

E-Governance initiatives by the Department of Agriculture Government of Kerala

Status of Computerization in the Department

The major initiative towards computerization was done during the year 2010-2011, with the introduction of the scheme, 'AGRISNET" (Agriculture Resource Information Systems Network) with the assistance of the Government of India. The following hardware were purchased and installed at the State Headquarters and Block level Offices of the Department, as per recommendations of the Technical Committee constituted vide G.O(Rt) No.1372/2010/AD, Dated: 20.07.2010.

Sl No	Item	Number	Amount (Rs) Lakhs
1	Server	1	78.15
2	KELTRON PC	166	
3	V Guard UPS	191	
4	Dot matrix Printers	169	

1. Further in the annual Plan Scheme 2 Servers and 10 Computer Touch Screen Kiosks were installed (under the Scheme "Application of Information and Communication Technology-2011-2012") by expending Rs.63.2 Lakhs.

Also 76 Computers and UPS's worth Rs.30.40 Lakhs were purchased and installed at Panchayath level Krishi Bhavans, throughout the State under the "Coconut development programme- 2011-2012).

National e-Governance Plan-Agriculture (NeGP-A): The next major Computerization programme as done as part of the implementation of the National e-Governance Plan-Agriculture (NeGP-A), a MMP of the Govt. of India which aims to cooperate, collaborate and integrate information across different departments in the Centre, States and Local Government.

Government of India have accorded sanction for the implementation of the National e - Governance Plan - Agriculture in the Centre and in 7 States in Phase – I for a sum of **Rs. 227.79 crore including Kerala**. These states have been selected on the basis of their e-preparedness with respect to core infrastructure comprising Common Service Centres, State Wide Area Network & State Data Centre and availability of Government to Citizen [G2C] Services covers the areas of Agriculture, Fisheries and Animal Husbandry. Under NeGP-A, 732 Computers were distributed to the Department of Agriculture and 124 Computers to the Department of Fisheries. This hardware has been provided to develop ICT infrastructure for the implementation of various e-services for the benefit of farmers and other stakeholders in Agriculture.

In spite of the above efforts Department have to strive hard to make the Computerization process in all its offices and institutions ranging from State Head quarters to Panchayath level offices, Farms, Laboratories, Agro service centres, Markets etc.

Department has also initiated distribution of subsidy to the Bank account of beneficiary farmers from 2012-2013. Initially the bulk transfer of subsidies was dependent on the software of various participating Banks. During 2013-2014, the software, "Electronic Benefit Transfer for Government of Kerala" developed by the NIC was introduced for e-Payment of subsidies. The process starting from the preparation of beneficiary list of farmers up to the generation of "Bank File" to be forwarded to Banks for effecting e-Payment are being done by the 152 implementing officers at Block level using this software. This software also include the facility to intimate farmers about the amount transferred and also the problems related to non-transfer of subsidies through SMS text messages.

Similarly, the introduction of various e-Services under the National e-Governance Plan- Agriculture (NeGP-A) also necessitates computerization and connectivity to all offices/institutions under this Department.

1. Specific Software under use by the Department of Agriculture

1. Karshaka Information Systems Services And Networking (KISSAN)

<http://www.kissankerala.net>

KISSAN is an integrated, multi-modal delivery of agricultural information system, which provides several dynamic and useful information and advisory services for the farming community across Kerala. It is one of the leading citizen centric e-governance projects of the **Department of Agriculture, Govt. of Kerala**.

The basic objective of this project is to provide "**Right Information** to the **Right Person(s)** at the **Right Time** in the **Right Place(s)** and in the **Right Context**" dynamically using a combination of advanced technology like Web Technology, Television based mass media programs, Telephone based advisory, Mobile SMS based advisory and broadcast service, dedicated online Agri video channel provides video on demand service etc, which, involves effective collaboration of experts from key organizations for effective information delivery and knowledge empowerment on demand seamlessly to all farmers across Kerala.

The project solves the problem of content gaps by providing the authentic agricultural information through various delivery methods like Television, Internet, Telephone, and Mobile etc. The farmers can choose any medium to seek the relevant information.

