2012

Agricultural Mission Mode Project under National e-Governance Plan

Providing Information on Drought Relief and Management
Software Requirement Specifications

1 Table of Contents

2   Introduction

The Department of Agriculture and Cooperation (DAC) of the Central Government has decided to implement National e-Governance Programme (NeGP) in the Agricultural Sector as a Mission Mode Project (A-MMP), covering the Agriculture Sector, Livestock Sector and Fisheries Sector. The A-MMP aims to address the needs of the farming community and its other related stakeholders, through provision of relevant information and services through the various delivery channels available in their vicinity for assisting them in making rational decision. The expected (envisaged) outcome are "raising farm productivity" and "raising farm income".

In first Phase project will be implemented in 7 pilot states. These are Assam, Himachal Pradesh, Maharashtra, Madhya Pradesh, Jharkhand, Kerala and Karnataka. The project will be rolled out in other states after successful implementation in first phase.

The project aim is to

- Improve access of farmers to timely and relevant information and services throughout Crop-cycle
- Bringing farmer centricity and service orientation to the programs by providing location-specific and up-to-date crop management related information in terms of Good Agricultural Practices (GAP), Package of Practices (PoP) etc.and also personalized advisory services
- Increasing effectiveness of government service delivery in certification and licensing etc.
- Grievance registration and beneficiary tracking
- More effective management of agricultural sector schemes of through Process redesign
- Enable private sector participation to benefit farmers by providing an integrated platform to promote value added services in extension, marketing (input and output), and Post-harvest and Storage

Under this project 12 Cluster of Services are to be provided, through ICT intervention, to the Farming community. These are:-

- Service 1: Information on Pesticides, Fertilizers and Seeds
- Service 2: Providing information on soil health
- Service 3: Information on crops, farm machinery, training and Good Agricultural Practices (GAPs)
- Service 4: Information on forecasted weather and agro-met advisory
- Service 5: Information on prices, arrivals, procurement points, and providing interaction platform

- Service 6: Electronic certification for exports & imports

- Service 7: Information on marketing infrastructure

- Service 8: Monitoring implementation / Evaluation of schemes & programs

- Service 9: Information on fisheries

- Service 10: Information on irrigation infrastructure

- Service 11: Drought Relief and Management

- Service 12: Livestock Management

2.1 Drought

"*A drought is an extended period of months or years when a region notes a deficiency in its water supply whether surface or underground water*"

Drought is perhaps the one climatic event that is most linked with desertification. It is a natural hazard originating from a deficiency of precipitation that results in a water shortage for some activities, some groups or environmental sector and is often associated with other climatic factors (such as high temperatures, high winds and low relative humidity) that can aggravate the severity of the event. Drought differs from aridity in that the latter is restricted to low rainfall regions and is a permanent feature of the climate. Drought occurrences are common in virtually all climatic regimes. Drought should be considered relative to some long-term average condition of balance between precipitation and evapotranspiration (i.e., evaporation + transpiration) in a particular area, a condition often perceived as "normal".

It is also related to the timing (i.e., principal season of occurrence, delays in the start of the rainy season, occurrence of rains in relation to principal crop growth stages) and the effectiveness (i.e., rainfall intensity, number of rainfall events) of the rains.
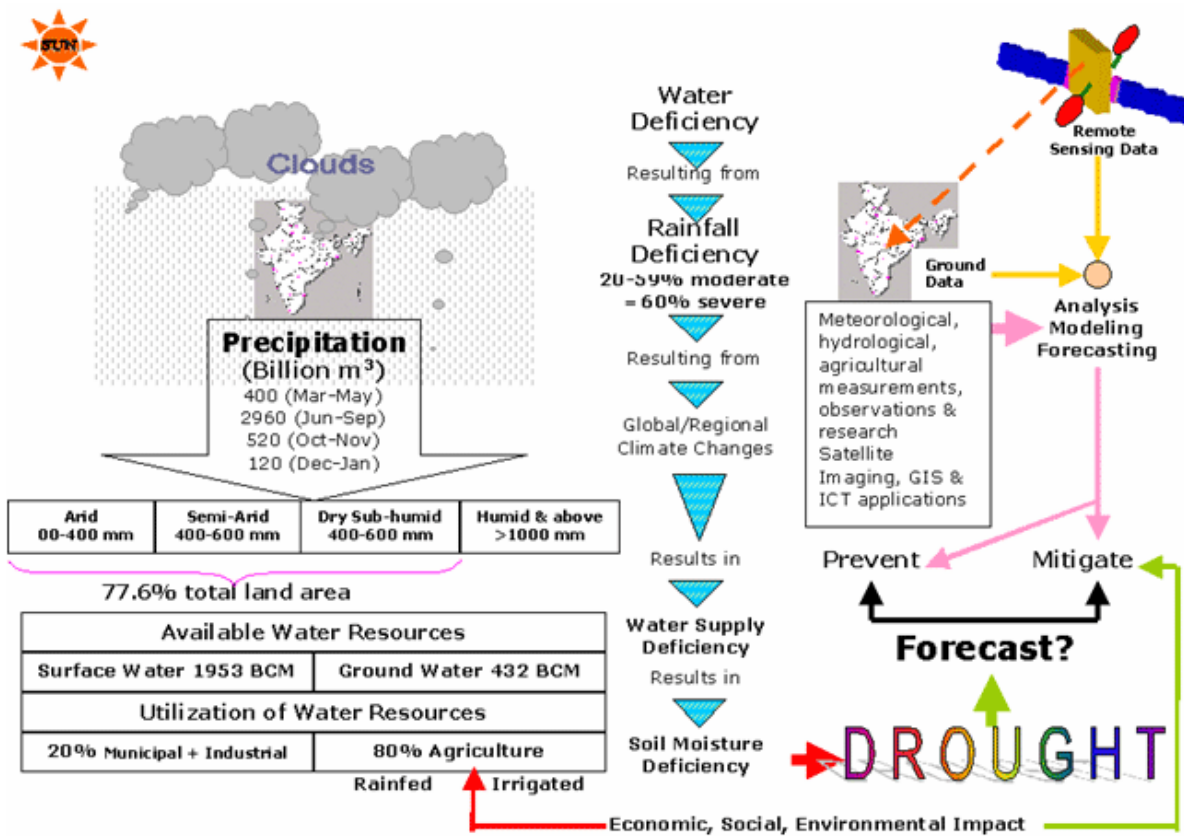
The Complex Nature of drought
(Source: DPR on Integrated Drought Management Information System)

Drought disrupts cropping programs, reduces breeding stock, and threatens permanent erosion of the capital and resource base of farming families and /or enterprises. A continuous drought stretching over several years significantly affects productivity and national economies. In addition, the risk of serious environmental damage, particularly through vegetation loss and soil erosion, has long term implications for the sustainability of agriculture. Bushfires and dust storms often increase during the dry period.

Drought onset and end are often difficult to determine, as is its severity. Drought severity is dependent not only on the duration, intensity and spatial extent of a specific drought episode, but also on the demands made by human activities and vegetation on a specific region's water supply.

The impacts of drought are largely non-structural and spread over a larger geographical area than are damages from other natural hazards. The non-structural characteristic of drought impacts has certainly hindered the development of accurate, reliable, and timely estimates of severity and, ultimately, the formulation of drought preparedness plans by most governments.

Drought risk is a product of a region's exposure to the natural hazard and its vulnerability to extended periods of water shortage. If we need to make progress in reducing the serious consequences of drought, then we must improve our understanding of the hazard and the factors that influence vulnerability.

2.1.1 Classification of Drought

There are three types of droughts

1. Meteorological Drought
2. Agricultural Drought
3. Hydrological Drought
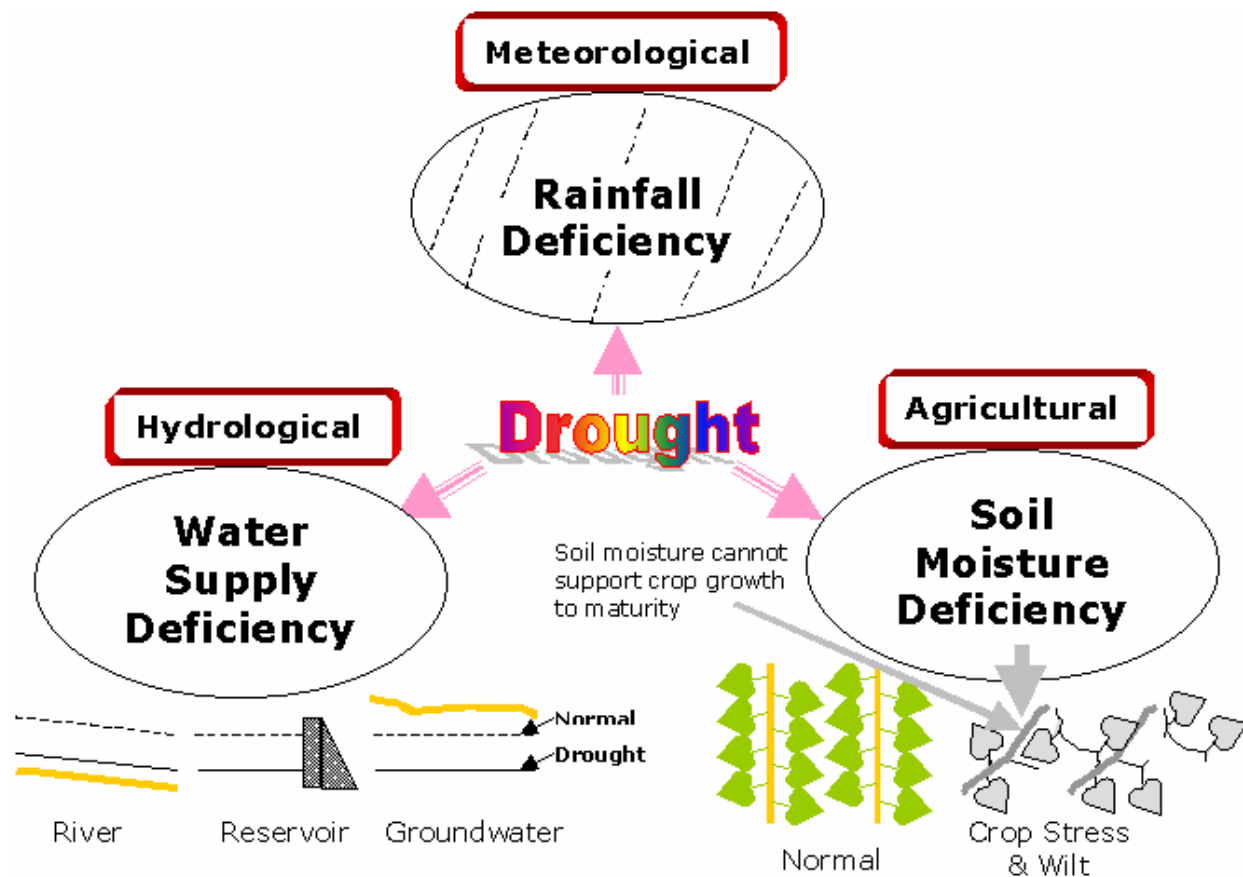
Types of Drought
(Source: DPR on Integrated Drought Management Information System)

2.1.2 Meteorological Drought

Meteorological drought is defined usually on the basis of the degree of dryness (in comparison to some "normal" or average amount) and the duration of the dry period. Definitions of meteorological drought must be considered as region specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region. For example, some definitions of meteorological drought identify periods of drought on the basis of the number of days with precipitation less than some specified threshold. This measure is only appropriate for regions characterized by a year-round precipitation regime such as a tropical rainforest, humid subtropical climate, or humid mid-latitude

climate. When there is prolonged period with less than average rainfall with reference to normal figures in a region and when there is more water scarcity due to deficient rains between -20% and -59% of normal or an account of scanty (-60% of normal or less) is said to be an acute drought. The chronic drought cannot be precisely defined. It is characterised by low productivity, soil fertility, seasonal migration and progressive decline in liveliness of local habitats.

2.1.3   Agricultural Drought

Agricultural drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced ground water or reservoir levels, and so forth. Plant water demand depends on prevailing weather conditions, biological characteristics of the specific plant, its stage of growth, and the physical and biological properties of the soil. A good definition of agricultural drought should be able to account for the variable susceptibility of crops during different stages of crop development, from emergence to maturity.

2.1.4   Hydrological Drought

Hydrological drought is associated with the effects of periods of precipitation shortfalls on surface or subsurface water supply (i.e., stream-flow, reservoir and water body levels, ground water levels). The frequency and severity of hydrological drought is often defined on a watershed or river basin scale. Although all droughts originate with a deficiency of precipitation, hydrologists are more concerned with how this deficiency plays out through the hydrological system. Hydrological droughts are usually out of phase with or lag the occurrence of meteorological and agricultural droughts. It takes longer for precipitation deficiencies to show up in components of the hydrological system such as soil moisture, stream-flow, and ground water and reservoir levels. As a result, these impacts are out of phase with impacts in other economic sectors. For example, a precipitation deficiency may result in a rapid depletion of soil moisture that is almost immediately discernible to agriculturalists, but the impact of this deficiency on reservoir levels may not affect hydroelectric power production or recreational uses for many months. Also, water in hydrologic storage systems (e.g., reservoirs, rivers) is often used for multiple and competing purposes (e.g., flood control, irrigation, recreation, navigation, hydropower, wildlife habitat etc.), further complicating the sequence and quantification of impacts. Competition for water in these storage systems escalates during drought and conflicts between water users increase significantly.

(Source: http://www.drought.unl.edu/whatis/concept.htm)
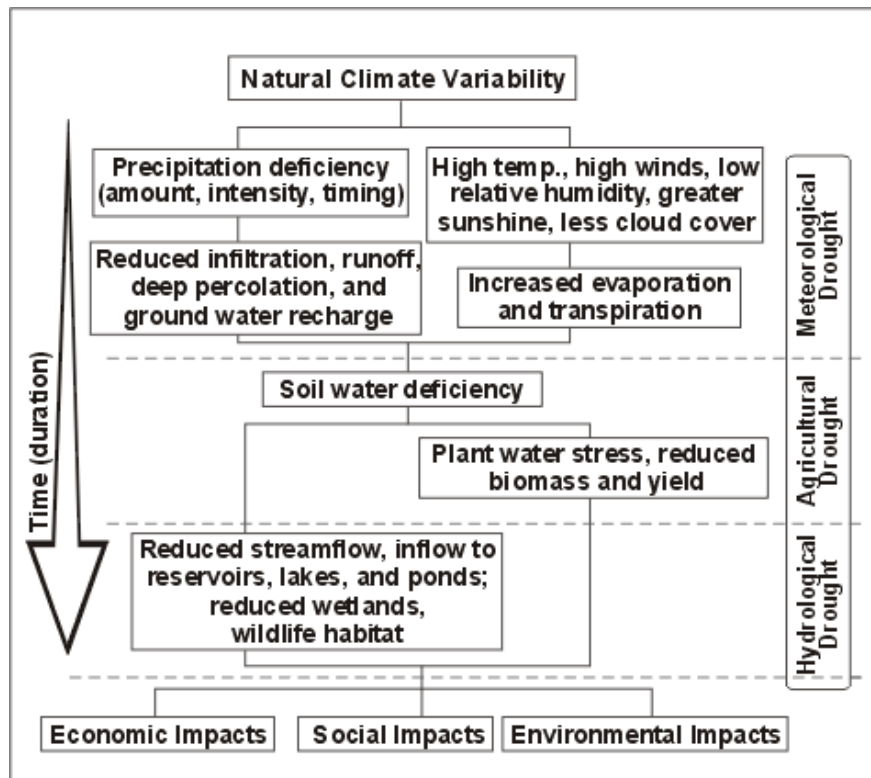
2.2 Diagnosis of Emerging Droughts

Based on the experienced gained, some warning signals of impending droughts have been identified for various stages of our agricultural cycle They are as summarized in the following sections:

(Source: http://agricoop.nic.in/Drought%20Management/web%20diagnosis.pdf) .

2.2.1 For Kharif (Sowing June to August)

- Delay in onset of South-West Monsoon.
- Long 'break' in activity of South-West Monsoon.
- Insufficient rains during the month of July.
- Rise in Price of fodder.
- Absence of rising trend in Reservoir Levels.
- Drying up sources of Rural Drinking Water Supply.
- Declining trend in progress of sowing over successive weeks compared to corresponding figures for "normal years".

2.2.2 For Rabi (Sowing November to January)

- Deficiency in closing figures for South – West Monsoon (30th September).

- Serious depletion in level of Ground Water compared to figures for "normal years".

- Fall in the level of Reservoirs compared to figures for the corresponding period in the "normal years" – indication of poor recharge following SW Monsoon.

- Indication of marked soil moisture stress.

- Rise in price of fodder.

- Increased deployment of water through tankers

  (For Tamil Nadu & Pondicherry the crucial period is North East Monsoon – October to December).

2.2.3 Other Seasons

- For areas like Gujarat, Madhya Maharashtra, Marathwada and North Interior Karnataka the crucial period is March / April when due to chronic hydrological drought, many areas develop acute scarcity of Drinking Water.

- For specific states and particular crops there are particular times of years when progress of rains is of special significance e.g. February rains in Kerala for plantation crops.

2.3 Purpose

The purpose of this document is to identify a set of requirementsfor service 11:Providing Information of Drought Relief and Management of National e-Governance Plan for Agriculture (NeGP-A). Thesolution aims to

1) Provide a system for acquisition of data for all the parameters related to the identification of drought situation

2) Provide a mechanism to monitor and identify the onset of Drought like situations

3) Provide a mechanism to associate and correlate the field data with the scientifically available data for a better insight in to the situations

4) Provide a set of Business Intelligence tools which can assist the users in the decision making process

5) Integrate the workflow for Drought Management Process in to the system.

