

# **mKisan Short Message Services: A Cross Sectional Analysis in Tamil Nadu**

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## **Introduction**

Our forefathers have been imbibed by the methods of farming since their birth. At recent times, the problems of chemicals and the change of climate require new methods with mechanized application systems. The evolution of modern technologies in recent times with the help of SAUs / ICARs/ Other Research Institutes is not reaching the farmers effectively due to one or other problems in communication process. This can be effectively addressed through various Information and Communication Technology (ICT) tools. An ICT is any device, tool, or application that permits the exchange or collection of data through interaction or transmission (**World Bank Report, 2011**).

Individual farmer needs will vary from each other based on the resource existence and crops cultivated. In country like ours, to cater the information needs of farmers with the available extension officials is impossible due limited number of extension functionaries. Due to this condition, there is a huge gap in getting the appropriate technological information such as source of inputs, pest and disease, irrigation and market information. The only way the farmers can be informed about the technologies is by efficiently utilizing the mobile services. And also, mobile messaging is the most effective tool so far having pervasive

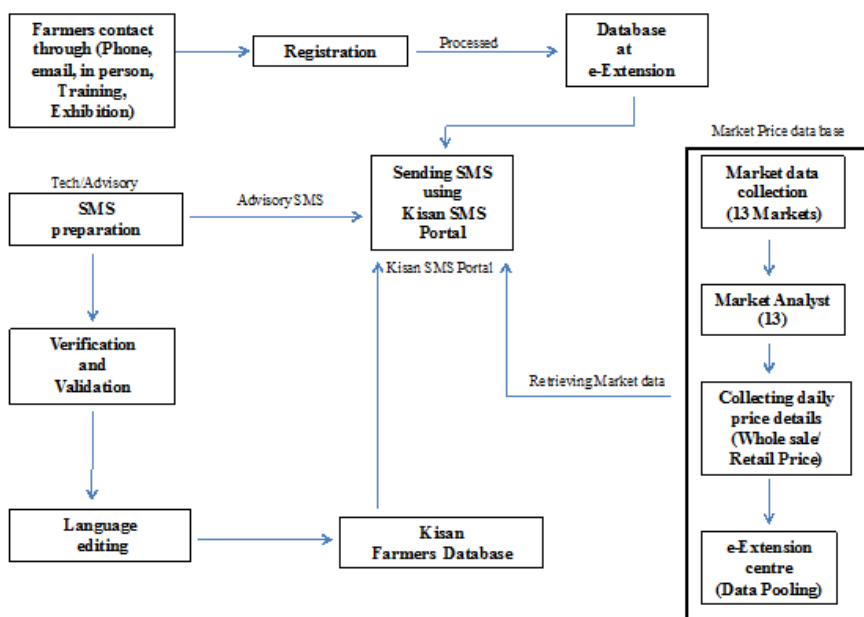
outreach to nearly nine crore farm families. The individuals at the 21<sup>st</sup> century one or other way use any one of the ICT tools for transferring, receiving or processing of information. So, these ICTs and others have gained traction even in impoverished regions. The increases in their affordability, accessibility, and adaptability have resulted in their use even within rural homesteads relying on agriculture (**World Bank Report, 2011**). The most common available and accessible ICTs are the mobile phone and the radio (**Chapman et al, 2003; TCRA, 2011**). The role of ICT is important for the development of economy in enhancing the effectiveness of market, productivity and competitiveness (**Jayade, 2014**).

In order to exploit the uses of ICT in transferring the information to the needy farmers, Ministry of Agriculture and Cooperation, Government of India implemented a central Farmers Portal (<http://farmer.gov.in/>). The farmer portal was commissioned on 16<sup>th</sup> July, 2013 by the honorable President of India on the occasion of ICAR, Foundation day at New Delhi. The Central and State government organizations / institutions in agriculture and allied sectors are alone to be enrolled in that portal and authenticated to provide information / advisories to farmers by sending SMS in their local language. The Directorate of Extension Education has used this service provided by the Farmer Portal to send the advisory and the price details of selected horticulture commodities in major markets by maintaining the registered farmer's database across the state. It also provides information / services / advisories to farmers by sending SMS in local language, with preference to the location specific agricultural practices for the requested farmers since August, 2013. Later the Department of Agriculture and Cooperation

(DAC), Ministry of Agriculture, New Delhi launched another unique initiative named mKisan portal (<http://mkisan.gov.in/>) exclusively for SMS service during 2014-15. This paper highlights the effectiveness of using mobile SMS services in transforming the lives of farmers in the state of Tamil Nadu.

### **Technology Message Platform**

The Farmer Portal / mKisan and its usage are basically an SMS based portal for availing and sharing the SMS services. In this case, the farmers mobile numbers were stored in the database are retrieved accordingly to the selected district or region and the crop. The farmers mobile numbers are collected and validated by the Department of Agriculture, Govt. of Tamil Nadu under AGRISNET (<http://www.tnagrisnet.tn.gov.in/>) and Farm Crop Management Scheme (<http://tnagrisnet.tn.gov.in/fcms>). The subjects of message are selected based on the current problems and scientific advisories released by TNAU. In addition the issues mentioned in the newspapers and other magazines related to agriculture and allied subjects. The message in the above aspects of solution pertaining to the prevailing problems has been prepared by experts in the e-Extension centre and approved by the scientific advisor. The system also provides the facility of giving technology advisories to take right decision on right time.



**Figure.1. Flow Chart of mKISAN Portal Service**

For registering in KISAN SMS portal, farmers may contact through phone, e-mail, in- person, during training, exhibition and other gatherings. The datum is processed and database has been created. The language will be further edited and farmers' database will be created. Later the technology message will be sent to the registered famers through mKISAN SMS portal.

