



Agriculture Mission Mode Project (National e-Governance Plan)



Irrigation

Service 10 : Providing Information on Irrigation Infrastructure

Department of Agriculture & Cooperation
Ministry of Agriculture
Government of India

Software Development Agency
Agricultural Informatics Division
National Informatics Centre (NIC)
Ministry of Communications & Information Technology
Government of India

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

Contents

1. Aim
2. Objectives
3. Implementation Strategy
4. System Characteristics
 - ❖ As-Is
 - ❖ To-Be
5. Stakeholders
6. Deliverables

2. Objectives

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

To develop, test and operationalise Application Software (Apps) and Portlet, for this Service, using ICT Technology :

1. Content Management System (CSM) – Service Portlet development
2. Database Development Applications
 - a. Transaction based (Database Tools)
 - b. Work-flow based (Workflow engine)
3. GIS and Data Analysis (Spatial and Non-Spatial);
4. Alert and Expert Advisory System;
5. Grievances Readdressal & Management System
6. Information Service through Delivery Channels;

3. Implementation Strategy

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- ✓ Formulation of System Requirements Specifications (SRS);
- Design of solution components;
- Development of Application Software (Apps) of Service;
- Installation, Integration and Testing of Apps;
- Security Audit, Testing and Certification of Apps.
- Pilot Run, User Acceptance, Testing and Stabilization of Apps;
- Documentation of Apps (Software and Services)
- Handholding and Maintenance Support of Apps;
- Capacity Building (through Training) for Operationalisation of Apps;

4. System Characteristics

NeGP-A : AMMP

Service – 10

AIMs at

Providing Information on Irrigation Infrastructure

1. Dissemination of Water release schedule;
2. Linking of MGNREGA and Land Records Databases to facilitate identification of small and marginal farmers;
3. Water level in reservoirs and likely area of different crop mixes that can be irrigated from it;
4. Database for information on ground water to be developed in association with the Central Ground water Board and State Ground Water Boards;
5. Information on Irrigation equipments;
6. Expert advice and mechanism for grievance management ;
7. Command area created planned and actually serviced at the end of each crop season under different projects including the government tube wells, lift irrigation and canal irrigation (including information on distribution network in a command area);
8. Mapping of NWDPRA Watershed codes with GIS Maps available with SLUSI;
9. Land degradation and water logging details can to be linked to GIS based database;
10. Calculation of water requirement of standing crops at different points of times in a crop cycle is to be incorporated so that Command Area Development Authorities are well informed about requirement of water at a particular time in different parts of the command area;
11. Processing of applications for the issue of NOC to Abstract Ground Water;
12. Details of network of canals;
13. Best practices on irrigation;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

Service – 10

a. Dissemination of Water release schedule

AS-IS

1. Water release schedule is manually displayed (paper based) through Water Users' Association, and gram panchayats

To-Be

1. Dissemination of water release schedule through SMS, emails;
2. Database on Water Users' Association
3. Database on water release schedule
4. Information Access through SAP and CAP, in local languages;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- b. Linking of MGNREGA and Land Records Databases to facilitate identification of small and marginal farmers;

AS-IS

1. MGNREGA Beneficiary database is with MoRD and data base on land holding is with DoLR

To-Be

1. Web service to be developed to fetch required information from two data bases.
2. Information Access through SAP and CAP, in local languages;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- c. Water level in reservoirs and likely area of different crop mixes that can be irrigated from it

AS-IS

1. Water level and Storage capacity of 81 important reservoirs is available on http://www.cwc.nic.in/Reservoir_level.htm . Information like Name of the reservoir, Full reservoir level (FRL) in Meters, Current reservoir level, Capacity at FRL in BCM, Current live storage in BCM, Shortage % of live capacity at FRL etc is available.
2. Water requirement for different crops ;

To-Be

1. Database on reservoir details and water level in reservoir;
2. Calculation of water requirement for different crops;
3. Advisories on different crop mixes on the basis of availability of water.

4. Systems Characteristics

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

d. Information on Irrigational equipments;

AS-IS

1. URL <http://agricoop.nic.in/dacdivision/Machinery1/chap7.pdf> on National Portal on Mechanization & Technology (<http://farmech.gov.in>) is available for information on Irrigational equipments reported.