2. KASMOS

<http://www.kasmos.net>

Kerala Agri Scheme Monitoring System (KASMOS) is a web based online scheme monitoring and Management Information System for Department of Agriculture. It is a virtual space for concurrent monitoring and evaluation of plan schemes under the Department of Agriculture, implemented across the state.

1. To conceptualize, develop, implement and monitor a web based information system, which can monitor, review the periodical progress of schemes implemented by the Department of Agriculture and to make an effective reporting system.
2. To develop information system to capture the relevant details of schemes by crop wise, activity wise, spatial distribution and cost components wise etc.
3. To bring out an improved, standardized and uniform reporting template for schemes.
4. To develop a system with cross-functional information search across various schemes.
5. To improve the efficacy of the staff in each division of Department for the preparation and monitoring of schemes status reports.

3. Farmers Portal

www.farmer.gov.in

This integrated SMS Portal aims to serve farmers and other stake-holders through their mobile phones in an integrated and efficient manner.

Once in the Farmers' Portal, a farmer will be able to get all relevant information on specific subjects around his village/block /district or state. This information will be delivered in the form of text, SMS, email and audio/video in the language he or she understands. These levels can be easily reached through the Map of India placed on the Home page. Farmers will also be able to ask specific queries as well as give valuable feedback through the Feedback module specially developed for the purpose.

4. Soil based Plant Nutrient Management Information System

www.keralasoilfertility.net

This is a comprehensive "Soil micro nutrient based, location specific fertilizer recommendation and crop nutrient advisory system" for the farming community across Kerala.,

This, highly dynamic information system powered by a set of software and database applications, generates real time crop specific micro nutrient based Soil fertilizer Recommendation and advisory based on the soil nutrient status.

The system generates recommendation for more than 115 crops cultivated in Kerala and its comprehensive web GIS based spatial information system gives clear micro level information on various soil

parameters in each location, panchayath, district level soil nutrient status and it help the soil scientists take suitable remedial measures.

Other features include:

1. Print, distribute and disseminate Soil health nutrient advisory cards in Malayalam (multi color) for farmers.
2. Deliver Soil nutrient advisory through SMS and mobile voice calls in local language for the farmers
3. The project has developed a comprehensive Panchayath level Nutrient Management plan for the entire state of Kerala.
4. An integrated Centralised database with powerful MIS with very extensive details of farmers, their cropping details, land details, micro nutrient based soil details (with 15 soil elements) and all other relevant details have been captured in to this MIS system.

5. Farmer Advisory and Knowledge Management Information System

<http://www.keralahitechagri.in/>

Portal developed for the hi-tech farmers of Kerala and for the popularization of Hi-Tech Agriculture in the State.

6. Electronic Benefit Transfer for Government of Kerala

www.ebt.kerala.gov.in

This software has been used for the electronic bulk transfer of subsidies related to all the Schemes being implemented by the Department for the farmers in our State.

7. Farmer's On-line Registration

<http://www.kisan.gov.in/>

This software has been used by the Department for the registration of all the farmers in the state. During the initial phase 18.77 Lakhs farmers have been registered using this software. In the near future this will be open to the Banks for entering the loan/credit details of the farmers including the Kissan Credit Card. Subsequently this will be successfully used for the identification of eligible beneficiaries for various schemes, preparation of claims and also will be linked to the e-Payment software for the bulk transfer of subsidies to the farmer's Bank Accounts.

8. AGMARKNET

<http://agmarknet.nic.in/>

This has been used by the Department for providing the up-to-date agricultural marketing related information as a single window World Wide Web Service over internet. This portal provides easy access to the commodity –wise, variety-wise daily prices, and arrivals information in respect of various whole-sale markets, spread all over the country.