### **Dynamic Market Information**

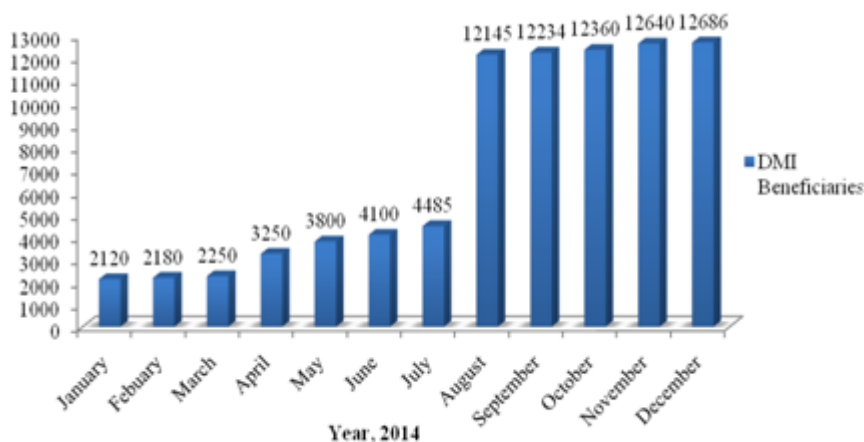
Dynamic market information (DMI) service is one such initiative which using Short Message Services to provide market related information to farmers and related stakeholders on daily basis. DMI is a collaborative effort of Tamil Nadu Agricultural University, Coimbatore and Initial experimentation with India Development Gateway of C-DAC, MIT, Hyderabad and later supported by RKVY, Government of India to

provide reliable daily market prices of perishable commodities covering major markets in and around of Tamil Nadu. Wholesale and retail prices of more than 160 commodities (68 vegetables, 34 fruits, 37 flowers, 13 spices and 8 plantation crops) from 13 major markets (Coimbatore, Ottanchatrum, Trichy, Kumbakonam, Madurai, Panruti, Thalivasal, Chennai, Mettupalayam, Tirunelveli, Hosur, Bangalore, Cochin) in South India are collected by Market Analysts. The collected wholesale and retail price information along with variety wise details are updated in TNAU AGRI TECH Portal before 10.00 am on daily basis with database. The wholesale price information alone sent to the registered farmers through Mobile phones with the support of mKisan SMS gateway. The beneficiaries of DMI include farmers, farmers association, farmers' federation, Extension officers, Agri clinics Consultants, Fruit and vegetable processing units. The sum of the daily beneficiaries for each month was calculated for the year 2014, pooled and represented in a graph to analyze the total beneficiaries in technology message and daily market information. The information about the beneficiaries and the database of market prices are maintained at TNAU AGRI TECH portal. The database in portal is used to analyze the highlights of the mobile short message services by farmers of Tamil Nadu.

### **An Analysis**

SMSs to be sent to the farmers can be broadly classified into two categories, viz. information, services and advisories. The content may include information about the schemes; advisories from the experts, market have been grouped based on the State, District, Block and the Crops /Activities selected by a farmer. Grouping of farmers based on

their location and their preferred crop / activity will help sending relevant messages to the farmers. The system is capable of sending messages in regional languages also. The number DMI beneficiaries of the year 2014 month wise is given in following figure 2.



**Figure 2. Beneficiaries of Daily Market Information (DMI) – 2014**

It is noticed from figure 2 that there is an increasing trend in the number of Daily Market Information Beneficiaries during each month. It is due to the continuous registration of farmers from various districts of Tamil Nadu in the mKisan portal. In the month of July more number of farmers has registered at the e- Extension stall in AGRI INTEX-2014 at CODDISIA. Hence, there was a vast increase in the number of beneficiaries during the month of August. Similarly during HORTI INTEX-2014, 280 farmers had registered and benefitted. Totally

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CODDISIA. Hence, there was a vast increase in the number of beneficiaries during the month of August. Similarly during HORTI INTEX-2014, 280 farmers had registered and benefitted. Totally 12,686 farmers have been benefited through daily market information for the current year. follow up action of existing practices to avoid the losses. really helps the users.

## **Conclusion**

The present ratio of the farmers to the extension worker is 1000:1, which is really very poor. Although the field level extension workers disseminate the information, they hardly accept any accountability. These two issues have created the urgency to help and guide the poor farmers properly. The cost factor in face-to-face information dissemination at the right time, and the difficulties in reaching the target audiences, has also created the urgency to introduce ICT through mobile telephony.

The Dynamic Market Information system through mKisan portal aims to resolve these problems by eliminating the communication gap between the various government concerns and the rural farmers and also offering agricultural advisories to specific crops (Sivakumar, 2004). In addition to that, in order to help the framers on time to solve their problems is very essential since agriculture is dependent on many factors, the mKisan Short Message Service serves as a solution for the right time for the whole farming community.

The gap in the existing system is difficult to add or remove the farmers list along with crop detail. The database is managed at DAC, New Delhi, the service provider doesn't have right to delete the beneficiary farmer, instead it is being informed over phone / e-mail to the

head quarter for elimination. Further, keeping the static database of farmers and officials and the advisories are pushed without the prior knowledge of need assessment and also lacks in two way communication. Many of the users in rural areas are holding basic mobile handset where they couldn't able to view the exact Tamil Script of text message. Efforts need to be taken on providing IVRS based solutions, dynamic database of adding the farmer's name, change of mobile numbers, crop details and advisory needs. In addition, Kisan SMS gateway has to be linked with mkisan database creating state level nodal centre to share exact information in short span of time. Futuristic possibility of adding image and video based solution to the farmers and extension officials, instant query-answer system will



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