6) Provide a mechanism to monitor the Drought Management Process

7) Provide searchable content on the practices to be adopted by Farmers inDrought like situations

8) Provide a mechanism to provide expert advisories to the Farmers in the Drought like situations.

9) Provide a mechanism for the Farmers to register their grievances.

The requirements provided in this document would serve as the basis of the development of the proposed solution.

2.4   Scope

The scope of this document is to identify the software requirement specifications relating to e-enablement of the Drought Management Process and Drought related information and enabling their delivery through various service delivery channels.

The following are the components of the service 11 as envisaged under NeGP-A to be delivered by the proposed solution.

1. Drought MIS:
    a. To enable the data acquisition of the Drought related parameters from the Tehsil/Block Level to have more granular information
    b. To provide a mechanism to tools monitor and analyze the data to identify the onset of Drought like situations
    c. To provide a mechanism to associate and correlate the field data with the scientifically available data, from agencies like IMD/NRSC etc., for a better insight in to the situations
2. Decision Support System:
    a. To provide a set of Business Intelligence tools which can assist the users in the decision making process
3. Drought Response System
    a. To provide an integrated workflow for Drought Management Process in to the system.
    b. To provide a mechanism to monitor the Drought Management Process
4. Self Service System
    a. To provide searchable content on the practices to be adopted by Farmers in Drought like situations
    b. To provide a mechanism to provide expert advisories to the Farmers in the Drought like situations.
    c. To provide a mechanism for the Farmers to register their grievances.
5. Central Repository
    a. For Tehsil/Block Wise Drought Prone Areas
6. Content Management
    a. For package of practices during drought
7. GIS Maps

2.5   Definitions, acronyms, and abbreviations

2.5.1   Acronyms

- DAC - Department of Agriculture and Cooperation

- NIC - National Informatics Centre

- SRS–Software Requirement Specifications

- CSC - Common Service Centre

- NeGP – National E-Governance Plan

- AMMP - Agriculture Mission Mode Project

- ICT – Information & Communication Technology

- EAA - Expert Advisory Application

- DRDA – District Rural Development Agency

- SAP - State Agriculture Portal

- CAP - Central Agriculture Portal

- KMA - Knowledge Management Application

- KCC - Kisan Call Center

- SCC – Service Call Center

2.6   References

1. DPR for service 11

2. Discussions with various stake holders

3. Drought Manual-DAC

4. "Drought Management Information System" Application

5. District information System of National Informatics Center DISNIC (Natural Calamities Relief Management System Version 1.0)

2.7 Overview

2.7.1 Key Stakeholders

National Level

- Ministry of Agriculture
- Ministry of Water Resources
- Ministry of Rural Development
- India Meteorological Department
- National Centre for Medium Range Weather Forecasting
- Central Water Commission
- Central Ground Water Board
- National Crop Forecasting
- National Remote Sensing Agency

State Level

- Revenue Department
- Agriculture Department
- Water Resources Department
- Directorate of Soil Conservation
- Directorate of Agriculture & Food Production
- Directorate of Horticulture
- Lift Irrigation Directorate
- State Remote Sensing Application Centre (SRSAC)
- Directorate of Fisheries

District Level

- Collector
- Project director, District Rural Development Agencies
- Sub-Collector
- Tehsildar / Revenue Inspectors
- District Agriculture Officer
- Chief District Veterinary Officer
- Chief District Medical Officer

- Deputy Director, Horticulture
- Soil conservation Officer
- Asst. Director Fisheries
- Executive Engineer, Irrigation division
- Executive Engineer, Minor Irrigation
- Executive Engineer, Lift Irrigation
- District Labour Officer
- Block Development Officers / ABDOs
- Child Development Programme Officer
- Marketing Inspectors (Civil Supply)
- VAS / Livestock Inspectors
- Statistical Field Officers
- Village Agriculture Worker

Citizen

- Farmers
- Community

Others

- Business
- Research Organizations
- Academic Institutions
- INGOs / NGOs / Civil Societies
- Federations / Cooperatives / Societies
- Development Consultants

2.7.2 Service Delivery Channels

The following service delivery channels would be utilized to deliver services to thefarmers, stake holders and individuals

- Common Service Centers
- Agri clinics / Agri Business Centers
- Departmental Offices
- IVRS
- Kisan Call Centers (KCC)
- State Call Centers (SCC)
- Mobile Phone
- Online (web based service)
- Private kiosks
- Mass media (TV, Radio, News Papers)
- Print Media (Pamphlets, Gazettes Notifications etc.)
- Government Offices
- KrishiVigyan Kendra
- Agricultural Technology Management Agency (ATMA) Centres
- State Agricultural Universities/ Agricultural Colleges
- Extension workers
- Advertisement
- Email alerts

3   Overall Description

3.1   Product Functions

The following figure shows the various functions to be implemented by the solution
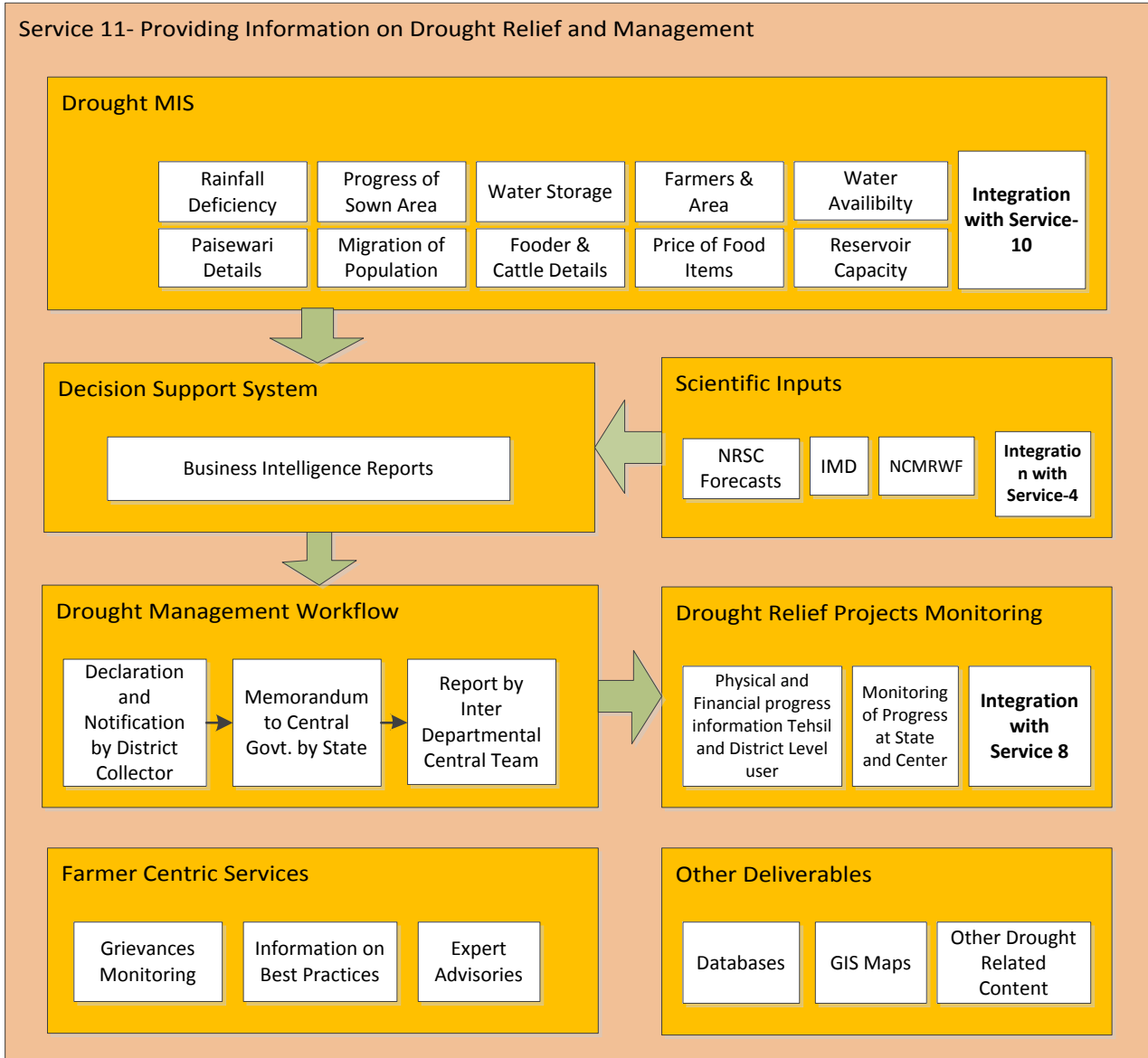
The following figure shows the Grievance Management Process to be implemented by the solution:
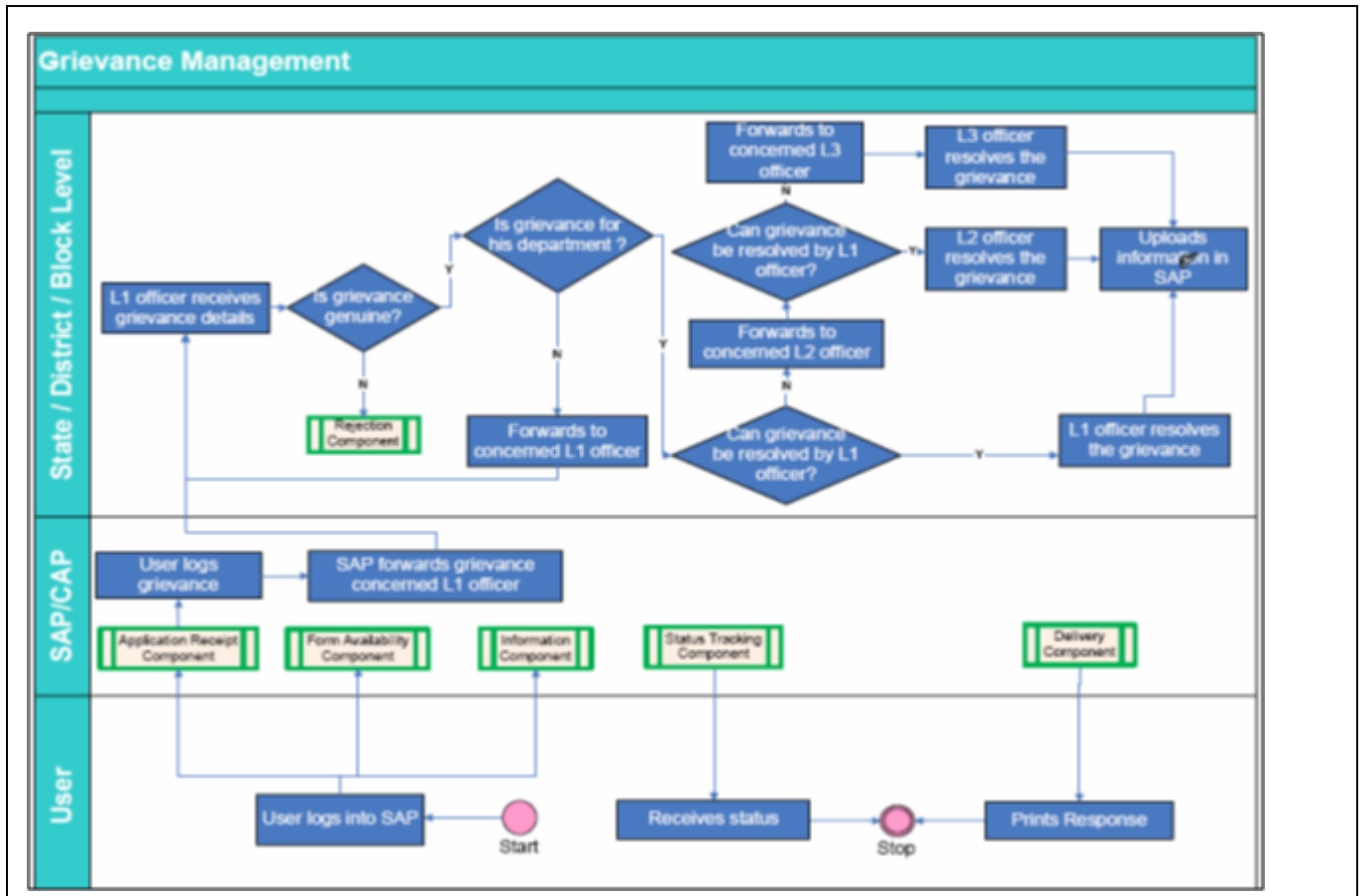
4 System Requirements

4.1 Context
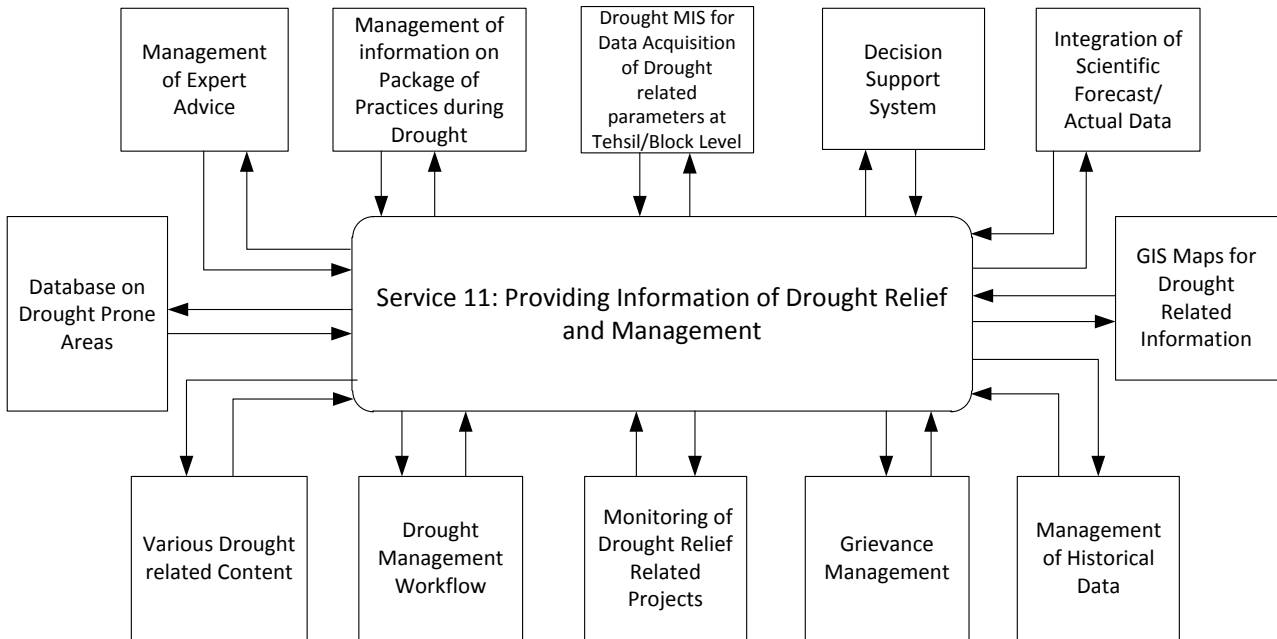
4.2 NeGP-A Service 11- Ecosystem

The figure below shows the interactions of service 11 with other NeGP-A services.
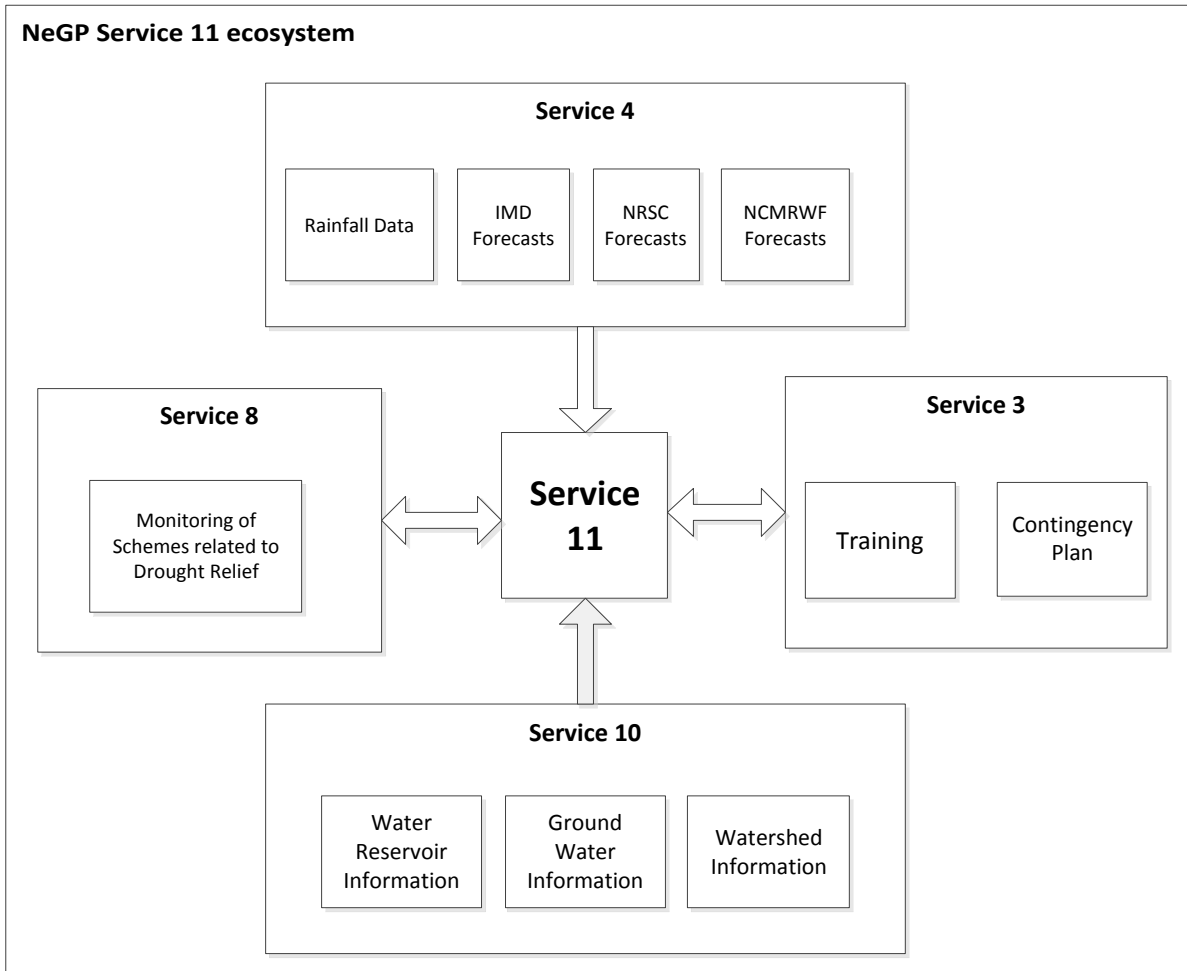
4.3 Detailed System Requirements

