

# Samrakshane: Portal for Crop Insurance

## Providing End-to-End Management Solution

Samrakshane is an online portal providing end-to-end e-Governance solution for managing the crop insurance activities under both PMFBY & MWBCIS. The software has successfully secured 16 lakh enrolments which is a sharp increase from 35% to 94% in terms of the coverage for Rabi crops.



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**A**ccording to World Bank, approximately 60 percent of India's land area is used for agricultural purpose making India second largest in terms of agricultural land availability. Major chunk of this agricultural land is rain-fed (60% of total agricultural land) and India ranks first among the rain-fed agricultural countries. Due to unpredictable monsoons there is constant threat to sustainable agricultural production. To bring certainty in agricultural income, the Government of India along with respective state governments has come out with crop insurance schemes which address the sufferings of the farmers and provides compensation arising out of crop loss/ damage. There are two schemes under which farmers can insure their crops namely Prime Minister's Fasal Bima Yojana (PMFBY) and Modified Weather Based Crop Insurance Scheme (MWBCIS).

National Informatics Centre, Karnataka State unit has designed, developed and successfully rolled out an end-to-end e-Governance solution named SAMRAKSHANE (meaning PROTECTION) for Agriculture and Horticulture Department to handle crop insurance activities under both PMFBY & MWBCIS.

### OBJECTIVES

- To create a transparent and farmer friendly system for enrollment, registering claims, compensation calculation and payment of compensation to farmers under the Crop Insurance Scheme (both PMFBY & MWBCIS).
- To simplify and speed up the disbursement of claims to within two to three months from the harvest date and credit the same directly into the farmers' Aadhaar linked account.
- To facilitate transparent conducting of crop cutting experiment involving all



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NIC, Bengaluru has developed brilliant system using 'Bhoomi' land records IT system and Aadhaar to create Samrakshane - aptly called to manage these huge operations. The State Government was able to settle the claims in less than 2 months after the close of the Khariff 2016 season and also conducted about 25000 CCE using Mobile App.

It shows that NIC can handle any challenge provided administrators also put their best effort. Kudos to NIC – Long live.

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**RAJIV CHAWLA, IAS**  
Additional Secretary  
Government of Karnataka

stakeholders and publishing the videos and photos of the conducted experiments.

- To prevent unscrupulous people from

**Samarakshane**

Different levels of integrations achieved in Samrakshane

Homepage of Samrakshane portal

misusing the scheme by registering request on others' land or by registering multiple times on their own land or by registering for crops which they have not planted.

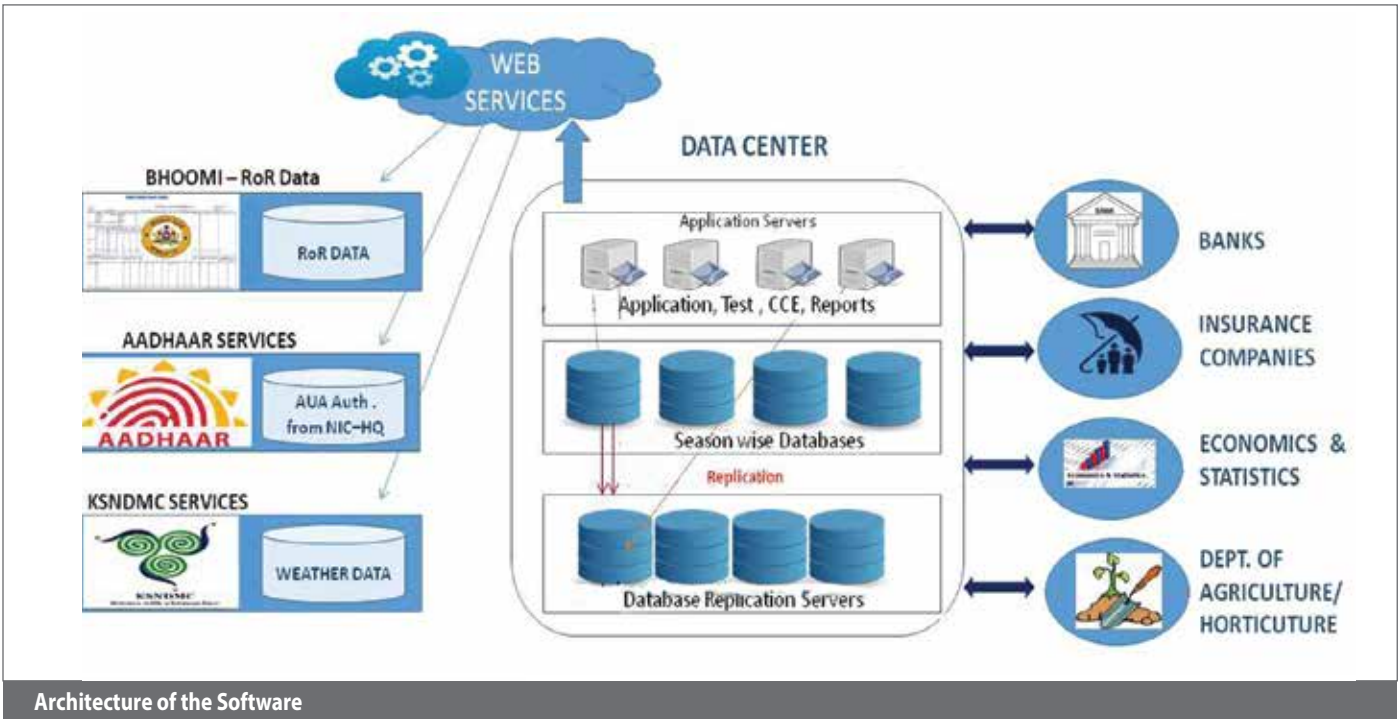
- To capture digitally the Term Sheets used for payout calculation in WBCIS on relational database and to use weather data picked up electronically from Karnataka State Natural Disaster Management Centre (KSNDMC) for automating payout calculation.