To-Be

1. CMS for information on specification, prices & usages of various irrigational equipments, manufacturer and dealer of these equipments, Nearest supplier and it's address, After sale details, Help Line / Customer support details, retrievable through Keywords, and also information access in regional languages;
2. Databases on irrigation equipments, manufacturers and dealers;
3. Information Access through SAP and CAP, in local languages;

4. Systems Characteristics

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- e. Command area created, planned and actually serviced at the end of each crop season under different projects including the government tube wells, lift irrigation and canal irrigation (including information on distribution network in a command area)

AS-IS

1. Year wise physical and financial progress for the of command area development program & water management programe is available on <http://mowr.gov.in>
2. An online monitoring system <http://mowr.nic.in/cadmon> is available for CAD monitoring. This system facilitates submission of project proposal, recording of quarterly physical progress (like OFD works, Field Channels, Lined & Unlined area & length etc.) & financial progress, recording of project wise irrigation potential created (in Ha.) & irrigation potential utilized (in Ha.) and production statistics (in Tones).

To-Be

1. Data base on command area development authority capturing parameters like state, district where CADA is located, name of the officer incharge with complete postal address;
2. Data base on project details run by command area development authority capturing details like project name, name of the CADA running the project, culturable command area, irrigation potential created, irrigation potential utilized, status of the project etc.

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

f. Mapping of Watershed codes with GIS Maps available with SLUSI

AS-IS

1. Data bases on watershed of NWDPRRA and RVP&FPR;
2. Two applications have been developed by the Agricultural Informatics Division for Watershed <http://rfs.dacnet.nic.in> and <http://nrmmonitor.dacnet.nic.in> . Information is available on Watershed codes, catchment location, implementing agency, villages covered, no of SHGs, men & women benefited.
3. Digital watershed atalas is with SLUSI showing spatial distribution of 3851 watershed, 37 basins,117 catchments and 588 sub catchments

To-Be

1. A web service to be developed to link databases with the digital watershed atalas;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- g. Land degradation and water logging details to be linked to GIS based database

AS-IS

1. SLUSI has land degradation and water logging maps of 65 districts on 1:50000 scale in off line mode;
2. Statistical survey reports of the 65 land degradation maps are available online.

To-Be

1. Maps can be hosted on the GIS server;
2. A web service to be developed to link maps with the survey report;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- h. Calculation of water requirement of standing crops at different points of times in a crop cycle is to be incorporated so that Command Area Development Authorities are well informed about requirement of water at a particular time in different parts of the command area

AS-IS

1. The business logic for the calculation of the fortnightly water requirement for a particular crop provided by agriculture department, Maharashtra;
2. Crop pattern information of the land covered by each type of crop in the command area to be provided by KVK.

To-Be

1. Since each type of crop has different water requirements hence the total water requirement of standing crops can be calculated as the total of the water requirement of each crop.;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

- i. Processing of applications for the issue of NOC to Abstract Ground Water

AS-IS

1. SRS has been submitted by Agricultural Informatics Division;

To-Be

1. Providing a Web based System for Receipt and Processing of Applications for the issue of NOC to Abstract Ground Water by CGWA ;

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

j. Details of network of canals

AS-IS

1. No Information on network of canals reported;

To-Be

1. System will be provided for management of the information on the Canal Network. It will capture parameters like Name of Canal, Source reservoir, Type of Canal (Distributary, Major, Minor, etc.), Canal Length, Location Details (State(s), District(s)), Water carrying capacity etc

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

k. Best practices on irrigation

AS-IS

1. Best practices on irrigation are provided by Water Technology Research Center - IARI, SAU, Water and Land Management Institute - MOWR

To-Be

1. Content Management System (CMS) through CMS Tools;
2. Linkages with Service No 3
3. Information Retrievable and Searchable through Key words;
4. Information Access through State Agricultural Portal and Central Agricultural Portal in local languages;

4. Systems Characteristics

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

Public Grievances and Management

(through SMS, e-Mail, IVRS, Kisan Call Centre, CSCs, Farmers Training Centers, Farmers Club, etc)

AS-IS

1. **Public Grievance Lodging & Monitoring System.**
(<http://pgportal.gov.in>)
2. **Sanjog Help Line helps in Grievance Redressal in Orissa.**

To-Be

1. **Work flow system (subject based)**
- 2.
- 3.

NeGP-A : AMMP

Service – 10

AIMs at

Providing
Information on
Irrigation
Infrastructure

Alert and Advisory System

AS-IS

1. **Kisan Knowledge Management System (KKMS)** of MOA
- 2.
- 3.