4.3.1 Draught MIS

The system should provide suitable interfaces, as a part of the **Drought MIS,** for theauthorized users at block/tehsil level to update the information on various parameters related to drought. The following set of specifications should be implemented by the Drought MIS Application:

4.3.1.1 *Data Entry Forms*

The system should provide interfaces for the Tehsil/Block Level data entry of the parameters related to the following:

1. Rainfall Deficiency
2. Progress of Sown Area
3. Water Availability Scenario
4. Fodder and Cattle Details
5. Prices of Food Items
6. Requirement and Availability of Seed and Fertilizer
7. Reservoir Details
8. Reservoir Capacity
9. Number Of Farmers & Area Where Crop Loss Is > 50%
10. Allocation Of Expenditure Details
11. Fodder Depot Location
12. Fodder Details
13. Cattle Camps Location
14. Week Wise Cattle Population In The Cattle Camp

4.3.1.2 *Reports*

The following reports should be provided by the Draught MIS Application

1. Drought Affected Districts
2. Rainfall Deficiency
3. Progress Of Sown Area
4. Water Availability Scenario
5. Reservoir Capacity
6. Fodder And Cattle Details
7. Prices of Food Items

8. Requirement And Availability For Seed And Fertilizer

9. Number Of Farmers & Area Where Crop Loss Is > 50%

10. Rainfall & Sown Area

11. Fertilizer Deficiency

4.3.1.3 Approval and Submission

The Data entered in to the system by the Data Entry Operator should be validated and approved by the Tehsil/Block level user. The data should be considered as submitted only after the approval of the tehsil/block level user.

4.3.1.4 Role Based Access

The System should provide the following role based access:

1. Data Entry Operator: Should have access only for entry of the Data related to all the parameters for his tehsil/block.

2. Tehsil/Block Level User: Should have access to update the data submitted by the Data Entry Operator and approve the data for submission. He should be able to view the reports for his tehsil/block only.

3. District Level User: Should have the view access to the reports specific to his district only. He should be able to view the report for any tehsil/block under his district and cumulative reports for his district.

4. State Level User: Should have view access to the reports specific to his state only. He should be able to view the reports for any tehsil/block in the state based on the selection of district.

5. Central Users: Should have view access to all the tehsils based on the selection of state and district.

6. Admin: Should be able to perform all administrative tasks such as User creation, master update etc.

The Tehsil/Block/District/State of the user should be associated with each user profile and should be taken associated with each login for granting the access to the user.

4.3.1.5 Monitoring and Alerts

The system should provide a report for the monitoring of the status of the data entry process and should alert the District/State and Central LevelUsers of the blocks/tehsils for which the data is not being entered on regular basis.

4.3.1.6   Additional features

The following additional features should be implemented by the Drought MIS application

1. The application should provide the functionality to create the users, assign location (State, District, and Tehsil/Block) and assign appropriate role to the users. This functionality should be accessible only to the admin users
2. The Application should allow the login for only authorized users
3. The application should maintain a complete audit trail of all the interaction with the system

4.3.1.7   Application Flow
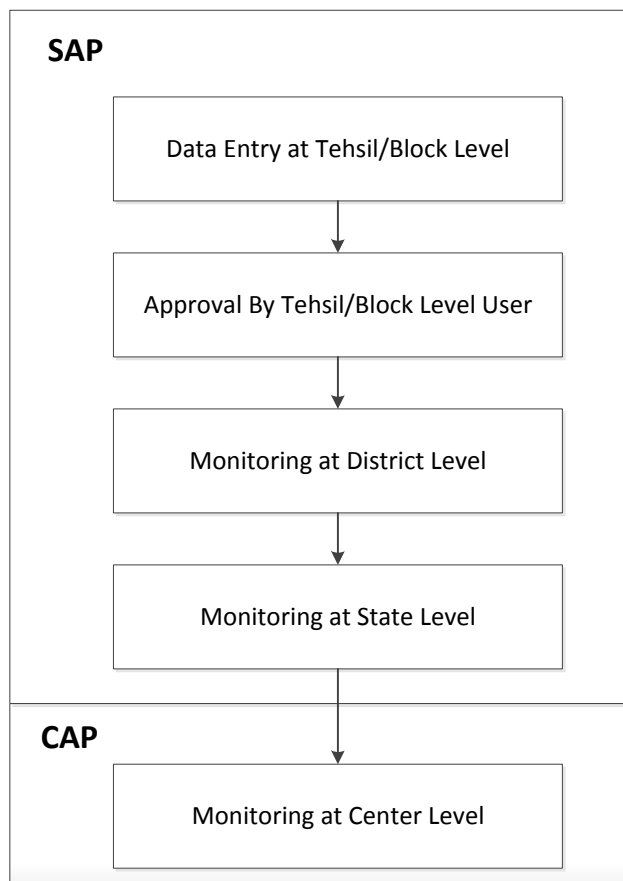
4.3.2 Drought Management Workflow Application

The system should provide integrated **Drought Management Workflow Application**. The Drought Management Workflow Application is intended for IT enablement of the drought declaration process and would be based on the policies and rules as defined in the **Manual for Drought Management**.

The Drought Management Workflow should satisfy the rules and policies for the Drought declaration procedure laid out in the Manual for Drought Management. Some of the key requirements for the Application are highlighted in the following sections.

4.3.2.1 *Drought Declaration by District Collector*

The application should provide suitable forms for the District Collector submit theDeclaration and Notification for the droughtaffected villages/tehsil/blocks in his district. The format of the Declaration and Notification forms should be in compliance with the formats provided inthe Annexure 5.2.

4.3.2.2 *Certificates for Drought Declaration and Notification by District Collector*

The application should provide for the generation of printable certificates for Declaration and Notification of Drought by District Collector, according the formats provided in Annexure 5.2and Annexure 5.3.

4.3.2.3 *Drought Declaration by State Relief Commissioner*

The application should provide a suitable interface for the State Relief Commissioner to submit the Declaration of Drought. The format of the Declaration form should be in compliance with the formats provided in Annexure 5.4 .

4.3.2.4 *Certificates for Drought Declaration by State Relief Commissioner*

The application should provide for the generation of printable certificates for Declaration of Drought by State Relief Commissioner, according the formats provided in Annexure 5.4.

4.3.2.5   Submission of Memorandum for Drought Relief under NCCF

States governments submit memorandum to the Ministry of Agriculture, Government of India seeking assistance for drought relief from the National Calamity Contingency Fund (NCCF). The memorandum is submitted after the state government formally declares drought.

The form for submission of the memorandum should be as per formats provided in the Annexure 5.5

4.3.2.6   Submission of Report by IDCT

Upon receiving the memorandum from the status the Drought Management Division of DAC constitutes a Inter-Departmental Central Team (IDCT). The IDCT visits the states for impact assessment and damage estimation and submits it report including the recommendation for consideration of Inter-Ministerial Group (IMG).

The application should provide suitable interfaces for the Inter-Departmental Central Team to submit its reportin the system.

4.3.2.7   User Dashboards

The application should provide each user with a dashboard view of all the activities performed/ to be performed by the user in the system. For example, the State Relief Commissioner should be able to see, on his dashboard, a list of all the districts where the drought has been declared. Similarly the Ministry user should be able to see the list of states which have submitted the memorandum under NCCF.

4.3.2.8   Additional Requirements

The following is the list of additional requirements to be implemented by the system

1. Calculation of Area Specific Vulnerability Magnitude on a scale of 1-10 for all the villages/tehsils declared as Drought affected. It should be displayed along with to all the workflow users along with the name of the Village/Tehsil/District as required.
2. The application should be integrated with the DMIS.
3. The application should provide access to authorized users only.
4. The application should maintain a complete audit trail of all the user interactions with the system
5. The application should provide notification via SMS and Email to the users for all the activities requiring their attention.

4.3.2.9   Application Flow

**Flow for the Drought Management
Workflow (DMW) Application**

Drought MIS

Information on Parameters like
Rainfall
Drought Severity Index
Yield

Draught Declaration and Notification by
DM

Draught Declaration by State Relief
Commisioner

Submission of Memorandum to the
Central Government

Submission of Report By IDCT

**Monitoring
of Drought
Relief
Projects**
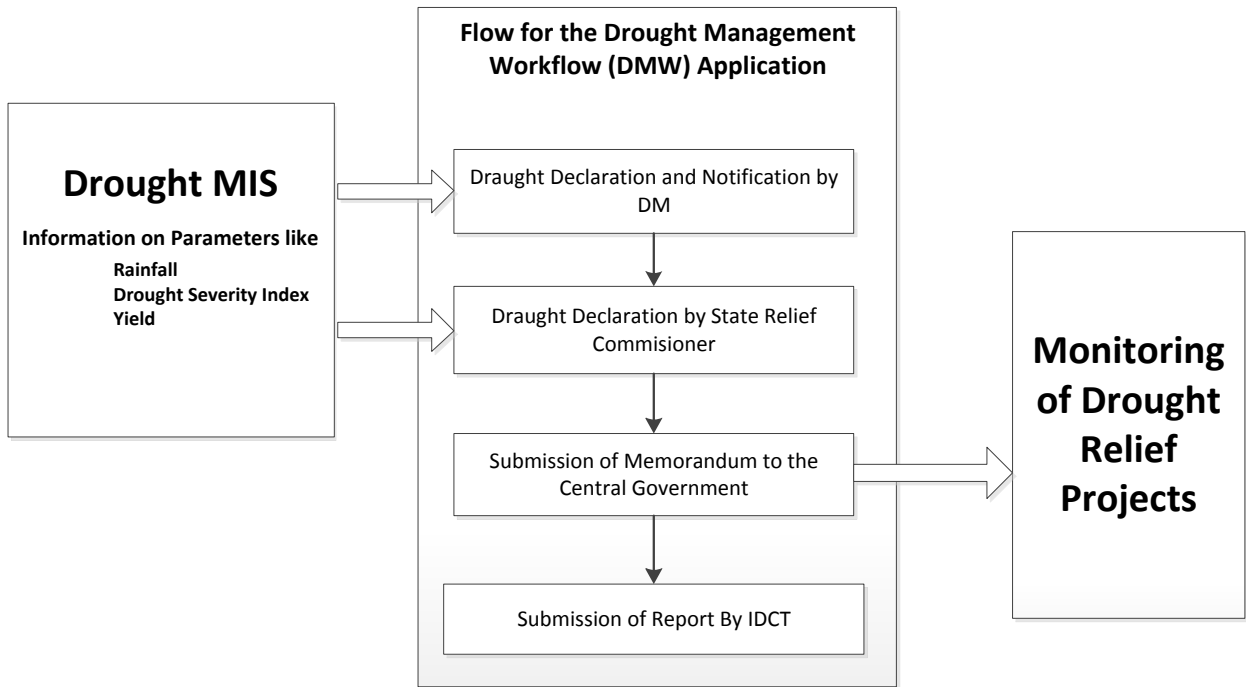
4.3.3   Application for Monitoring of Drought Relief related Projects

The state government submits a memorandum for financial assistance to under the NCCF to the Ministry of Agriculture. The memorandum contains the details of the projects to be undertaken by the state governments for the drought relief measures and related financial requirements. The Drought Relief Project Monitoring application should integrate with the Drought Management Workflow Application to get the project plan submitted by the State Government for the drought relief measures.

The following features should be provided by the application:

4.3.3.1   Integration with Drought Management Workflow for Project Plan

The Drought Relief Project Monitoring application should integrate with the Drought Management Workflow Application to get the project plan submitted by the State Government for the drought relief measures. The plan should include the following parameter

1. Name of the project
2. Nature of project (Short/Medium/Long term relief)
3. Total Expenditure
4. Completion time
5. Location of Project (State/District/Tehsil/Panchayat/Village)

Along with the other required parameters

4.3.3.2   Modification of Project Plan

The final grant under the NCCF may be different from that proposed by the state government hence the application should give authorized user the ability to modify the project details.

4.3.3.3   Status update for the Projects

The Tehsil/Block and District level officers should be able to provide the details for the physical and financial progress information relate to the relief projects. The application should give these users proper interfaces for update of the required information.

4.3.3.4   Monitoring of Projects

The users at state and central level should be able to monitor the project progress.

4.3.3.5 Application Flow
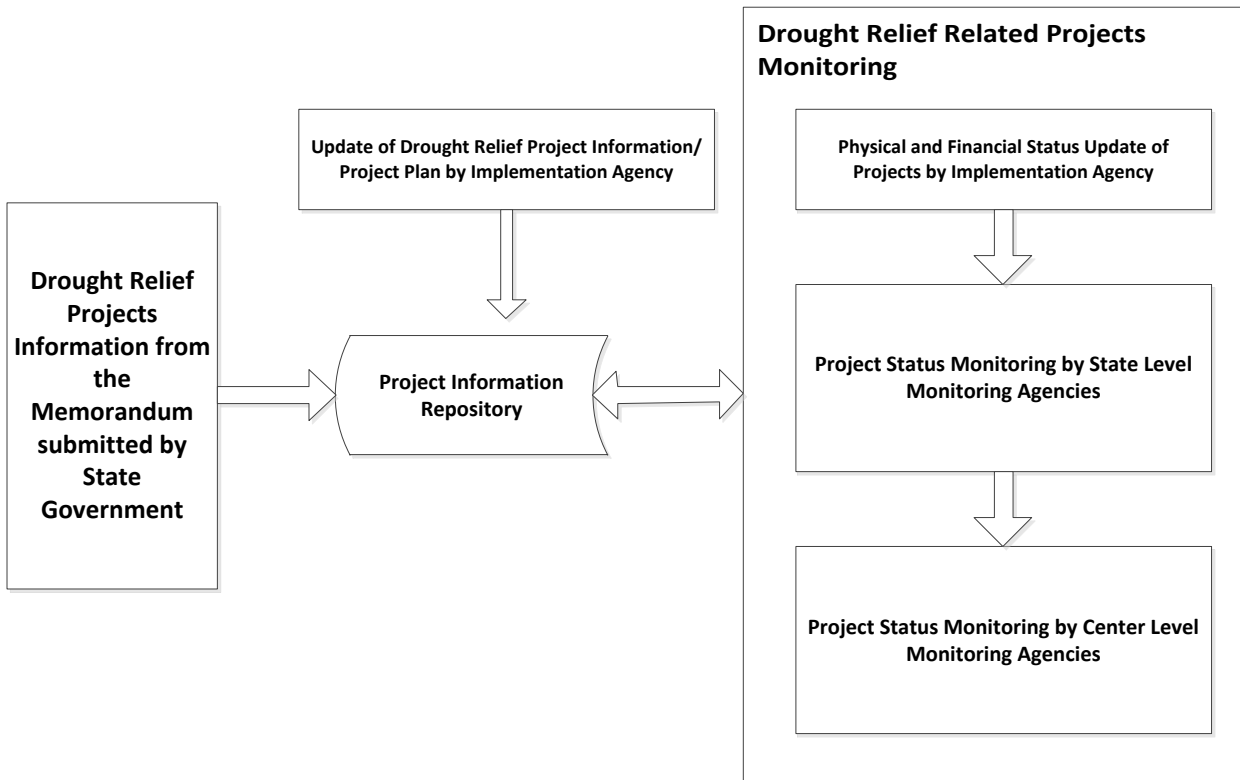
4.3.4   Management of Resources required for Drought Relief

The system should provide an application for maintaining the availability status of the resources required for drought relief measures. The application should provide the following functionality

4.3.4.1   *Master of the Resources Required of Drought Relief*

The application should have a master of all the resources required for the drought relief measures. It should have the following parameters for the resources

1. Resource Name
2. Resource Description
3. Resource Type
4. Resource Category
5. Unit
6. Recommended Quantity
7. Minimum Quantity
8. Location (State, District, Tehsil, Panchayat, Village)

along with other parameters as required. The application should allow the admin users to add the resources to this master list. It should allow the admin users to specify the resource requirement at the various locations such as state level, district level etc.

4.3.4.2   *Availability of the Resources*

The list of the required resources for the drought relief measures should be available to the concerned users at the various levels such as State, district, block etc. they should be able to update the availability status in terms of the available/not available and the quantity of such resources.

