Notification and Need-based Agriculture Information) using the novel GIS-based insect/disease forewarning systems with weather variables to build capacity of men and women farmers in integrated pest management. Agro advisories and forewarnings were customised for farmers by modelling the automatic weather station data and other related data. Capacity building programmes were conducted by scientists on handling pest and disease infection, and the use of appropriate pesticides / fertilisers to increase productivity.

An unique 'Track my crops' module was introduced in the app for farmers to capture pictures / videos of crops at various stages and post them with queries. Solutions were notified to farmers by audio and text that was particularly useful during COVID -19 situations. The PANNAI app is being used by 1000+ farmers in and around Vedaranyam for management of their farm lands. Agro advisories and weather alerts were issued through voice SMS to 2500+ farmers across project villages in Vedarnayam block.

1000 +
farmers





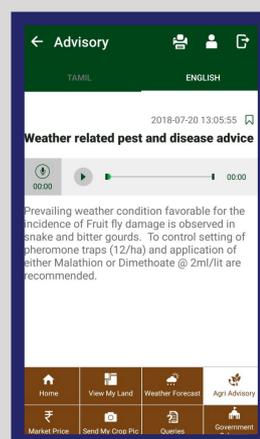
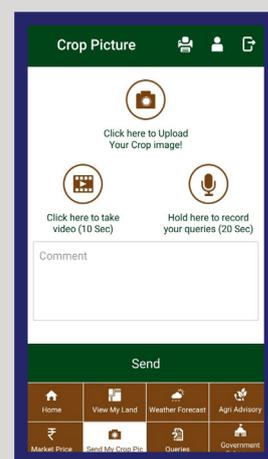
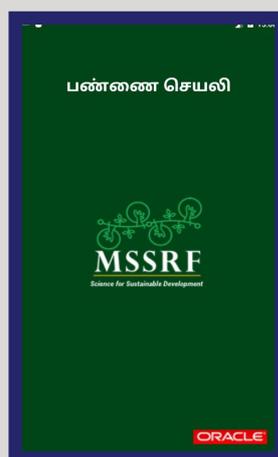
Cadastral and FMB



Outcomes

- Build the capacity of the small and marginal farmers in integrated pest management and usage of ICT-based tools.
- The only app that has the Cadastral and FMB (Field measurement boundary) land-level information about the farmers is over-layed with high resolution satellite images for the selected project villages.
- The PANNAI app was very useful for the farming communities during the COVID -19 pandemic. They received advice and interacted through voice and video messages comfortably with the scientist and agronomist.
- Reduced usage of pesticide and increase income and productivity.

“Pest – disease Advance Notification and Need-based Agriculture Information”



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