To-Be

1. Work flow system (subject based)

NeGP-A : AMMP

Service 10

AIMs at

Providing Information on Irrigation Infrastructure

Central Government

- Ministry of Water Resources (Central Water Commission, Central Ground Water Board)
- Department of Agriculture and Cooperation
- Indian Council of Agricultural Research
- Water Technology Research Center , IARI (1 no.)
- Water and Land Management Institute , Ministry of Water Resources (13 nos.)
- Ministry of Rural development.
- Ministry of Environment & Forest
- Central Institute of Agriculture Engineering, Bhopal
- NABARD/ ISRO/ NRAA / SLUSI / KVKs

State Government

- Department of Agriculture
 - ~ ATMA / Zilla Parishad/ Panchayat officials (District Level)
 - ~ SAMETI (State level)
 - ~ Block Agri. Officer / Village Agri. Officer
 - ~ Farmers Field Schools / Self Help Groups
- Department of Irrigation
- State Agriculture Universities / Agriculture Colleges
- Department of Revenue
- Water Resource Organization
- Department of Water & Soil Conservation

Farmers

- Individual farmers, Krishak Mitra
- Group of Farmers (Kisan Sangh , Kisan Sabha etc.)
- Water Users' Associations (WUAs)

Private Sector

- Manufacturers of irrigation equipments, other related agencies like dealers, distributors etc

**A. SRS Document and Presentation slides is at available
<http://dacnet.nic.in/AMMP/AMMP.htm>**

• **Service Project Team :-**

A. Central Team

1. Smt. Pratibha Lokhande, Technical Director & national Project Coordinator (NeGP-AMMP)
2. Shri Kishor Kumar, Senior Technical Director & Cluster Coordinator
3. Shri Ajay K Gupta, Technical Director (Service Coordinator)
4. Shri Sanjay Agnihotri, Senior Systems Analyst (Service Coordinator)
5. Shri Shailendra Saxena, Systems Analyst
6. Ms. Tanu Grover, Programmer

B. State Level team

1. Smt. M. Kasthuri , Technical Director, NIC, Thiruvananthapuram
2. Shri Thangavel, Technical Director, NIC, Bangaluru
3. Smt. Lakshmi Prasanna, Principal Systems Analyst, NIC, Mumbai
4. Smt. Gauri Honrao, Technical Director, NIC, Pune
5. Shri A.N.Siddiqui, Technical Director, NIC, Bhopal
6. Shri Loukesh Kumar, Technical Director, NIC, Ranchi
7. Shri Sandeep Kumar, Technical Director, NIC, Shimla
8. Shri Raj Sekhar, Senior Technical Director, NIC, Hyderabad
9. Smt. Kavita Barkakoty, Technical Director NIC, Assam

• **Contact email : kkumar@nic.in, ajaykgupta@nic.in & sagni@nic.in**



Thank You



1. Central Water Commission, New Delhi

1. Central Water Commission and Indian Space Research Organisation are jointly developing web based Water Resources Information System (India - WRIS) at the National Level. The first version of India WRIS has been launched on 07/12/2012. URL of the website is www.india-wris.nrse.gov.in
2. India-WRIS will have 30 layers of information both spatial and non spatial having more than 180 sub layers grouped in five heads
 - a. Watershed Atlas
 - b. Administrative Layers
 - c. Water Resources Projects
 - d. Thematic Layers
 - f. Environmental Data

The project was originally scheduled to be completed by December,2012. However, project data being huge, it is anticipated that full version with complete database of the project would be launched by October, 2013

3. Printed copy of Major & Medium Irrigation Projects in India, 2008 was provided

2. WALMIs

1. WALMI Orissa - Sanjog Help Line provides information on Crop Management Practices, Marketing procedure and Grievance Redressal in Orissa. Canal Operation and water Scheduling is prepared in consultation with Pani Panchayats. Irrigation scheduling is not scientific.
2. Department of Water Resources, Orissa has a portal (<http://www.dowrorissa.gov.in>) which highlights the achievements in irrigation sector taken up by the Govt. of Orissa. There are two programs namely OCTMP (Odisha Community Tank Management Project) and OIIAWMIP (Orissa Integrated Irrigated Agriculture and Water Management Investment Programme). WALMI imparts training on Participatory Irrigation Management (PIM), Operation & Maintenance activities, Irrigation Engineering and Management etc
3. WALMI Anand - Provides Consultancy Services to the Govt. and Local Bodies, Individuals in the field of Irrigated Water and Land Management.
4. HIRMI Kurukshetra - Imparts Participatory Irrigation Management (PIM) Training to Officials of Universities, KVKs & Extension Workers in addition to Farmers (approx 3000) and Command Area Division Officers. Experts from KVKs are involved in PIMs and Training on Market Conservation Techniques. No database is being maintained by WALMIs. Haryana Irrigation Department has a website <http://hid.gov.in>.
5. WALMI Hyderabad (WALAMTARAI) – There is a website <http://irrigation.cgg.gov.in>
6. WALMI Dharwad - For best practices on crops, irrigation methods, agronomic practices, pests and disease control WALMI relies on the recommendations of State Agriculture Universities. Regarding capacity building and working of WUAs, WALMI recommends best practices. Irrigation Officers deals with water release schedule.