4.3.4.3   *Requisition of the Resources*

The users should be able to submit the requisition, for the resources required for the drought relief measures, to the concerned district/state administration from within the application.

4.3.4.4   *Reports*

The application should provide the following reports

1. Location wise availability – This report should provide a detailed list of all the resources according to the selected location

2. Location wise unavailable resources – This report should provide the location wise details of the resources which are not available

3. Location wise below minimum resources – This report should provide a location wise list of resources which are below the minimum required level

4. Resource wise requirement – This report should provide a list of resources and their requirement level at various locations in descending order

5. **Resource wise surplus** – This report should provide a list of resources which are more than the recommended level at any particular location.

4.3.5   Decision Support System

The system should provide business intelligence capabilities Business fordecision support capabilities to assist the users in analyzing the situation and take necessary mitigation measures. The data captured related to the various drought related parameters and the scientific forecast data provided by the various agencies would serve as the input to the system.

The System should provide

1. Interactive tools to provide following capabilities for assessment of various drought related parameters (like Rainfall, Yield, and Drought Severity Index etc.)

    *   Time based **Trends** assessment

    *   Year-on-Year

    *   Rainfall analysis by day of the Season

    *   Key Performance Indicators

    *   Distribution of Drought Prone/affected areas by Drought Severity Index

2. Capabilities to provide **Automatic Actions and Advisory Triggers** based on the various drought related events like

    *   Changes in drought severity index

    *   Uneven Rainfall Distribution

    *   Forecasts predicting scarcity in rainfall

    *   Significant drop in yield

4.3.5.1   Business Intelligence Tools for Decision Support System

The following business Intelligence tools can be implemented for the decision support system, either independently or in conjunction.
1. Microsoft SQL Server 2012 Suite along with SharePoint Server 2010 Enterprise
2. SAS Business Intelligence
3. Oracle Hyperion

4.3.6   Management Dashboards

Each system user should get an integrated dashboard, which should be his landing page post login. The dashboard view should provide him a broad level view of all the related functions, like

- Status of Key Function Areas
- Real Time Alerts
- Task View
- Announcements

4.3.7   Management of Expert Advice

The System should provide suitable interfaces for Management of Expert Advice related to Drought. The Farmer/Citizen should be able to ask for advice on matters related to drought and the authorized users should be able to provide the required advice on the matters. The Farmer/Citizen should also be able to search for categorized information related to expert advice.

4.3.8   Management of Information on Package of Practices during Drought

The System should provide suitable interfaces for Management of practices to be followed during Draught. The authorized users should be able to update such information into the system and the concerned Farmers/Citizen should be able to access the categorized information. The information should also be accessible using parameterized and free text searches.

4.3.9   Grievance Management

The system should provide suitable interfaces for the Farmers/Citizens to register their grievances. The system should provide a unique ID to the Farmers/Citizens upon grievance registration and an interface to check the status of the grievance. The system should also provide the interface for the departmental users to access the grievance details and provide a resolution for the same.

4.3.10   Integration of Scientific Forecast/Actual Data

The system should provide suitable interfaces for capturing the scientific forecastinformation related provided by the various agencies like IMD, NRSC and NCMRWF etc.

4.3.11   Database on Drought prone Areas

The system should provide suitable interfaces for building a database of drought prone areas in the country.

4.3.12 GIS Maps for Drought Related Information

The system should provide the GIS maps for the various drought related information. The following maps are required by the system:

- Drought Prone Areas (State and District wise)
- Drought Declared areas by State
- Drought Vulnerability Map
- Rainfall deficiency
- Crop Sown Area
- Reservoir Capacity Details
- Crop Damages
- Relief Assistance Provided
- Soil Moisture
- Cropping Patterns
- Land Use Pattern
- Land Holdings

4.3.13 Management of Historical Data

The system should provide interfaces for entry of the historical data related to the drought parameters.

4.3.14 Content Management System

The system should provide suitable content management interfaces for the following drought related content

- Drought Declaration Procedures
- Water harvesting procedures
- Drought resistance crops & their Varieties and methods of Irrigation
- Information on malnutrition or disease
- Crops covered under insurance and Crop insurance Procedures, eligibility criteria, agencies involved and all other related information
- Livestock insurance scheme details and insurance agencies
- Health related information and services for human and cattle (Source: Integrated Disease Surveillance System(IDSS), National Animal Disease Reporting System (NADRS)
- Information about fodder banks and cattle camps.
- Area wise Drought relief packages available and procedures for utilising the relief packages
- Credit facilities available

4.3.15 Mobile Communication

The System should provide an interface for the users to be able to connect and receive information through the use of mobile devices. The system should provide the following interfaces for mobile communication

1. Mobile Application
2. SMS Based Services
3. Use of Mobiles for e-Authentication

4.3.15.1 Mobile Application

The mobile application should provide the all the functionalities similar to the main application for Service 11: Providing Information on Drought Relief and Management. The following are the additional requirements for the mobile applications:

1. The system should be accessible over all the leading mobile platforms like
   a. Windows
   b. Android
   c. Symbian
   d. IPhone
   e. Java etc.
2. The application should use the same authentication information as the main web application so that the users should be able to login to the mobile application with the credentials used for the main application.
3. The information submitted by the users thru mobile application should be accessible in the main web application and vice-versa.
4. The information submitted via mobile application should be distinctively marked for identification as submitted via mobile.

4.3.15.2 SMS Based Services

The SMS is to be added as a communication interface for the users. The following farmer centric information should be available for the farmers via SMS

1. **List of the Drought affected District Based on state**

   The users should be able to send a SMS to a short code/long code (ex INFO DIST <Statename>) to the system and the system should respond with the list of drought affected Districts in the state

2. **List of Drought affected Tehsils/Blocks in a district**

   The Farmer should be able to send a SMS to a short code/long code (ex INFO TEH <Statename><DistrictName>) to the system and the system should respond with the list of drought affected Tehsil/Blocks in the district

3. **Expert Advisory**

   The users should be able to send their query via SMS to a short code / long code. The system should submit the query in the Expert Advisory module and the responses should be sent to the users via SMS.

4. **Grievance Reporting**

   The users should be able to send the grievance detail via SMS to a short code / long code. The grievance submitted should be received in the system and the recorded in the grivence management module.

4.3.15.3 Use of Mobile for e-Authentication

The login process in the main web application can be made more secure by asking for additional information (other than the userid and password) from the user. The nature of the additional information should be such that it is available for one time use and is generated at the time of login only. Such a mechanism is known as One-Time Password (OTP). OTP can be delivered to the user via SMS to his registered mobile number.

The process adds another layer of security and makes sure that only authorized users are able to access the application.

4.4   Interaction with other Systems and Services

The Service 11 components need to be integrated with the following existing system and services to gain from the information already available from them.

4.4.1   National Agricultural Drought Assessment and Monitoring System (NADAMS)

Agricultural drought assessment using space technology inputs has been operational in India since 1989, through a project 'National Agricultural Drought Assessment and Monitoring System (NADAMS)'. NADAMS provides near real-time information on prevalence, severity level and persistence of agricultural drought at state/district/sub-district level. Currently, the project covers 13 states of India, which are predominantly agriculture based and prone to drought situation .Agricultural conditions are monitored at state/district level using daily observed coarse resolution (1.1 km) NOAA AVHRR data for 11 states. Moderate resolution data from Advanced Wide Field Sensor (AWiFS) sensor of Resourcesat 1 (IRS P6) of 56 m and Wide Field Sensor (WiFS) of IRS 1C and 1D of 188 m are being used for detailed assessment of agricultural drought at district and sub district level in four states namely, Andhra Pradesh, Karnataka, Haryana and Maharashtra.

The following sections provide further details about NADAMS:

4.4.1.1   Services

- Agricultural vegetation condition images/maps at state/district level
- Products on drought related parameters - rainfall, crop areas etc
- Agricultural drought assessment maps

4.4.1.2   Drought reports

- Frequency: Fortnightly/monthly
- Dissemination: Surface mail, e mail and DMS-VP network.

4.4.1.3   Users

- Ministry of Agriculture,Dept. of Agrl. & Cooperation, Govt. of India
- Directors of Agriculture of different states
- Relief/Revenue Commissioners of states
- India Meteorological Department
- State Remote Sensing Application Centers

4.4.1.4   Information utilization

- Input to review meetings of agricultural situation by Agriculture depts
- Input for contingency plans
- Relief claims and relief management

4.4.1.5 *Future Plans*

- Extension of AWiFS based sub district level assessment to other states.

- Establishment of Automatic Weather Stations throughout the country

- Development of Decision Support System for drought assessment

- Agro advisory services

- Quantitative assessment of drought impact on agriculture

- Early warning information on the incidence of agricultural drought

4.4.2 National Initiative on Climate Resilient Agriculture (NICRA)

Climate change has become an important area of concern for India to ensure food and nutritional security for growing population. The impacts of climate change are global, but countries like India are more vulnerable in view of the high population depending on agriculture. In India, significant negative impacts have been implied with medium-term (2010-2039) climate change, predicted to reduce yields by 4.5 to 9 percent, depending on the magnitude and distribution of warming. Since agriculture makes up roughly 16 percent of India's GDP, a 4.5 to 9% negative impact on production implies a cost of climate change to be roughly up to 1.5 percent of GDP per year. The Government of India has accorded high priority on research and development to cope with climate change in agriculture sector. With this background, the ICAR has launched a major Project entitled, **National Initiative on Climate Resilient Agriculture (NICRA)** during 2010-11 with the following objectives.

- To enhance the resilience of Indian agriculture covering crops, livestock and fisheries to climatic variability and climate change through development and application of improved production and risk management technologies

- To demonstrate site specific technology packages on farmers' fields for adapting to current climate risks

- To enhance the capacity building of scientists and other stakeholders in climate resilient agricultural research and its application.

4.4.2.1 *Project Components*

Both short term and long terms outputs are expected from the project in terms of new and improved varieties of crops, livestock breeds, management practices that help in adaptation and mitigation and inputs for policy making to mainstream climate resilient agriculture in the developmental planning. The overall expected outcome is enhanced resilience of agricultural production to climate variability in vulnerable regions. The project is comprised of four components.

- Strategic research on adaptation and mitigation

- Technology demonstration on farmers' fields to cope with current climate variability

- Sponsored and competitive research grants to fill critical research gaps
- Capacity building of different stake holders

4.4.2.2 *Strategic Research*

The strategic research has been planned at leading research institutes of ICAR in a network mode covering crops, horticulture, livestock, natural resource management and fisheries sectors. To begin with, the project is focusing on crops like wheat, rice, maize, pigeonpea, groundnut, tomato, mango and banana; cattle, buffalo and small ruminants among livestock and both marine and freshwater fish species of economic importance. The major research themes are:

- Vulnerability assessment of major production zones
- Linking weather based agro-advisories to contingency planning
- Assessing the impacts and evolving varieties tolerant to key climatic stresses (drought, heat, frost, flooding, etc.) in major food and horticulture crops
- Continuous monitoring of greenhouse gases in open field conditions in major production systems
- Evolving adaptation and mitigation strategies through enhancing water and nutrient use efficiency and conservation agriculture
- Studying changes in pest dynamics, pest/pathogen-crop relationships and emergence of new pests and pathogens under changing climate
- Adaptation strategies in livestock through nutritional and environmental manipulations
- Harnessing the beneficial effects of temperature in inland and marine fisheries through better understanding of the spawning behavior.

The research was initiated during 2011-12 in all the above themes. The major emphasis during the year was on building state of art research infrastructure like high throughput phenotyping platforms, free air temperature elevation systems in open fields, environmental growth chambers with CO_2 and temperature controls and special caloric metric system to study livestock response to heat stress. These are some of the unique facilities being set up for the first time in Asia. In all the target crops like rice, wheat, maize, pigeonpea, tomato and mango, core sets of genetic resources were assembled and field phenotyped at different institutions with a view to identify sources of tolerance to climatic stresses and related genes and traits. For the first time, all the germplasm of wheat with NBPGR has been multiplied for field phenotyping and currently under evaluation. Country wide studies have been initiated to understand theimpact of temperature on flowering behavior in mango. A nationwide pest surveillance and monitoring system has been put in place for all the target crops for major pests and diseases wherein real time incidence is being monitored along with weather parameters to build pest warning models. Methods for measurement of greenhouse gas emissions in the marine ecosystem have been standardized. Carbon sequestration potential through agro forestry systems across the country is being quantified. Monitoring of experiments on conservation agriculture in different production systems is initiated to assess the adaptation and mitigation potential of CA practices. The vulnerability of all the rural districts in the country (about 540) is being quantified in terms of exposure, sensitivity and adaptive capacity in order to prepare a vulnerability atlas. The vulnerability atlas can be integrated with the GIS maps to be delivered as part of the Service 11.

4.4.3 National Centre for Crop Forecasting (NCCF)

4.4.3.1 *Objective:*

- Periodic Crop Forecasting for major crops and
- Coordination and assimilation of various methodologies

4.4.3.2 *Salient Features:*

- Periodic crop forecasting for major crops through assimilation of information generated by the different Organizations.

- Providing the effective unified institutional framework for the entire crop forecasting system in the country involving data flow, assimilation, analysis and dissemination of statistics.

- To assimilate large data bases from different sources and application of advanced statistical tools with the help of upgraded computational facilities involving high degree of statistical skill.

- To interact with data source agencies and methodological development and to provide objective input at higher level for efficient policy Planning.

- Central level monitoring of the situation about crop, weather, supply of inputs, pests/diseases and related aspects through the mechanism of Crop & Weather Watch Group.

- Periodic crop forecasting for major crops through assimilation of information generated by the different such as IMD, Medium Range Weather Forecasting of Department of Science & Technology, Department of Space (DOS), Central Statistical Organization (CSO), Indian Agricultural Statistics Research Institute (IASRI), Field Operation Division of the National Sample Survey Organization (NSSO) and the SASA's, State Agriculture Departments, Market Intelligence Units, ICAR, etc.

- Coordination and assimilation of various methodologies and technical advancement relating to crop forecasting.

4.5   Software Product Features

4.5.1   Functional Requirement

FEAT ID	Feature Description
FEAT_ VRFRPCWLY_01	View rainfall percentage compared to corresponding week of last year.
FEAT_ VTPORSWLT_01	View the percentage of rainfall in the selected week to the long term average.
FEAT_ VTPORJAJLTA_01	View the percentage of rainfall in the week and in June & July to the long term average
FEAT_ VTSAPR_01	View the Sown Area Progress Report
FEAT_ VTWAR_01	View the water availability Report
FEAT_ RCR_01	View the Reservoir Capacity Report
FEAT_ FACR_01	Fodder and Cattle Report
FEAT_ PFIR_01	Price of Food Item Report
FEAT_ VNOFA_01	View the Number of farmers & Area where crop loss is > 50%
FEAT_ RPAG_01	Report of Paisewari / Annewari
FEAT_11	Report of Information of population
FEAT_12	Report on Damage of Agriculture due to Drought
FEAT_13	Report on Damage of Fodder & Cattle due to Drought