9. HORTNET- National Horticulture Mission Work Flow Automation System

<http://hortnet.gov.in/>

National Horticulture Mission- Web based Progress Monitoring System

The web based application caters to all stakeholder requirements and acts as a centralized on-line system with automatic data Ware Housing, Data mining and real-time tracking with e-alerting and e-learning. The mobile computing interface will make the progress monitoring and reporting easy for field level staff to report the status of works for necessary approvals at different stages of workflow

10. NHM Monitoring Reports: Facilitates generation of reports for States

<http://nhm.dacnet.nic.in/>

Query Reports for generating information on selected components enables the State Officials to upload data for Districts regarding:

- Physical and financial achievements (to be used only when a District is not
- able to upload the data at the district level)

- Physical targets and financial outlays (to provide component wise targets
- and outlays to the respective districts, based on the district action plan,
- funds released by the GOI and State Government share.
- Monthwise status of District level Data entry, and
- Fund release
- District Monitoring reports, which facilitates generation of reports at the Districts level

11. Monitoring system for Agriculture marketing infrastructure, Grading and standardization and Rural Godown Projects

<http://dacnet.nic.in/amigs>

This has been used for providing the field level data on the development of agricultural marketing, grading and standardization and rural godown under the schemes. The physical and financial aspects related to the development of these infrastructures can also be entered directly from the state level.

12. Service and Payroll Administrative Repository for Kerala (SPARK)

www.spark.gov.in

SPARK is a G2E web based Personnel Administration and accounts software for Government of Kerala covering 5.25 lakhs employees. Permanent Employee Number for all employees is allotted through the system. The system addresses all requirements in Service, salary, Income Tax and Accounts matters. Centralised database helps in quick decision-making and applying rules and regulations uniformly for all employees. Activity driven procedure linked data capture is ensured. All reports are generated in PDF format. Provision is available to send alert messages to employees, when payments are credited. Provision to generate Identity Cards is another facility. The Department will also initiate steps to include all its permanent labourers working under various Farms and Labs under the provisions of SPARK.

13. Mobile Based Fertilizer Monitoring System – mFMS

<http://mfms.nic.in/>

The mobile Fertilizer Monitoring System (mFMS) has been implemented only for all subsidized fertilizers in the country. The mFMS, which is implemented in a phased manner, intends to bring information visibility in the fertilizer supply chain and to enhance transparency in the fertilizer subsidy mechanism.

This entails capturing sales made by fertilizers companies to whole seller and retailer, capturing sales and also receipts acknowledgements at whole seller and retailer level. In 2nd phase, it plans to capture the buyer's details at the last point of sale (i.e. retailers).

The software developed by NIC, to implement the scheme, is assessable through Mobile and Web interface. A part of subsidy payment has been linked to the retailers' acknowledgement.

14. @GOV.IN

<https://mail.gov.in>

Secure/Multipurpose Internet Mail Extensions (S/MIME) provides a consistent way for email users to send and receive secure MIME data, using digital signatures for authentication, message integrity and non-repudiation and encryption for privacy and data security.

Government e-mail id has been created for all Block level Assistant Directors of Agriculture as part of the implementation of e-Payment of subsidies to farmers. They are also using the bulk sms facility, using this software.

15. IDEAS

Web based application for tracking the Files and Petitions in the Ministers Office, Govt. Secretariat and Other Departments. It is developed under LAMP and hosted in State Data Centre Features Automatic Petition / Tapal Number generation Automatic GO Number Generation 24 X 7 system availability Data Security Reminder Services Performance Monitoring reports Employee Contact details Personal Register PR

Calendar Statistical reports Meeting Management Seat based Roll mapping Login details is unaffected by transfers Reports generated can be pushed to other officers Issuance of Pass to Visitors (VFC) Operational in 40 Depts.

This Department has initiated steps for the implementation of IDEAS. In the first phase the registering and numbering of tapals will be started and the data base creation in this regard has been completed with the help of NIC, Kerala.

16. PLANSPLACE (System for Progress Analysis and Concurrent Evaluation)

<http://www.planspacekerala.in>

This is a web based integrated information system, which helps to monitor and evaluate the implementation progress of all Plan schemes implemented by various departments and agencies in the state. PLANSPLACE facilitates, to capture the relevant details about a plan scheme/project, its various components, physical and financial progress, implementation status on different intervals and generates dynamic, customized reports for various stakeholders. It also facilitate as an online reporting tool for the departments to update their progress of implementation on various schemes on time-to-time to the Government. The Department is using this software as per instructions from the Government.