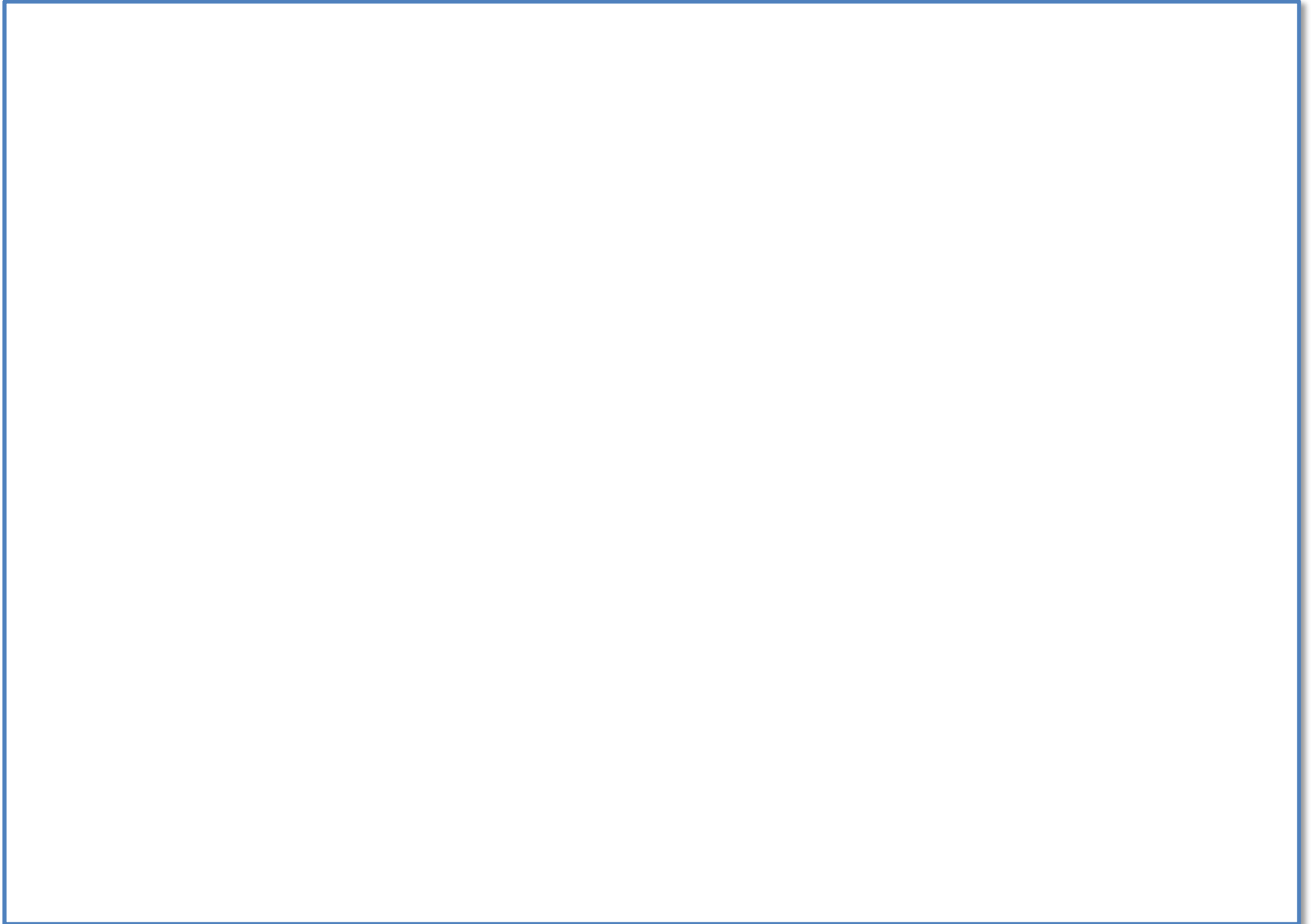
7. Karnataka

1. Major and Medium Irrigation and CADA(Under Water Resources Department)
 - ~ Content Management (<http://waterresources.kar.nic.in>)
2. Micro Irrigation (Under Agriculture Department)
 - ~ Databases (Micro Irrigation process database is available.)
3. Applications Software Products
 - ~Web based application software is in use
4. Workflow based System
 - ~Selection/Application Process is a workflow based system
5. Content Management (<http://raitamitra.kar.nic.in>)
6. The Decision to release water for Kharif and Rabi Season Is being taken in the Irrigation Consumtative Meetings usually Held in July / October every year. The release of water, Date of Release will be usually between July to October for Kharif and October to February for Rabi season

2. Assam



3.Himachal Pradesh



4. Madhya Pradesh



5. Jharkand



6. Maharashtra



8. Kerala