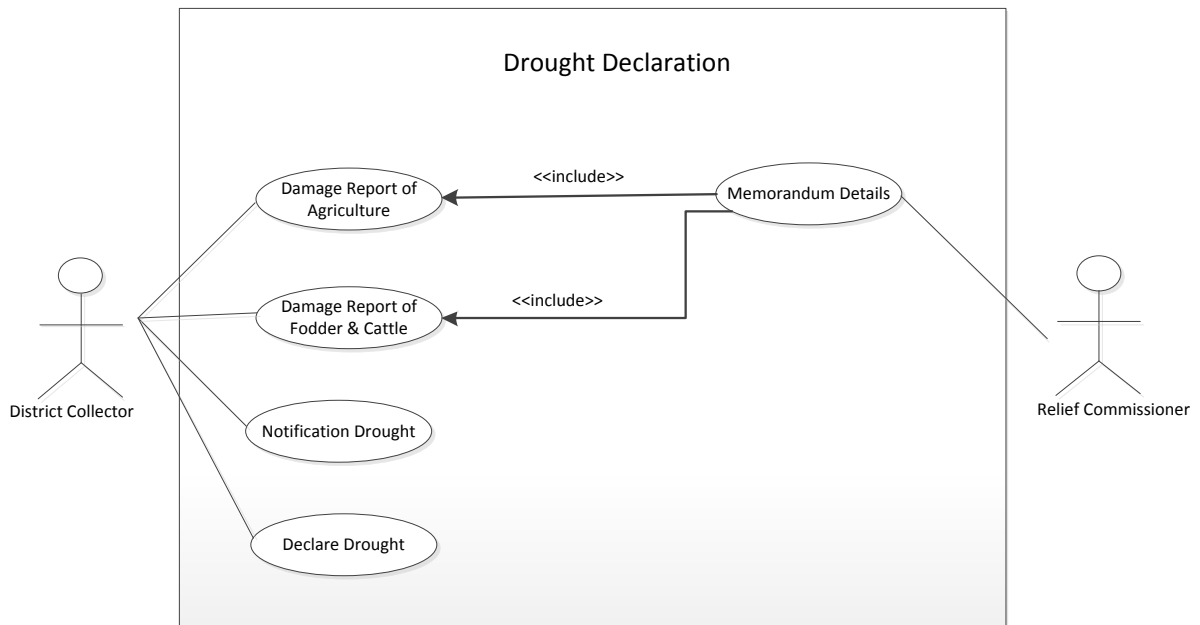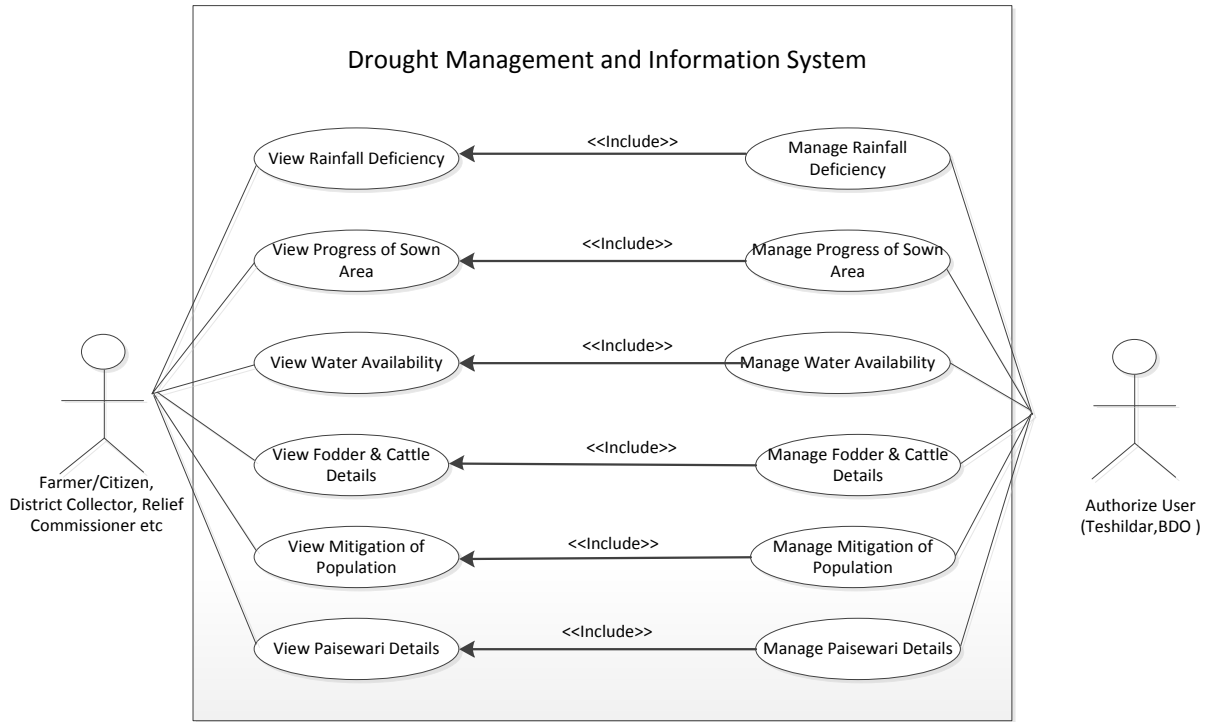| FEAT_ DDC_01	Drought Declaration Certificate
FEAT_15	Submit Rainfall Deficiency
FEAT_16	Manage progress of Sown Area Information.
FEAT_17	Manage the information of number of farmers & area where crop loss is >50%.
FEAT_18	Manage the Water Availability Scenario
FEAT_19	Manage the Fodder and Cattle Details.
FEAT_20	Manage the Price of Food Items.
FEAT_21	Manage the Information of Reservoir Details
FEAT_22	Manage the Information of Reservoir Capacity
FEAT_23	Damage of Agriculture due to drought
FEAT_24	Damage of Fodder and Cattle due to drought.
FEAT_25	Manage the Population Information
FEAT_26	Manage the information of paisewari/Annewari/Girdawari
FEAT_27	Manage the Drought Declaration Certificate (District).
FEAT_28	Manage the Drought Declaration Certificate (State).
FEAT_29	Report Grievance

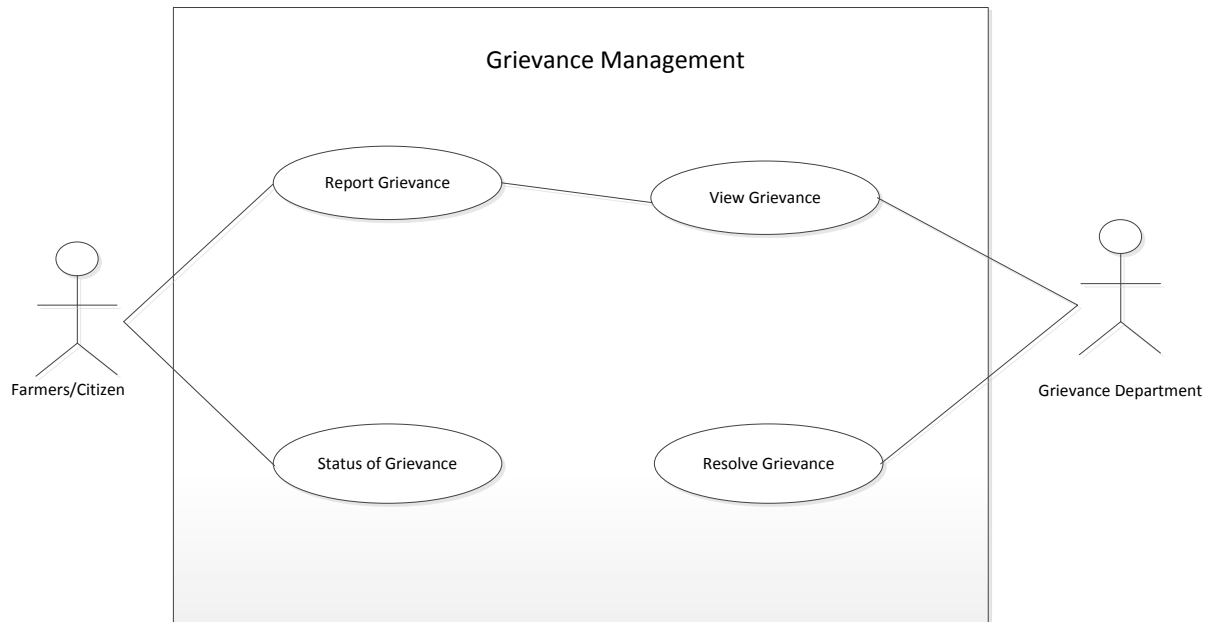| FEAT_30	Monitor Grievance
FEAT_31	Check Grievance Status
FEAT_32	Resolve Grievance
FEAT_33	Enter Best Practices on Drought
FEAT_34	View Best Practices on Drought

4.5.2 Actors

- Administrator
- Authorized User
- Farmer/Citizen
- District Collector
- Relief Commissioner
- Grievance Department
- Tehsil Dar/BDO

4.5.3 Use Case Diagram

Best Practices

Expert Adviser/Department

Advice

Submit Memorandum

Relief Commissioner

View Migration of Population

View Rainfall Deficiency

View Progress of Sown Area

View Paisewari Details

View Water Availability

View Fodder and Cattle Details

View & Ask Expert Advice

Report & Check Grievance Status

Farmer/Citizen
District Collector, Tehsil Dar
BDO, Relief Commissioner,
Expert Adviser

Declare & Notification Drought

District Collector

Manage Water Availability

Manage Rainfall Deficieny

Mange Progress of Sown Area

Manage Fodder and Cattle Details

Tehsil Dar/BDO

Drought Management and Information System

View Rainfall Deficiency <<Include>> Manage Rainfall Deficiency

View Progress of Sown Area <<Include>> Manage Progress of Sown Area

View Water Availability <<Include>> Manage Water Availability

View Fodder & Cattle Details <<Include>> Manage Fodder & Cattle Details

View Mitigation of Population <<Include>> Manage Mitigation of Population

View Paisewari Details <<Include>> Manage Paisewari Details

Farmer/Citizen, District Collector, Relief Commissioner etc

Authorize User (Teshildar,BDO)

Drought Declaration

Damage Report of Agriculture <<include>> Memorandum Details

Damage Report of Fodder & Cattle <<include>>

Notification Drought

Declare Drought

District Collector

Relief Commissioner

4.5.4 Use Case Description

4.5.4.1 *View the rainfall percentage compared to corresponding week of last year*

Overview: View the List of blocks where percentage of rainfall in the selected week, to the corresponding week of last Year, is less than or equal to 50%.

Scope: The actor will access the report of rainfall percentage compared to corresponding week of last year.

Use Case ID:	UCI-01
Use Case Name:	View rainfall percentage compared to corresponding week of last year.
Feature ID	FEAT_ VRFRPCWLY_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report for rainfall deficiency where percentage of rainfall in the selected week, to the corresponding week of last Year, is less than or equal to 50%.
Trigger:	The actor selects "View the Rainfall Percentage compared to corresponding Week of Last year" Option.
Pre conditions:	
Post conditions:	
Input:	Select Week ending
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the option **View the Rainfall Percentage compared to corresponding Week of Last year**	▪ The System would show the report of rain fall deficiency. the following details: • District Name • Block Name • Rainfall (MM) • Rain on this week last year(MM) • Percentage of week to last corr. week last year
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		

Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.2 View the Percentage of Rainfall in the week to the Long Term Average

Overview: View the List of blocks where percentage of rainfall in the selected week, to the Long term average, is less than or equal to 50 %.

Scope: The actor will access the report of rainfall where percentage of rainfall in the selected week, to the Long term average, is less than or equal to 50 %.

Use Case ID:	UCI-02
Use Case Name:	View the percentage of rainfall in the selected week to the long term average
Feature ID	FEAT_ VTPORSWLT_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report for rainfall deficiency where percentage of rainfall in the selected week, to the Long term average, is less than or equal to 50 %.
Trigger:	The actor selects "View the Percentage of Rainfall in the selected week to the Long Term Average" Option.
Pre conditions:	
Post conditions:	
Input:	Select Week ending
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the option **View the Percentage of Rainfall in the selected week to the Long Term Average**	▪ The System would show the report of rain fall deficiency. the following details: • District Name • Block Name • Rainfall (MM) • Long term Avg Rainfall on week • Percentage of rainfall on week to long term average of week.
	At any point of time, the actor can click the **Close** button to close form.	

Alternative Flow:	None

Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.3 *View the Percentage of Rainfall in the Week and in June & July to the Long Term Average*

Overview: View the List of blocks where percentage of sum of rainfall in the selected week and in June & July , to the sum of long term Average(LTA) in the selected week and LTA in June & LTA in July, is less than or equal to 50 %.

Scope: The actor will access the report of rainfall deficiency where percentage of sum of rainfall in the selected week and in June & July, to the sum of Long Term Average (LTA) in the selected week and LTA in June & LTA in July, is less than or equal to 50%.

Use Case ID:	UCI-03
Use Case Name:	View the percentage of rainfall in the week and in June & July to the long term average
Feature ID	FEAT_ VTPORJAJLTA_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report for rainfall deficiency where percentage of sum of rainfall in the selected week and in June & July, to the sum of Long Term Average (LTA) in the selected week and LTA in June & LTA in July, is less than or equal to 50%.
Trigger:	The actor selects "View the percentage of rainfall in the week and in June & July to the long term average" Option.
Pre conditions:	
Post conditions:	
Input:	Select Week ending
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the option **View the percentage of rainfall in the week and in June & July to the long term average**	▪ The System would show the report of rain fall deficiency. the following details: • District Name • Block Name • Rainfall on Selected • Week + Rainfall in June + Rainfall in July (1) • (LTR) on selected week + LTR in June + LTR in July (2) • Percentage of 1 to 2.
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		

Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.4 *Sown Area Progress Report*

Overview: This use case will describe the Sown Area Progress it includes the percentage between crop target and actual Crop, Comparing between last year o current years.

Scope: The actor will access the report of progress of sown area.

Use Case ID:	UCI-04
Use Case Name:	View the Sown Area Progress Report
Feature ID	FEAT_ VTSAPR_01

Actors:	Farmer/Citizen

Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report of Progress of Sown Area.
Trigger:	The actor selects "Sown Area Progress Report" Option.
Pre conditions:	
Post conditions:	
Input:	
Output:	

	Actor Actions	System Responses
Normal Flow:	The actor clicks on the **Sown Area Progress Report**	▪ The System would show the report of Progress of sown area. the following details: • District Name • Block Name • Season • Crop • Target • Normal • Actual • Actual Last Year • Percentage of Actual to Normal • Percentage Actual Last year to normal
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	

Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.5 *Water Availability Report*

Overview: This use case will describe the water availability information. It includes the how many water resources are available.

Scope: The actor will access the report of water availability.

Use Case ID:	UCI-05
Use Case Name:	View the water availability report
Feature ID	FEAT_ VTWAR_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show water availability report.
Trigger:	The actor selects "Water Availability Report" Option.
Pre conditions:	
Post conditions:	
Input:	
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the **Water Availability Report**	▪ The System would show the report of Water Availability. the following details: • District • Habitations • Fully Covered for Drinking (for Habitation) • Partially Covered for Drinking Water(for Habitation) • Functional for drinking Water(for Habitation) • Disfunction for drinking Water(for Habitation) • Functional for Irrigation(for Habitation) • Disfunction for Irrigation(for Habitation) • Tankers Deployed • Quantity by Road • Wagons by Rail
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	

Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.6   *Reservoir Capacity Report*

Overview: This use case will describe the water availability of reservoir on basis of selected week.

Scope: The actor will access the Reservoir Capacity Report for selected week.

Use Case ID:	UC-6
Use Case Name:	View the Reservoir Capacity Report
Feature ID	FEAT_ RCR_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the reservoir water availability report.
Trigger:	The actor selects "Reservoir Capacity Report" Option.
Pre conditions:	
Post conditions:	
Input:	Select Week.
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**Reservoir**C**apacity Report**	▪ The System would show the report of Reservoir Water Availability. the following details: • Reservoir Name • Capacity of Selected Week(In MMC)(1) • Capacity of selected Week of Last Year(In MMC)(2) • Percentage 1 to 2 • FRL (In Mts)(selected week)(3) • FRL (In Mts)(selected week of last year)(4) • Percentage 3 to 4

	The actor clicks on the Reservoir Location Details	The System would show the report of Reservoir Location. the following details: • State Name • Area • Location(latitude and longitude)
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium	
Business Rules:		
Exceptions:		

Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.7 *Fodder and Cattle Report*

Overview: This use case will describe Availability of Fodder and details of cattle.

Scope: The actor will access the Fodder and Cattle Report.

Use Case ID:	UCI-07
Use Case Name:	Fodder and Cattle Report
Feature ID	FEAT_ FACR_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the fodder and cattle report.
Trigger:	The actor selects "Fodder and Cattle Report" Option.
Pre conditions:	

Post conditions:		
Input:		
Output:		
Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**Fodder and Cattle Report**	▪ The System would show the report of Fodder and Cattle Report. the following details: • Fodder (in Qtls) Move by Road,Move by Rail,Sale Depots,No of Fodder Bank • Cattles (in Nos.) Cattle camp,No Small Cattles,No Large Cattles • Fodder Prices (Rs./Qtl) Dry,Green,RiceBran,WheatBran,Other Fodder
	The actor clicks on the Fodder and Cattle Location Details	The System would show the report of Fodder and Cattle Location the following details: • State Name • District/Block Name • Area • Location(latitude and longitude)
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	

Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.8 Price of Food Item Report

Overview: This use case will describe price of food items.

Scope: The actor will access the price of food item Report.

Use Case ID:	UCI-08
Use Case Name:	Price of Food Item Report
Feature ID	FEAT_ PFIR_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the Report of price of food items.
Trigger:	The actor selects "Price of food Item report" Option.
Pre conditions:	
Post conditions:	
Input:	
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**Price of Food Item Report**	▪ The System would show the report of **Food Item price**. the following details: • Crop Name • Crop Price • Last Year Crop Price • Percentage increase in price to Last Year
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium	
Business Rules:		

Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.9 *View the Number of farmers & Area where crop loss is >50%*

Overview: Showing the number of farmers And Area (in Ha.) where crop loss is > 50%.

Scope: The actor will view the report of number of farmers & Area where crop loss is > 50 %.

Use Case ID:	UCI-09
Use Case Name:	View the Number of farmers & Area where crop loss is > 50%
Feature ID	FEAT_ VNOFA_01

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the Report of number of farmers & area where crop loss is > 50%.
Trigger:	The actor selects "View the Number of farmers & Area where crop loss is > 50%" Option.
Pre conditions:	
Post conditions:	
Input:	
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**View the Number of farmers & Area where crop loss is > 50%"**	▪ The System would show the report with the following details: • No. of Farmers,Area in (Ha.) under Heading of Small & Marginal Farmers • No. of Farmers,Area in (Ha) under Heading of Other than Small & Marginal Farmers
	The actor click on the View location the Number of Farmers & Area where crop loss is >50%	The System would show the report with the following details: • District/Block Name • Location(latitude and longitude)
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		

Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.10 *Report of Paisewari / Annewari*

Overview: An estimation of crops production is obtained through paisewari/Aneewari system.

Scope: The actor will view the report of paisewari/Annewari.

Use Case ID:	UCI-10
Use Case Name:	Report of Paisewari / Annewari
Feature ID	FEAT_ RPAG_01

Actors:	Farmer/Citizen

Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report of paisewari/annewari.
Trigger:	The actor selects "Report of Paisewari / Annewari" Option.
Pre conditions:	
Post conditions:	
Input:	
Output:	

	Actor Actions	System Responses
Normal Flow:	The actor clicks on the **Report of Paisewari / Annewari**	▪ The System would show the Paisewari or Annewari report with the following details: • Village • Paisewari/Annewari(1-100 paise or 1- 16 Annas)
	The actor clicks on the Report location of Paisewari/Annewari	The System would show the location of Paisewari or Annewari report with the following details: • Village Name
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	

Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.11 View the Information of Population

Overview: Estimation the population at Block level.