17. On-line Receipt Accounting System

www.e-treasury.kerala.gov.in

As per Government direction, Department has initiated steps for integrating with this system, meant for online treasury remittance for different services offered by all Government Departments.

18. Biometric Punching System

Biometric technologies refer to the "automated methods of identifying or authenticating the identity of a living person based on a physiological or behavioural characteristic. Finger-print based biometric attendance system has been enabled in the Directorate of Agriculture during the year 2013.

19. e-Procurement System is a process of procuring the items electronically using internet. This facility drastically reduces the tendering cycle time and reduces most of the indirect costs and enhances transparency in procurement. (<https://etenders.kerala.gov.in>). This software is used by the Department for procurement worth Rs.25 Lakhs and above, since 2013.

20. Rashtriya Krishi Vikas Yojana

<http://rkvy.nic.in/>

This is a new Additional Central Assistance Scheme to incentivise States to draw up plans for their agriculture sector more comprehensively, taking agro-climatic conditions, natural resource issues and technology into account, poultry and fisheries more fully. The software has been used by the Department for online entry of State Agriocultural plans, progress reports, MIS Reports etc.

21. ATMA

www.extensionreforms.dacnet.nic.in

The purpose of this Extension Reforms Scheme is to promote new institutional arrangement & operational procedures- not merely strengthen the existing Extension system. One key concept or goal is to decentralize decision- making to the district level through the creation of Agricultural Technology Management Agency (ATMA). ATMA is a society of key stakeholders involved in agricultural activities for sustainable agricultural development in the district. It is a focal point for integrating Research and Extension activities and decentralizing day-to-day management of the public Agricultural Technology System (ATS).

This is a Web enabled online monitoring system for Monthly Progress Report (MPR) under ATMA Programme. All the components of this scheme would be monitored for Physical and Financial progress. The states have to login by choosing their State and Password for State level and for District level State and District and District password. For 'SAMETI', State and district as 'SAMETI' for which targets and Performance are to be entered. State level can enter Targets and performance for all their districts by entering the State level password and choosing the district.

18. Areas to which IT is to be extended

The following areas were identified by the Department for extension of IT, as part of the e-Governance.

(a) IDEAS: This Web based application for tracking the Files and Petitions in the Ministers Office, Govt. Secretariat and Other Departments. This includes all the activities right from the registering of 'Tapals' and 'transfer of files' through the hierarchy. Files can be tracked internally as well as by public.

File monitoring is also possible with this system. The Department has initiated the implementation of the IDEAS with the support of the NIC Kerala. In the initial phase registering of tapals will be done. Switching over to the file monitoring system requires hardware and other infrastructure.

(b) BUDMOS: Also a Web-based application developed by NIC for streamlining and monitoring all the activities related to the formulation of Budget and its monitoring.

(c) Data base of employees, transfer and Posting: Being a major Department it is essential to have a comprehensive data base of all employees. This will facilitate the processing of files related to service matters and also help in the Transfer and Posting in a more transparent manner.

NIC has already developed software for this purpose for various Departments in the State.

(d) Testing of Fertilizer/Seed/Plant protection Chemicals

A software for the use of laboratories where the testing of Fertilizer/Seed/Plant protection Chemicals are being done by the NIC under the National e-Governance Plan (Agriculture).

This have been designed to streamline all the activities related to these labs in a more efficient and transparent manner. Hence, the Department is planning to implement this project.

(e) Procurement operations: This is one of the major activities of the Department for supporting the Coconut farmers in the State. The Government is planning to have more procurement centres for other agricultural commodities at Panchayath level. In this connection, software is to be developed for the integration of all activities related to the procurement of various agricultural commodities right from the collection commodities from farmers up to the transfer of cost of produce to farmers through e-Payment.

This will streamline the entire process for avoiding delay, speedy transaction and ensure efficiency and transparency of the process.