**SALIENT FEATURES OF SAM-RAKSHANE**

- Facilitates Agriculture/ Horticulture Department to generate crop insurance gazette notification.
- Facilitates Banks, Insurance Channel Partners, Raitha Samparka Kendras (RSKs) to enrol for crop insurance under PMFBY & MWBCIS.
- Enables Agriculture & Horticulture

Department for issuing prevented sowing and Mid-term adversity notifications.

- Farmers can raise claims for localized risks and post harvest losses themselves without calling help desk or visiting banks.
- Automatic generation and assignment of crop experiments based on randomization technique to pick plot for conducting crop experiment.
- Crop cutting experiments (CCEs) using



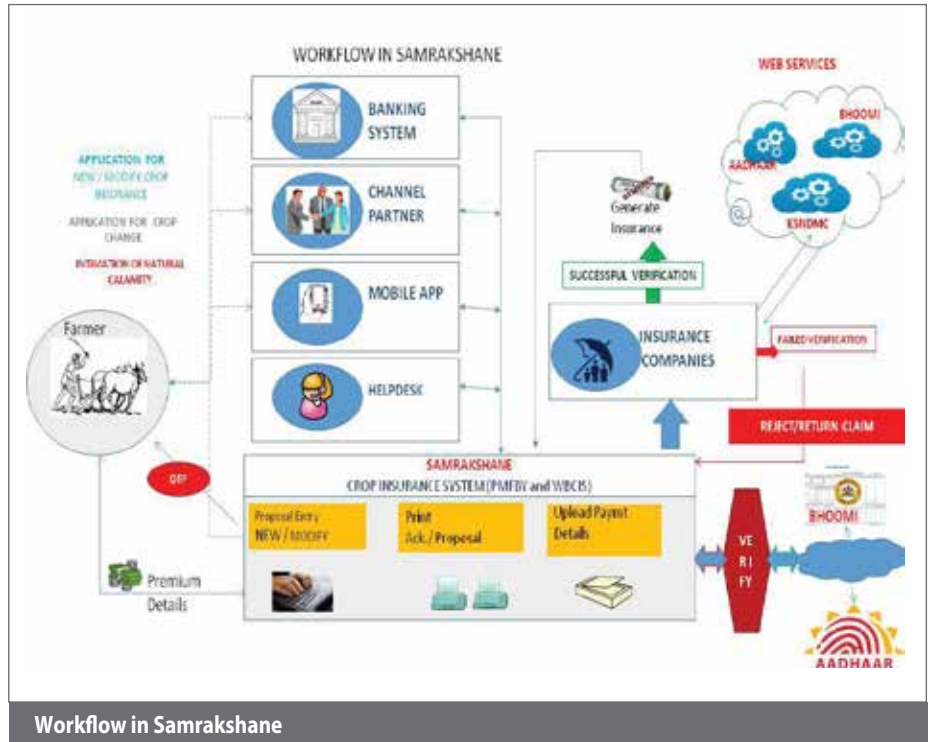
Architecture of the Software

Android based mobile App. With facilities to capture geo-coordinates, photos and videos.

- Compensation calculation fully automated using actual yield obtained from CCEs after applying area discrepancy factor.
- Insurance companies have facility to acknowledge enrolments, view compensation details, approve the same and access various reports. Insurance companies have been provided with web service to update payment details back to Samrakshane.
- Term sheets have been captured digitally under MWBCIS and compensation calculation automated using electronically received weather data from Karnataka State Natural Disaster Management Centre (KSNMDC).
- SMS sent to farmers at all important stages.

### ACHIEVEMENTS

- 10 lakh enrolments in Khariff 2016 (5% increase in enrolments in first season)
- 16 lakh enrolments in Rabi (up from 35% to 94% coverage)
- Process cycle time for compensation payment reduced almost by 10 months. Payment of Bidar district completed on 14-02-2017
- Integrated with Aadhaar for facilitating Direct Benefit Transfer
- De-duplication of land achieved with electronic data exchange with BHOOMI (RoR database)
- Crop Cutting Experiments conducted using 14,000 Mobile devices and facilitated District Magistrates with alert system in case of exorbitant yield figures.
- 9000+ bank branches ( two users each),



1000 RSKs (Raitha Samkaraka Kendras), Insurance companies, District Magistrates, District Statistical Officers, Joint Directors of Agriculture, Deputy Directors of Horticulture, Director, Department of Economics and statistics, Development Commissioner, Addl. Chief Secretary (Horticulture), Secretary (Agriculture) etc. are using the application

### TECHNOLOGY PLATFORM

- Front end forms are developed using ASP.net with C# as scripting language using framework 4.0
- Backend database is MSSQL server 2008 R2
- Local language interface using Unicode.

- Android SDK API Level 24

### THE WAY AHEAD

- Grama Panchayats will be enabled to enrol crops under PMFBY & MWBCIS using digital payments/ Aadhaar Enabled payment.
- Automation of notification generation based on the crops grown in different insurance units using past season's data.
- Integration of mobile App with digitized village maps for validation of CCE location and verification of enrolment data to avoid area discrepancy factor.
- Controlling the enrolment period, sowing period, prevented sowing cut off dates, mid-term adversity cut off dates, allowed period for post harvest loss claims and localized risks through configuration file district wise and crop wise to take care of different agro-climatic zones of the state.



Hon'ble Chief Minister, Shri Siddaramaiah felicitating Shri Vinaya B, SIO-Karnataka and Samartharam N.R., Scientist-D, NIC

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