Scope: The actor will view the report on the Information of population.

Use Case ID:	UCI-11
Use Case Name:	Report of Information of population
Feature ID	FEAT_11

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report information of population.
Trigger:	The actor selects "Report of Population" Option.
Pre conditions:	
Post conditions:	
Input:	Select District Select Block
Output:	View the Report on Information of Population

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**Report of Population**	▪ The System would show the Information of population report with the following details: • District Name • Block Name • Year • Male-population • Male-Decennial Increase in Population (In %) • Female- population • Female- Decennial Increase in population (In %) • Total- Population • Total- Decennial Increase in population (In %)
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		

Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.12 *View Damage of Agriculture due to Drought*

Overview: Estimation the Damage of Agriculture due to Drought at Block level.

Scope: The actor will view the report on Damage of Agriculture due to Drought at Block Level.

Use Case ID:	UCI-12
Use Case Name:	Report on Damage of Agriculture due to Drought
Feature ID	FEAT_12

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report on Damage of Agriculture due to Drought.
Trigger:	The actor selects "Report on Damage of Agriculture due to Drought" Option.
Pre conditions:	
Post conditions:	
Input:	Select District Select Block
Output:	View the Report on Damage of Agriculture due to Drought.

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the **Report on Damage of Agriculture.**	- The System would show the Report on Damage of Agriculture due to Drought with the following details: - District Name - Block Name - Normal Area - Percentage Area Irrigated - Area Unsown - Area Damage - Percentage Area Damage more than 50%
	At any point of time, the actor can click the **Close** button to close form.	

Alternative Flow:	None

Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.13 View Damage of Fodder & Cattle due to drought

Overview: Estimation the Damage of Fodder & Cattle due to Drought at block Level.

Scope: The actor will view the report on Damage of Fodder & Cattle due to Drought at Block Level.

Use Case ID:	UCI-13
Use Case Name:	Report on Damage of Fodder & Cattle due to Drought
Feature ID	FEAT_13

Actors:	Farmer/Citizen
Stake Holder:	State and district Agencies
Description:	This use case would allow the actor to show the report on Damage of Fodder & Cattle due to Drought.
Trigger:	The actor selects "Report on Damage of Fodder & Cattle due to Drought" Option.
Pre conditions:	
Post conditions:	
Input:	Select District Select Block
Output:	View the Report on Damage of Fodder & Cattle due to Drought.

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the**Report on Damage of Fodder & Cattle.**	• The System would show the Report on Damage of Fodder & Cattle due to Drought with the following details: • District Name • Block Name • Required Fodder • Available Fodder • Total Fodder • Dead cattle due to drought • Total cattle
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high		
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium	

Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.14 *Drought Declaration Certificate*

Overview: District issues the drought declaration certificate if yield in terms of paisewari / annewari was 50 paise /8 anne or below.

Scope: The actor will view the Drought Declaration Certificate.

Use Case ID:	UCI-14
Use Case Name:	Drought Declaration Certificate
Feature ID	FEAT_ DDC_01

Actors:	District Collector
Stake Holder:	State and district Agencies

Description:	This use case would allow the actor to view the drought declare certificate.
Trigger:	The actor selects "Drought Declaration Certificate" Option.
Pre conditions:	The user must be registered as State and District Agencies. He must be logged in.
Post conditions:	
Input:	
Output:	

Normal Flow:	**Actor Actions**	**System Responses**
	The actor clicks on the**Drought Declaration Certificate**	▪ The System would show report with the following details: • Name of District/Block • Name Of Village • Names of Crop Damaged • Extend of Damage in terms of percentage
	At any point of time, the actor can click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		

UI: required/not required	Required
Priority: Low/medium/high	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	
Exceptions:	
Special Requirements:	none
Assumptions:	• The actor must be registered and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.15 Submit Rainfall Deficiency

Overview: The rainfall deficiency Submitted by the State Government. This activity enables the actor to add the rainfall deficiency of District.

Scope: This activity enables the actor to add the Rainfall Deficiency at Block Level.

Use Case ID:	UCI-15
Use Case Name:	Submit Rainfall Deficiency
Feature ID	FEAT_15

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to submit the specify details of rainfall deficiency.
Trigger:	The actor selects "submits Rainfall Deficiency" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submit Rainfall Deficiency page.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "Rainfall Deficiency submits successfully".
	
	    • All information related to the Rainfall Deficiency would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Select Date ▪ Rainfall During the Week -current year ▪ Rainfall During the Week –Last year ▪ Long Term Average During the Week ▪ Rainfall in July- current year ▪ Rainfall in July- last year ▪ Long Term Average in July ▪ Rainfall in June - current year ▪ Rainfall in June – last year ▪ Long Term Average in June
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **SubmitRainfall Deficiency.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • **Block name-**The actor would specify the block name • **Date-** The actor would specify the date**.** • **Rainfall During the Week -current year -** The actor would specify the rainfall during the week-current year. • **Rainfall During the week-Last year-** The actor would specify the rainfall during the week-last year • **Long Term Average during the Week-** The actor would specify the long term average during the week. • **Rainfall in July- current year**- the actor would specify the rainfall in July. • **Rainfall in July- last year**- The actor would specify the rainfall in July. • **Long Term Average in July**- The actor would specify the Long Term Average in July. • **Rainfall in June -current year**- The actor specify the Rainfall in June -current year • **Rainfall in June – last year-** The actor specify the Rainfall in June – last year. • **Long Term Average in June**– The actor specify the Long Term Average in June.
	• The actor may click the **submit**button to Submit the Rainfall Deficiency. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	
Alternative Flow:	None	

Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District, Block, date are mandatory field. • Rainfall during the Week, Rainfall in July, and Rainfall in June is mandatory field.
Exceptions:	**The actor attempts to SubmitRainfall Deficiency without specifying District** The System would respond with the message, "Please select District". **The actor attempts to SubmitRainfall Deficiency without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to SubmitRainfall Deficiency without specifying Date** The System would respond with the message, "Please Select the Date". **The actor attempts to SubmitRainfall Deficiency without specifying the Rainfall during the Week, Rainfall in July and Rainfall in July and Rainfall in June.** The System would respond with the message, "Rainfall during the Week -current year should be numeric value".
Special Requirements:	none

Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.16 *Manage Progress of Sown Area Information*

Overview: This activity enables the actor to manage the Progress of Sown Area Information.

Scope: This activity enables the actor to add the Progress of Sown Area Information at Block level.

Use Case ID:	UCI-16
Use Case Name:	Manage progress of Sown Area Information.
Feature ID	FEAT_16

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to manage the progress of sown area information.

Trigger:	The actor selects "manage Progress of sown area" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submit Progress of Sown Area Information page.

Post conditions:	• If the actor clicked the **submit** button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "Progress of Sown Area submits successfully".
	
	    • All information related to the Rainfall Deficiency would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Select Season ▪ Select Date ▪ Select Crop Type ▪ Target Crop Area ▪ Sown Area Last Year ▪ Normal Crop Area ▪ Sown Area This Year
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submitprogress of Sown Area Information.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • **Block name-**The actor would select the block name from Dropdown list. • **Date**- The actor would select the date**.** • **Season-** The actor would select the season from Dropdown list. • **Crop Type-** The actor would select the crop type from the dropdown list. • **Target Crop Area-** The actor would specify the target crop area. • **Sown Area Last Year**- the actor would specify the sown area last year. • **Normal Crop Area**- The actor would specify the normal crop area. • **Sown Area this year**- The actor would specify the sown area this year
	• The actor may click the **submit**button to Submit the Progress of Sown Area. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		

UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District, Block, date, Season, Crop Type are mandatory field. • Target Crop Area, Sown Area Last Year, Normal Crop Area, Sown Area This Year is mandatory field.
Exceptions:	**The actor attempts to Submit Progress of Sown Area without specifying District** The System would respond with the message, "Please select District". **The actor attempts to SubmitProgress of Sown Area without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to SubmitProgress of Sown Area without specifying Date** The System would respond with the message, "Please Select a valid Date". **The actor attempts to SubmitProgress of Sown Area without specifying Season** The System would respond with the message, "Please Select the Season". **The actor attempts to SubmitProgress of Sown Area without specifying Crop Type** The System would respond with the message, "Please Select the Crop Type". **The actor attempts to SubmitRainfall Deficiency without specifying Target Crop Area, Sown Area Last Year, Normal Crop Area, and Sown Area This Year.** The System would respond with the message, "**Input Parameter Name**" should be numeric value". **Input Parameter Name can be say "**Sown Area Last Year"
Special Requirements:	none

Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.17 Manage the Information of Number of Farmers & Area where Crop Loss is > 50%

Overview: This activity enables the actor to manage the Information of number of Farmers & Area where Crop Loss is >50%. The Crop loss is greater than the 50 percent then area considered to be affected by drought.

Scope: This activity enables the actor to add the information of number of farmers & area where crop loss is >50% at Block level.

Use Case ID:	UCI-17
Use Case Name:	Manage the information of number of farmers & area where crop loss is >50%.
Feature ID	FEAT_17

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level

Description:	This use case would allow the actor to Manage the information of number of farmers & area where crop loss is >50%.
Trigger:	The actor selects "Manage the information of number of farmers & area where crop loss is >50%." Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submit the information of number of farmers & area where crop loss is >50%.
Post conditions:	- If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then - The system would respond with message, "the information of number of farmers & area where crop loss is >50% submits successfully". - All information related to the information of number of farmers & area where crop loss is >50%would be stored in the database. - If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button. - If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.
Input:	- Select District - Select Block - Select Date - Agricultural Rain fed Crop-Small & Marginal Farmers- No of Farmer - Agricultural Rain fed Crop-Small & marginal Farmers-Area - Agricultural Rain fed Crop- Other Farmers- No of Farmer - Agricultural Rain fed Crop- Other Farmers- Area - Agricultural Irrigated Crop- Small & marginal Farmers- No of Farmer - Agricultural Irrigated Crop- Small & marginal Farmers- Area - Agricultural Irrigated Crop- Other Farmers- No of Farmer - Agricultural irrigated Crop- Other Farmers- Area - Perennial Crops- Small & marginal Farmers- No of Farmer - Perennial Crops- Small & marginal Farmers- Area - Perennial Crops- Other Farmers- No of Farmer - Perennial Crops- Other Farmers- Area

Output:	
Normal Flow:	Actor Actions	System Responses

	Actor Actions	System Responses
	■ The actor clicks on the option **Submit The information of number of farmers & area where crop loss is >50%.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • **Block -**The actor would select the block name from Dropdown list. • **Date-** The actor would select the date**.** • Agricultural Rain fed Crop-Small & Marginal Farmers- No of Farmer • Agricultural Rain fed Crop-Small & marginal Farmers-Area • Agricultural Rain fed Crop- Other Farmers- No of Farmer • Agricultural Rain fed Crop- Other Farmers- Area • Agricultural Irrigated Crop- Small & marginal Farmers- No of Farmer • Agricultural Irrigated Crop- Small & marginal Farmers- Area • Agricultural Irrigated Crop- Other Farmers- No of Farmer • Agricultural irrigated Crop- Other Farmers- Area • Perennial Crops- Small & marginal Farmers- No of Farmer • Perennial Crops- Small & marginal Farmers- Area • Perennial Crops- Other Farmers- No of Farmer • Perennial Crops- Other Farmers- Area
	• The actor may click the **submit**button to Submit the information of number of farmers & area where crop loss is >50%. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	

Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District, Block, date are mandatory field. • Agricultural Rain fed Crop-Small & Marginal Farmers- No of Farmer is mandatory field. • Agricultural Rain fed Crop-Small & marginal Farmers-Area is mandatory field. • Agricultural Rain fed Crop- Other Farmers- No of Farmer is mandatory field. • Agricultural Rain fed Crop- Other Farmers- Area is mandatory field. • Agricultural Irrigated Crop- Small & marginal Farmers- No of Farmer is mandatory field. • Agricultural Irrigated Crop- Small & marginal Farmers- Area is mandatory field. • Agricultural Irrigated Crop- Other Farmers- No of Farmer is mandatory field. • Agricultural irrigated Crop- Other Farmers- Area is mandatory field. • Perennial Crops- Small & marginal Farmers- No of Farmer is mandatory field. • Perennial Crops- Small & marginal Farmers- Area is mandatory field. • Perennial Crops- Other Farmers- No of Farmer is mandatory field. • Perennial Crops- Other Farmers- Areais mandatory field.

Exceptions:	▪ **The actor attempts to Submit the information of number of farmers & area where crop loss is>50% without specifying District** The System would respond with the message, "Please select District". **The actor attempts to Submit the information of number of farmers & area where crop loss is>50% without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to Submit the information of number of farmers & area where crop loss is>50%without specifying Date** The System would respond with the message, "Please Select a valid Date". **The actor attempts to Submit the information of number of farmers & area where crop loss is>50%without specifying fields.** The System would respond with the message, "**Input Parameter Name**" should be numeric value". **Input Parameter Name can be say "**No of Farmers"
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.18 Manage the Water Availability Scenario

Overview: This activity enables the actor to manage the water availability scenario. Declining of ground water level is also important indicator of Drought Condition.

Scope: This activity enables the actor to add the water availability scenario at Block level.

Use Case ID:	UCI-18

Use Case Name:	Manage the Water Availability Scenario
Feature ID	FEAT_18

Actors:	Administrator Authorized User
Stake Holder:	State Level District Level
Description:	This use case would allow the actor Manage the Water Availability Scenario.
Trigger:	The actor selects "Manage the Water Availability Scenario" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and Manage the Water Availability Scenario.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	• The system would respond with message, "the Water Availability Scenario submits successfully".
	• All information related to the Water Availability Scenario would be stored in the database.
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.
Input:	▪ Select District ▪ Select Block ▪ Select Date ▪ Habitations-Total No of Habitations ▪ Habitations -Fully Covered for Drinking Water ▪ Habitations- Partially Covered for Drinking Water ▪ Tube wells-Functional for Drinking Water ▪ Tube wells-Dysfunctional for Drinking Water ▪ Tube wells-Functional Irrigation Tube wells ▪ Tube wells- Dysfunctional Irrigation Tube wells ▪ Tube wells- Number of Drinking Water Tube wells Energized/ Repaired/ Constructed ▪ Tube wells-Number of Irrigation Tube wells Energized/ Repaired/ Constructed ▪ Hand Pumps- Functional ▪ Hand Pumps- Dysfunctional ▪ Hand Pumps- Number of Hand Pumps/ Repaired/ Constructed ▪ Others-Other Irrigation and Watershed Structures ▪ Others -Rain Water Harvesting ▪ Others -Other Irrigation and Watershed Structures Repaired/ Constructed ▪ Others -Rain Water Harvesting Repaired/ Constructed ▪ Tankers/Wagons- Total No of Tankers Deployed ▪ Tankers/Wagons-Quantity in Kilo Liters (By Road) ▪ Tankers/Wagons-Total No of Wagons moved by Rail ▪ Tankers/Wagons-Quantity in Kilo Liters (By Rail) ▪ Remark

Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit Water Availability Scenario.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • **Block -**The actor would select the block name from Dropdown list. • **Date-** The actor would select the date**.** • Habitations-Total No of Habitations • Habitations -Fully Covered for Drinking Water • Habitations- Partially Covered for Drinking Water • Tube wells-Functional for Drinking Water • Tube wells-Dysfunctional for Drinking Water • Tube wells-Functional Irrigation Tube wells • Tube wells- Dysfunctional Irrigation Tube wells • Tube wells- Number of Drinking Water Tube wells Energized/ Repaired/ Constructed • Tube wells-Number of Irrigation Tube wells Energized/ Repaired/ Constructed • Hand Pumps- Functional • Hand Pumps- Dysfunctional • Hand Pumps- Number of Hand Pumps/ Repaired/ Constructed • Others-Other Irrigation and Watershed Structures • Others -Rain Water Harvesting • Others -Other Irrigation and Watershed Structures Repaired/ Constructed • Others -Rain Water Harvesting Repaired/ Constructed • Tankers/Wagons- Total No of Tankers Deployed • Tankers/Wagons-Quantity in Kilo Liters (By Road) • Tankers/Wagons-Total No of Wagons moved by Rail • Tankers/Wagons-Quantity in Kilo Liters (By Rail) Remark

	• The actor may click the **submit**button to Submit Water Availability Scenario • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District, Block, date are mandatory field. • All fields are mandatory.

Exceptions:	**The actor attempts to Submit the Water Availability Scenario without specifying District**
	The System would respond with the message, "Please select District".
	The actor attempts to Submit the Water Availability Scenario withoutspecifying Block
	The System would respond with the message, "Please Select the Block".
	The actor attempts to Submit the Water Availability Scenariowithout specifying Date
	The System would respond with the message, "Please Select a valid Date".
	The actor attempts to Submit the Water Availability Scenariowithout specifying fields.
	The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Total No ofHabitations"
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.19 Manage the Fodder and Cattle details

Overview: This activity enables the actor to manage the Fodder and Cattle details at Block Level.

Scope:This activity enables the actor to add the Fodder and Cattle Details at Block Level.