(f) Licensing/Registration of manufacturers/ dealers of Fertilizer/Seed/Plant Protection Chemicals

The whole processes of registration/issue/renewal of licences for the manufacturers and dealers of Fertilizer/Seed/Plant Protection Chemicals have been done manually. A Web based software is being developed by the NIC in connection with the implementation of NeGP_A in the State.

As Kerala is one of the 7 pilot states, where NeGP-A is being implemented with Central Assistance, we have to implement this project. This will facilitate the entire process in to a more efficient and transparent system.

(g) Agro Service Centres and Panchaytah level "Karma Sena"/Thozhil Sena": Agro Service Centres are established at Block Level to facilitate integration of services like mechanization, ATMA based extension, credit support and other technology based services to farmers. These centres are supposed to act as technology and information dissemination centres with facilitating role in field visit to the farmer's fields.

Though hardware support has been given for computing operations, there is need for integrated software facilitating the functioning of these centres in an integrated and uniform manner with provision for reporting, and monitoring and with provision for e-services to the beneficiary farmers.

Hence the Department has initiated to develop an integrated web based application for the use of these centres with the Technical Support of NIC. Sufficient provision has made in the current year's budget for this purpose.

(h) Crop Health Management: This scheme is based on the new approach, which bring together management towards sustainable eco systems and people's health through Good Plant Protection Practices (**GPPP**). This project was initiated in 2013-14 and will be continued during this year.

This is the biggest scheme being implemented by the Department with an outlay of Rs.1335 Lakhs. Software for complimenting the pest surveillance activities in connection with this project has been initiated by the Department.

(i) On-line Receipt Accounting System: This system enables the remitters to be make on-line payment using net facility of the designated Bank. Government have also issued directions to the link the Department with the e-treasury.kerala.gov.in enabling the electronic remittance through e-challan generated.

(j) Supervision of production and distribution and sales of planting materials: The Department is producing quality seeds and planting material for distribution under various Schemes and also for sale to the public. These are being produced at Departmental Farms distributed State-wide. Department is also planning to make all these operations streamlined with the use of Web-based application with provision for e-Services to the buyers of various planting materials and seeds.

(h) LPF (Labourer's Provident Fund): This is yet another area in which the Department is planning to bring the ICT applications. This will be for the benefit of around 2000 permanent labourers in various Departmental Farms and Laboratories of the State. Unlike the GPF of employees, the entire accounts related to Labourer's PF are being maintained by the Director of Agriculture and being processed manually.

This is creating lots of problems to the labourers and hence it is proposed to develop an on-line application with the support of NIC who are maintaining the application for GPF for the Accountant General, Kerala.

19. Existing IT Training Facilities

Government of India, under the National e-Governance Plan (Agriculture) have sanctioned funds for setting up of 5 Computer Training Centres at 5 districts as listed below. 20 Computers were already supplied to all these Canters by the GOI. These Training Centres are fully functional with internet connectivity.

- 1) SAMETI, Anayara, Thiruvananthapuram
- 2) RATTTC, Kozha, Kottayam
- 3) RATTTC, Vytilla, Ernakulam
- 4) RATTTC, Malampuzha, Palakkad
- 5) FTC, Vengeri, Kozhokode

20. Soil Health Card

www.soilhealth.dac.gov.in

Soil health card is a national initiative for providing location specific, soil type based nutrient recommendation system. The software generated data and relates it to the GPS co-ordinates and is expected to create a national spatial soil fertility database. The software is being used in Kerala for the integration of activities of the Soil testing labs working under Department of Agriculture and Department of Soil Survey and Soil conservation. This set of software and database applications, generates real time crop specific micro nutrient based Soil fertilizer Recommendation and advisory based on the soil nutrient status. Customization of this software is in progress to accommodate crops cultivated in Kerala and package recommendations of KAU.

Other features include:

1. Facility for registration of samples and assigning to specific labs for reports
2. Printing acknowledgement for registered soil samples and subsequent tracking through the process of soil testing conducted at authorised labs.
3. Print, distribute and disseminate Soil Health Cards for farmers.

4. Generation of a national spatial data base on soil fertility nutrient status and An integrated Centralised database with powerful MIS with very extensive details of farmers, their cropping details, land details, micro nutrient based soil details.