Use Case ID:	UCI-19
Use Case Name:	Manage the Fodder and Cattle Details.
Feature ID	FEAT_19

Actors:	Administrator Authorized User
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Fodder and Cattle Details.
Trigger:	The actor selects "Manage the Fodder and Cattle Details" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submit the Manage the Fodder and Cattle Details.
Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then 　　• The system would respond with message, "the Fodder and Cattle Details submits successfully". 　　• All information related to the Fodder and Cattle Details would be stored in the database. • If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button. • If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	- Select District - Select Block - Select Date - Fodder-Movement by Road - Fodder- Movement by Rail - Fodder -Sale through Depots - Fodder -No of Fodder Banks - Fodder-Capacity of Fodder Banks - Cattles-Number of Cattle Camps - Cattles -No. of Small Cattle in Cattle Camps - Cattles -No. of Large Cattle in Cattle Camps - Fodder Prices-Dry Fodder - Fodder Prices-Green Fodder - Fodder Prices-Rice Bran Fodder - Fodder Prices-Wheat Bran Fodder - Fodder Prices-Other Fodder
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the option **Submit Fodder and Cattle Details.**	- The System would prompt the actor to enter the following details: **District**- The actor would select the district name from Dropdown list. **Block -**The actor would select the block name from Dropdown list. **Date-** The actor would select the date**.** - Fodder-Movement by Road - Fodder- Movement by Rail - Fodder -Sale through Depots - Fodder -No of Fodder Banks - Fodder-Capacity of Fodder Banks - Cattles-Number of Cattle Camps - Cattles -No. of Small Cattle in Cattle Camps - Cattles -No. of Large Cattle in Cattle Camps - Fodder Prices-Dry Fodder - Fodder Prices-Green Fodder - Fodder Prices-Rice Bran Fodder - Fodder Prices-Wheat Bran Fodder - Fodder Prices-Other Fodder

	- The actor may click the **submit**button to Submit the Fodder and Cattle Details. - At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	- Select District, Block, date are mandatory field. - Fill the mandatory Field.

Exceptions:	**The actor attempts to Submit the Fodder and Cattle Details without specifying District**
	The System would respond with the message, "Please select District".
	The actor attempts to Submit the Fodder and Cattle Details without specifying Block
	The System would respond with the message, "Please Select the Block".
	The actor attempts to Submit the Fodder and Cattle Details without specifying Date
	The System would respond with the message, "Please Select a valid Date".
	The actor attempts to Submit the Fodder and Cattle Details without specifying fields.
	The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**No of Fodder Banks".
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on.
	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.20 *Manage the Price of Food Items*

Overview: This activity enables the actor to manage the Price of Food Item at Block Level.

Scope:This activity enables the actor to add thePrice of Food Item at Block Level.

Use Case ID:	UCI-20
Use Case Name:	Manage the Price of Food Items.
Feature ID	FEAT_20

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Price of Food Items.
Trigger:	The actor selects "Manage the Price of Food Item" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submit the Price of Food Item.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "the Price of Food Item submits successfully".
	
	    • All information related to the Price of Food Item would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Select Date ▪ Crop Name ▪ Market Price ▪ Last year Market Price
Output:	

	Actor Actions	System Responses
Normal Flow:	▪ The actor clicks on the option **Submit The Price of Food Item.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • **Block -**The actor would select the block name from Dropdown list. • **Date-** The actor would select the date**.** • Crop Name • Market Price • Last year Market Price
	• The actor may click the **submit**button to Submit the Price of Food Item. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	

Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	

UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District, Block, date are mandatory field. • Fill the mandatory Field.
Exceptions:	**The actor attempts to Submit the Price of Food Item without specifying District** The System would respond with the message, "Please select District". **The actor attempts to Submit the Price of food Item without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to Submit the Price of Food Item without specifying Date** The System would respond with the message, "Please Select a valid Date". **The actor attempts to Submit the Price of Food Item without specifying fields.** The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Market Price
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.21 *Manage the Information Reservoir Details*

Overview: This activity enables the actor to manage the Information of Reservoir Details.

Scope: This activity enables the actor to add the Information of Reservoir.

Use Case ID:	UCI-21
Use Case Name:	Manage the Information of Reservoir Details.
Feature ID	FEAT_21

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Information of Reservoir Details.
Trigger:	The actor selects "Manage the Information of Reservoir Details" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Information of Reservoir Details.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "the Information of Reservoir submits successfully".
	
	    • All information related to the Information of Reservoir Details would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Reservoir Name
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit The Information of Reservoir.**	• The System would prompt the actor to enter the following details: • **District**- The actor would select the district name from Dropdown list. • Reservoir Name

	• The actor may click the **submit**button to Submit the Reservoir Details. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Reservoir Name is mandatory Field.

Exceptions:	**The actor attempts to Submit the Information of Reservoir without specifying Reservoir Name** The System would respond with the message, "Reservoir Name cannot be blank". **The actor attempts to Submit the Information of Reservoir with special character in Reservoir Name** The System would respond with the message, "Reservoir Name cannot be accepted Special Character".
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.22 *Manage the Information of Reservoir Capacity*

Overview: This activity enables the actor to manage the Information of Reservoir Capacity.

Scope: This activity enables the actor to add the Information of Reservoir Capacity.

Use Case ID:	UCI-22
Use Case Name:	Manage the Information of Reservoir Capacity.
Feature ID	FEAT_22

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Information of Reservoir Capacity.
Trigger:	The actor selects "Manage the Information of Reservoir Capacity" Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Information of Reservoir Capacity.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	  • The system would respond with message, "the Information of Reservoir Capacity submits successfully".
	  • All information related to the Information of Reservoir Details would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select the Reservoir Name ▪ Capacity-On Selected Week ▪ Capacity-Last year on selected Week ▪ % of FRL Capacity- On Selected Week ▪ % of FRL Capacity- On last Week ▪ % of FRL Capacity- Average of last 10 years
Output:	

	Actor Actions	System Responses
Normal Flow:	▪ The actor clicks on the option **Submit The Information of Reservoir Capacity.**	• The System would prompt the actor to enter the following details: • The actor select the Reservoir Name • Capacity-On Selected Week • Capacity-Last year on selected Week • % of FRL Capacity- On Selected Week • % of FRL Capacity- On last Week • % of FRL Capacity- Average of last 10 years
	• The actor may click the **submit**button to Submit the Reservoir Capacity. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	

Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required

Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select Reservoir Name is mandatory Field. • Capacity-on Selected Week is mandatory field. • Capacity-Last year on selected Week is mandatory field • % of FRL Capacity- On Selected Week is mandatory field • % of FRL Capacity- On last Week is mandatory field
Exceptions:	**The actor attempts to Submit the Information of Reservoir Capacity without specifying Reservoir Name** The System would respond with the message, "Please Select the Reservoir Name". **The actor attempts to Submit the Information of Reservoir Capacity without specifying Reservoir Capacity Form Field** The System would respond with the message, **Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Capacity.
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.23 Damage of Agriculture due to drought

Overview: This activity enables the actor to manage the Damage of Agriculture due to drought at Block Level. It's an Important Indicator of Drought.

Scope: This activity enables the actor to add the Damage of Agriculture due to drought at Block level.

Use Case ID:	UCI-23
Use Case Name:	Damage of Agriculture due to drought.
Feature ID	FEAT_23

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Damage of Agriculture due to drought.
Trigger:	The actor selects "Manage the Damage of Agriculture due to drought "Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Damage of Agriculture due to drought.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "The Damage of Agriculture due to Drought submits successfully".
	    • All information related to the Damage of Agriculture due to drought would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Normal Area ▪ Percentage Area Irrigated ▪ Area Unsown ▪ Area Damage ▪ Percentage Area Damage more than 50%
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit The Damage of Agriculture due to Drought.**	• The System would prompt the actor to enter the following details: • The actor select the District • The actor select the Block • Normal Area • Percentage Area Irrigated • Area Unsown • Area Damage • Percentage Area Damage more than 50%

	• The actor may click the **submit**button to Submit the Damage of Agriculture due to Drought. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District and Block Name is mandatory Field. • Normal Area, Percentage Area Irrigated, Area Unsown, Area Damage, Percentage Area Damage more than 50% mandatory fields.

Exceptions:	**The actor attempts to Submit Damage of Agriculture due to Drought without specifying District**
	The System would respond with the message, "Please Select the District".
	The actor attempts to Submit Damage of Agriculture due to Drought without specifying Block
	The System would respond with the message, "Please Select the Block".
	The actor attempts to Submit the Damage of Agriculture due to Drought without specifying normal Area, Percentage Area Irrigated, Area Unsown, Area Damage, Percentage Area Damage more than 50%fields
	The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Area Unsown"
Special Requirements:	none
Assumptions:	- The actor must be registered on Drought Relief and Management and access the application through single sign on. - Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.24 *Damage of Fodder and Cattle due to drought*

Overview: This activity enables the actor to manage the Damage of Fodder and Cattle due to drought at Block Level.

Scope: This activity enables the actor to add the Damage of Fodder and Cattle due to drought at block Level.

Use Case ID:	UCI-24
Use Case Name:	Damage of Fodder and Cattle due to drought.
Feature ID	FEAT_24

Actors:	Administrator
	Authorized User
	Tehsil Dar/BDO
Stake Holder:	State Level
	District Level
Description:	This use case would allow the actor to Manage the Damage of Fodder and Cattle due to drought.
Trigger:	The actor selects "Manage the Damage of Fodder and Cattle due to Drought "Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Damage of Fodder and Cattle due to Drought.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "The Damage of Fodder and Cattle due to Drought submits successfully".
	    • All information related to the Damage of Fodder and cattle due to drought would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Required Fodder ▪ Available Fodder ▪ Total Fodder ▪ Dead cattle due to drought ▪ Total cattle
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit The Damage of Fodder and Cattle due to Drought.**	• The System would prompt the actor to enter the following details: • The actor select the District • The actor select the Block • Required Fodder • Available Fodder • Total Fodder • Dead cattle due to drought • Total cattle

	• The actor may click the **submit**button to Submit the Damage of Fodder and Cattle due to Drought. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District and Block Name is mandatory Field. • Required Fodder, Available Fodder, Total Fodder, Dead cattle due to drought, Total Cattle mandatory fields.

Exceptions:	**The actor attempts to Submit Damage of Fodder and Cattle due to Drought without specifying District** The System would respond with the message, "Please Select the District". **The actor attempts to Submit Damage of Fodder and Cattle due to Drought without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to Submit the Damage of Fodder and Cattle due to Drought without specifying Required Fodder, Available Fodder, Total Fodder, Dead Cattle due to Drought, Total Cattle fields** The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Total Cattle"
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.25 *Manage the population Information*

Overview: This activity enables the actor to manage the population Information.

Scope: This activity enables the actor to add the population Information at block Level.

Use Case ID:	UCI-25
Use Case Name:	Manage the Population Information.
Feature ID	FEAT_25

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the Population Information.
Trigger:	The actor selects "Manage the Population Information "Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe population Information.
Post conditions:	- If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then - The system would respond with message, "The Population Information submits successfully". - All information related to the Population would be stored in the database. - If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button. - If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	- Select District - Select Block - Male-Population - Male-Decennial Increase in population (in %) - Female- Population - Female- Decennial Increase in population (in %) - Total Population - Decennial Increase in Population (in %)
Output:	

Normal Flow:	Actor Actions	System Responses
	The actor clicks on the option **Submit The Population Information.**	- The System would prompt the actor to enter the following details: - The actor select the District - The actor select the Block - Male-Population - Male-Decennial Increase in population (in %) - Female- Population - Female-Decennial Increase in population (in %) - Total Population - Decennial Increase in Population (in %)
	- The actor may click the **submit**button to Submit the Population information. - At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	
Alternative Flow:	None	
Exceptional Flow:	None	
Includes: other use case id		

UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District and Block Name is mandatory Field. • Male-population, Male-Decennial Increase in population, Female-population, Female- Decennial Increase in Population, Total population, Decennial increase in population mandatory fields.
Exceptions:	**The actor attempts to Submit the Population Information without specifying District** The System would respond with the message, "Please Select the District". **The actor attempts to Submit the Population Information without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to Submit the Population Information without specifying Male-population, ,ale-Decennial increase in population, Female-Population, Female-decennial increase in population, total population, Decennial Increase in population fields** The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Female-Population".
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.26 *Manage the information of Paisewari/Annewari/Girdawari*

Overview: This activity enables the actor to manage the information of paisewari/Annewari/Girdawari.

Scope: This activity enables the actor to add the information of paisewari/Annewari/Girdawari at Block Level.

Use Case ID:	UCI-26
Use Case Name:	Manage the information of paisewari/Annewari/Girdawari.
Feature ID	FEAT_26

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level District Level
Description:	This use case would allow the actor to Manage the information of Paisewari/Annewari/Girdawari.
Trigger:	The actor selects "Manage the information of Paisewari/Annewari/Girdawari"Option.
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe information of Paisewari/Annewari/Girdawari.

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "The Information of paisewari/Annewari/Girdawari submits successfully".
	
	    • All information related to the Population would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	▪ Select District ▪ Select Block ▪ Total number of villages ▪ Number of Villages below 50 paise/50 percent/ 8 annas ▪ Number of Villages above 50 paise/50 percent/ 8 annas
Output:	

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit The Information of Paisewari/Annewari/Girdawari.**	• The System would prompt the actor to enter the following details: • The actor select the District • The actor select the Block • Total number of villages • Number of Villages below 50 paise/50 percent/ 8 annas • Number of Villages above 50 paise/50 percent/ 8 annas

	• The actor may click the **submit** button to Submit the information of Paisewari/Annewari/Girdawari. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District and Block Name is mandatory Field. • Total number of villages, number of villages below 50 paise/50 percent/8 annas, Number of village above 50 paise/50 percent/8 annas mandatory fields.

Exceptions:	**The actor attempts to Submit the Information of Paisewari/Annewari/Girdawariwithout specifying District**
	The System would respond with the message, "Please Select the District".
	The actor attempts to Submit the Information of Paisewari/Annewari/Girdawariwithout specifying Block
	The System would respond with the message, "Please Select the Block".
	The actor attempts to Submit the Information of Paisewari/Annewari/Girdawariwithout specifying Total number of Village, Number of Village belwo 50 paise/50 percent/8 annas, Number of Village above 50 paise/50 percent/8 annas mandatory fields
	The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Total number of Villages".
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.27 *Manage Drought Declaration Certificate (District)*

Overview: This activity enables the actor to manage the Drought Declaration Certificate (District).

Scope: This activity enables the actor to add Drought Declaration Certificate (District).

Use Case ID:	UCI-27
Use Case Name:	Manage the Drought Declaration Certificate (District).
Feature ID	FEAT_27

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	District Level
Description:	This use case would allow the actor to Manage the Drought Declaration Certificate (District).
Trigger:	The actor selects "Manage the Drought Declaration Certification (District)
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Drought Declaration Certificate (District).

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	
	    • The system would respond with message, "The Drought Declaration Certification (District) submits successfully".
	
	    • All information related to the Drought Declaration Certification (District) submits successfully would be stored in the database.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.

Input:	- Select District - Select Block - Date - Name of Village - Name of Crops Damaged - Extend of Damage in Terms of Percentage
Output:	This information will be showing to Drought Department (State) in the option of "Approved Drought".
Normal Flow:	**Actor Actions** The actor clicks on the option **Submit The Drought Declaration Certificate (District).**	**System Responses** - The System would prompt the actor to enter the following details: - The actor select the District - The actor select the Block - Date - Name of villages - Name of Crops Damaged - Extend of Damage in Terms of Percentage
	- The actor may click the **submit**button to Submit the Drought Declaration Certificate (District). - At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	
Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required

Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select District and Block Name is mandatory Field. • Date, Name of Villages, Name of Crops Damaged, Extend of Damage in Terms of Percentage mandatory fields.
Exceptions:	**The actor attempts to Submit the Drought Declaration Certificate (District) without specifying District** The System would respond with the message, "Please Select the District". **The actor attempts to Submit the Drought Declaration Certificate (District) without specifying Block** The System would respond with the message, "Please Select the Block". **The actor attempts to Submit the Drought Declaration Certificate (District) without Specifying Date** The System would respond with the message, "Enter a valid Date". **The actor attempts to Submit the Drought Declaration Certificate (District) without Specifying any fields** The System would respond with the message, "**Input Parameter Name**" should be numeric value".**Input Parameter Name can be say "**Extent of Damage in Terms of Percentage"
Special Requirements:	none
Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.28 Manage Drought Declaration Certificate (State)

Overview: This activity enables the actor to manage the Drought Declaration Certificate (State).

Scope:This activity enables the actor to addDrought Declaration Certificate (State).

Use Case ID:	UCI-28
Use Case Name:	Manage the Drought Declaration Certificate (State).
Feature ID	FEAT_28

Actors:	Administrator Authorized User Tehsil Dar/BDO
Stake Holder:	State Level
Description:	This use case would allow the actor to Manage the Drought Declaration Certificate (State).
Trigger:	The actor selects "Manage the Drought Declaration Certification (State)
Pre conditions:	The user must be registered on the Drought Relief and Management. He must be logged in, and should have permissions to access and submitthe Drought Declaration Certificate (State).

Post conditions:	• If the actor clicked the **submit**button, & if all the mandatory fields have been entered, then
	• The system would respond with message, "the Drought Declaration Certification (State) submits successfully".
	• All information related to the Drought Declaration Certification (State) submits successfully would be stored in the database.
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details; otherwise, the actor would be brought back to where he\she was before clicking the **Clear** button.
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he\she was before clicking the **Close** button.
Input:	▪ Select State ▪ Name of District ▪ Date
Output:	This information will be showing to Drought Department (Central) in the option of "Approved Drought".

Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option **Submit The Drought Declaration Certificate (State).**	• The System would prompt the actor to enter the following details: • The actor select the State • The actor enter District Name
	• The actor may click the **submit**button to Submit the Drought Declaration Certificate (State). • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or click the **Close** button to close form.	

Alternative Flow:	None
Exceptional Flow:	None
Includes: other use case id	
UI: required/not required	Required
Priority: Low/medium/high	High
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Medium
Business Rules:	• Select State Name is mandatory Field. • District Name mandatory fields. • Date field Mandatory Fields.
Exceptions:	**The actor attempts to Submit the Drought Declaration Certificate (State) without specifying District** The System would respond with the message, "Please Select the State". **The actor attempts to Submit the Drought Declaration Certificate (State) without Specifying District Name** The System would respond with the message, "District Name cannot be blank". **The actor attempts to Submit the Drought Declaration Certificate (State) without Specifying Date** The System would respond with the message, "Enter a Valid Date".
Special Requirements:	none

Assumptions:	• The actor must be registered on Drought Relief and Management and access the application through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	
Notes and Issues:	

4.5.4.29 Report Grievance

Overview: Individual Farmers/Group of Farmers can Report Grievance related to Drought.

Scope: Report Grievance related to Drought.

Use Case ID:	UCI-29
Use Case Name:	Report Grievance
Feature ID	FEAT_29

Actors:	**Primary Actor** Authorize User Farmer/Citizen
Stake Holder:	Farmers

Description:	This use case would allow the actor to Report Grievances. • Grievances • Grievance Type • Location/Area • Email id • Mobile no.
Trigger:	The actor click on **Report grievance.**
Pre conditions:	• The user must be registered either on the CAP or SAP. He must be logged in, and should have permissions to access the report grievance page in application.
Post conditions:	• If the actor clicked the **Submit** button, & if all the mandatory fields have been entered, then a. The System would respond with the message, "Grievance Save successfully" and the actor would be brought back to **Step 1** of the **Normal Flow**. b. All information related to the Report Grievance would be stored in the database with status set to *save*. • If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details and the actor would be presented with a blank Report Grievance form; otherwise, the actor would be brought back to where he was before clicking the **Clear** button. • If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he was before clicking the **Close** button.

Input:	• Grievance • Grievance Type	
Output:	Report Grievance created will be available for specifying details in the page.	
Normal Flow:	Actor Actions	System Responses
	▪ The actor clicks on the option "**Submit Grievance**". ▪ The actor chooses to add a Report Grievance.	▪ The system would provide a feature to create the report of grievance. ▪ The system would prompt the actor to specify the following details: **Grievance**: - the actor would specify Problem which is put in your Grievance. **Grievance Type**: - the actor would specify the type of problem.
	• The actor may click the **Submit** button to save the Report Grievance. • At any point of time, the actor clicks the **Clear** button to discard the details entered till then or clicks the **Close** button to close the **Report Grievance** form.	• Grievance number is generated for further process.
Alternative Flow:		

Exceptional Flow:	Actor Action	System Responses
	▪ Click Submit Grievance button but the actor's internet access has been temporarily disabled	▪ Standard internet message for connection not found
Includes: **other use case id**		
UI: **required/not required**	Required	
Priority: **Low/medium/high**	High	
Frequency of Use: **Continuous/ frequent/ medium/ less/ rare**	Frequent	
Business Rules:	• Grievance, Grievance Type have mandatory field in the form. • Email id and Mobile no is Mandatory Field in the Form.	
Exceptions:	**The actor attempts to the report grievance without specifying Grievance.** The System would respond with the message, "Please Enter Grievance". **The actor attempts to the report grievance without specifying Grievance Type.** The System would respond with the message, "Please Select the Grievance Type".	
Relationships		
Special Requirements:	None	

Assumptions:	• The Actor is registered either on CAP or SAP and access the application/service through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.5.4.30 *Monitor Grievance*

Overview: Authorize user Monitor Grievance and maintain the grievance record.

Scope: Monitor Grievance

Use Case ID:	UCI-30
Use Case Name:	Monitor Grievance
Feature ID	FEAT_30

Actors:	**Primary Actor**
	Administrator
	Authorize User
	Farmer/Citizen

Stake Holder:	Central Government State Government
Description:	This use case would allow the actor to Monitor Grievances on the basis of date and Grievance Type and Grievance Number.
Trigger:	The actor selects the option available **Monitor Grievance.**
Pre conditions:	• The user must be registered either on the CAP or SAP. He must be logged in, and should have permissions to access the monitor grievance page in application.
Post conditions:	• If the actor clicks the **Close** button, then the System would respond with the message," Do you want close this page?" If the actor responds in affirmative, then the System would close the page and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he was before clicking the **Close** button.
Input:	• Grievance Type • Date
Output:	Monitor Grievance will be available for specifying details in the page.

Normal Flow:	Actor Actions ▪ The actor clicks on the option "**Monitor Grievance**". • At any point of time, the actor clicks the **Close** button to close the **Monitor Grievance** form.	System Responses ▪ The system would provide a feature page of **Monitor Grievance.** **Grievance Type:** the actor would specify the Type of Grievance. **Grievance Number :-** the actor would specify the grievance number
Alternative Flow:		
Exceptional Flow:	Actor Action ▪ Click Monitor button but the actor's internet access has been temporarily disabled	System Responses ▪ Standard internet message for connection not found
Includes: **other use case id**		
UI: **required/not required**	Required	
Priority: **Low/medium/high**	High	

Frequency of Use: **Continuous/ frequent/ medium/ less/ rare**	Frequent
Business Rules:	
Exceptions:	
Relationships	
Special Requirements:	None
Assumptions:	• The Actor is registered either on CAP or SAP and access the application/service through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.5.4.31 *Check Grievance Status*

Overview: Authorize user Check Grievance Status. Check grievance status which check the current status for example process, solved etc.

Scope: Check Grievance Status

Use Case ID:	UCI-31
Use Case Name:	Check Grievance Status

Feature ID	FEAT_31

Actors:	**Primary Actor** Administrator Authorize User Farmer/Citizen
Stake Holder:	Farmers
Description:	This use case would allow the actor to Check Grievances Status.
Trigger:	The actor selects the option available **Check Grievance Status.**
Pre conditions:	• The user must be registered either on the CAP or SAP. He must be logged in, and should have permissions to access the status grievance page in application.
Post conditions:	• If the actor clicks the **Close** button, then the System would respond with the message," Do you want close this page?" If the actor responds in affirmative, then the System would close the page and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he was before clicking the **Close** button.
Input:	• Enter Grievance number
Output:	Check Grievance Status will be available for specifying details in the page.

Normal Flow:	Actor Actions	System Responses
	• The actor clicks on the option "**Check Grievance Status**". • At any point of time, the actor clicks the **Close** button to close the **Check Grievance Status** page.	• The system would provide a feature page of **Check Grievance Status.** 1) Grievance Number 2) Grievance Status 3) Grievance Type
Alternative Flow:		
Exceptional Flow:	Actor Action ▪ Click Check Grievance Status button but the actor's internet access has been temporarily disabled	System Responses ▪ Standard internet message for connection not found
Includes: **other use case id**		
UI: **required/not required**	Required	
Priority: **Low/medium/high**	High	
Frequency of Use: **Continuous/ frequent/ medium/ less/ rare**	Frequent	

Business Rules:	
Exceptions:	
Relationships	
Special Requirements:	None
Assumptions:	• The Actor is registered either on CAP or SAP and access the application/service through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.5.4.32 Resolve Grievance

Overview: Authorize person resolve the problem of farmer/group of farmers that is report for grievance and update the farmer/group of farmers via Email/SMS etc.

Scope: Resolve Grievance

Use Case ID:	UCI-32
Use Case Name:	Resolve Grievance
Feature ID	FEAT_32

Actors:	**Primary Actor**
	Administrator
	Authorize User
	Grievance Department
Stake Holder:	Grievance Department
Description:	This use case would allow the actor to Resolve Grievances.
Trigger:	The actor selects the option **Resolve Grievance.**
Pre conditions:	• The user must be registered either on the CAP or SAP. He must be logged in, and should have permissions to access the resolve grievance page in application.
Post conditions:	• If the actor clicks the **Close** button, then the System would respond with the message," Do you want close this page?" If the actor responds in affirmative, then the System would close the page and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he was before clicking the **Close** button.
Input:	Solution of Grievance.
Output:	Solution of Grievance will be available for specifying details in the page.

Normal Flow:	Actor Actions ▪ The actor clicks on the option "**Resolve Grievance**". ▪ At any point of time, the actor clicks the **Close** button to close the **Resolve Grievance** page.	System Responses ▪ The system would provide a feature page of **ResolveGrievance.**
Alternative Flow:		
Exceptional Flow:	Actor Action ▪ Click Resolve Grievance button but the actor's internet access has been temporarily disabled	System Responses ▪ Standard internet message for connection not found
Includes: **other use case id**		
UI: **required/not required**	Required	
Priority: **Low/medium/high**	High	
Frequency of Use: **Continuous/ frequent/ medium/ less/ rare**	Frequent	
Business Rules:		

Exceptions:	
Relationships	
Special Requirements:	None
Assumptions:	• The Actor is registered either on CAP or SAP and access the application/service through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.5.4.33 Enter Best Practices on Drought

Overview: Drought Practice is the way to notify the best practice by training farmers regarding optimum utilization of water and cultivating suitable crops.

Scope: Enter Best Practices on Drought.

Use Case ID:	UCI-33
Use Case Name:	Enter Best Practices on Drought
Feature ID	FEAT_33

Actors:	**Primary Actor**
	Administrator
	Authorize User
	Department
Stake Holder:	State Government
Description:	This use case would allow the actor to Enter the Best practices on Drought. • State • District • Block • Crop Type • Season • Description
Trigger:	The actor clicks on the Enter the Best Practices on Drought.
Pre conditions:	• The user must be registered either on the CAP or SAP. He must be logged in, and should have permissions to access the Enter Best practices on Drought.

Post conditions:	• If the actor clicked the **Save** button, & if all the mandatory fields have been entered, then
	
	    c. The System would respond with the message, "Best Practices on Drought saved successfully" and the actor would be brought back to **Step 1** of the **Normal Flow**.
	
	    d. All information related to the Best Practices on Drought would be stored in the database with status set to *save*.
	
	• If the actor clicks the **Clear** button, then the System would respond with the message, "All details entered in the form would be lost. Do you wish to clear the form?" If the actor responds in affirmative, then the System would clear the form details and the actor would be presented with a blank Enter Best Practices on Droughtform; otherwise, the actor would be brought back to where he was before clicking the **Clear** button.
	
	• If the actor clicks the **Close** button, then the System would respond with the message, "All the entered details in the form would be lost. Do you wish to close the form?" If the actor Drought responds in affirmative, then the System would discard the entered details and close the form and the actor would be brought back to **Pre-Condition**; otherwise, the actor would be brought back to where he was before clicking the **Close** button.

Input:	• Crop Type • Season • Area/location • Description
Output:	The Information of best practices on Drought created.

Normal Flow:	Actor Actions	System Responses
	■ The actor clicks on the option "**Enter Best Practices on Drought**".	■ The system would provide a feature to add the best practices on Drought through **Enter Best Practices on Drought.** **Crop Type:** The actor would specify the Crop Type. **Season:** The actor would specify the Season. **Description:** The actors specify the Description.
	• The actor may click the **Save** button to save the Best Practices on Drought.	
	• At any point of time, the actor clicks the **Clear** button to discard the details entered till then or clicks the **Close** button to close the **Best Practices on Drought**form.	
Alternative Flow:		

	▪ The actor may click the **Save** button to save the Best Practices on Drought. ▪ At any point of time, the actor clicks the **Clear** button to discard the details entered till then or clicks the **Close** button to close the**Best Practices on Drought** form.	
Exceptional Flow:	Actor Action ▪ Click Save button but the actor's internet access has been temporarily disabled	System Responses ▪ Standard internet message for connection not found
Includes: other use case id		
UI: required/not required	Required	
Priority: Low/medium/high	High	
Frequency of Use: Continuous/ frequent/ medium/ less/ rare	Frequent	
Business Rules:	• Season, Crop type etc. has some mandatory field in the form.	

Exceptions:	**The actor attempts to save the Best practices on Droughtwithout specifying season.** The System would respond with the message, "Please Select Season". **The actor attempts to save the Best Practices on Drought without specifying crop type.** The System would respond with the message, "Crop type cannot be blank". **The actor attempts to save the Best Practices on Drought without specifying Area/Location.** The System would respond with the message, "Area/Location cannot be blank". **The actor attempts to save the Best Practices on Drought without specifying Description.** The System would respond with the message, "Description cannot be blank".
Relationships	
Special Requirements:	None
Assumptions:	• The Actor is registered either on CAP or SAP and access the application/service through single sign on. • Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.5.4.34 *View Best Practices on Drought*

Overview: Drought Practice is the way to notify the best practice by training farmers regarding optimum utilization of water and cultivating suitable crops. View the report of best practices on Drought.

Scope: View Best Practices on Drought.

Use Case ID:	UCI-34
Use Case Name:	View Best Practices on Drought
Feature ID	FEAT_34

Actors:	**Primary Actor** Administrator Authorize Users Farmer/Citizen
Stake Holder:	Central Government State Government
Description:	This use case would allow the actor view the Best Practices on Drought.
Trigger:	The actor views the best practices on Drought.
Pre conditions:	
Post conditions:	• If the actor clicked the close, then a. The System would respond and the Best Practices on Drought is close and the actor would be brought back to **Step 1** of the**Normal Flow**.
Input:	Click Report of Best Practices on Drought
Output:	Show the Report of Best Practices on Drought.

Normal Flow:	Actor Actions	System Responses
	• The actor clicks on the "**View Best Practices on Drought**".	▪ The actor views the Report of Best Practices on Drought. The following details show in report 1) State 2) District 3) Block 4) Crop Type 5) Season 6) Description
Alternative Flow:		
Exceptional Flow:	Actor Action ▪ Clicks View Best Practices on Droughtlink but the Service Provider's URL is unavailable ▪ Click View Best Practices on Drought link but the actor's internet access has been temporarily disabled	System Responses ▪ Standard internet message for URL not found ▪ Standard internet message for connection not found
Includes: **other use case id**		
UI: **required/not required**	Required	
Priority: **Low/medium/high**	High	
Frequency of Use: **Continuous/ frequent/ medium/ less/ rare**	Frequent	

Business Rules:	
Exceptions:	
Relationships	
Special Requirements:	None
Assumptions:	• Hardware like computer/laptop system and network connection is available to the actor.
Dependency:	None
Notes and Issues:	None

4.6   Performance Requirements

The following performance requirements are to be satisfied by the proposed solution

- Response Time: For 90% for user interactions the application response times should be <2 seconds. For any transaction having a response time greater than 0.5 sec a suitable progress indicator should be shown to the user. Any user interaction response time should not exceed 10 seconds. In cases of unforeseen delays in responses due to network latency etc. a timeout message should be shown after 15 seconds.
- Throughput: The solution should be capable of handling a load of 30,000 queries per minute.
- Concurrency: the solution should be capable of serving 1000 concurrent users for 70% of the time and upto 3000 concurrent users during the peak times.

4.7   Design Constraints

The proposed solution should follow the following design constraints:

- The application should implement a three tier architecture clearly demarcating the Presentation layer, the service layer and the data layer.
- The communication between the presentation layer and the service layer should be in XML.
- The client interfaces must be compatible with W3C XHTML 1.0

4.8   Software System Attributes

4.8.1   Reliability

The system's reliability is dependent on various factors like ensuring proper validations for each field and form in the system, ensuring a seamless transition in between different forms, displaying proper alerts for errors, ensuring no http or system based errors are displayed and ensuring that proper markings are done for the mandatory and non-mandatory fields in the system so as to ensure consistent response while saving or updating the data.

4.8.2   Availability

The proposed application is to be hosted at the NIC data center servers to ensure that the application is available 24x7 to the users. A maintenance window of 1 hour at midnight might be kept wherein backend processing jobs may be scheduled. During the maintenance window the non-essential services should be available to the users and a proper message about the curtailed services should be available to the users during the period. The application should be deployed in a high availability mode to ensure 99.9% uptime.

4.8.3 Security

The proposed system will be deployed at the NIC datacenter and will use NIC's Internet Security setup. The application will have two types of content Anonymous and Authenticated. The anonymous content would be available to all the users and would not require a login in the system where as the authenticated content would require the users to authenticate using a userid and password. The application should implement role based access so that each authenticated user should have access to the content for which he/she is authorized. All the passwords should be stored in the encrypted form in the database.

4.8.4 Maintainability

The application will have a 1 hour maintenance window preferably at midnight during which the scheduled maintenance tasks such as database backups, batch processing etc. will be executed.

4.8.5 Portability

The server component of application should support portability for up scaling or out scaling in the same environment or to a new environment.

5   Annexures

5.1   Existing Drought Management Information System

The existing drought management information is available on the DAC portal and is accessible at http://droughtmis.dacnet.nic.in . The following are the forms and reports available in the existing system are shown below:

Its Drought affected Districts list, authorize person can update the Drought Declare Date and Drought End Date.

Rainfall Deficiency: - The authorize person select District Name & Week Ending Date and fill the details as per show in the above the screenshot.

Progress of Sown Area: - The authorize user select the District, Crop Season (Kharif/Rabi) , Week Ending Date, Crop Name and fill the details as per shown above the screenshot.

Water Availability Scenario: - The authorize person select the Area Type (Rural/Urban), District, Week Ending Date and fill the details as per shown in the above screenshot.

Fodder and Cattle Details: - The authorize user select the District, Week Ending Date and fill the details as per is shown in the above screenshot.


Commodity Price (Price of Food Item): - The authorize user select the District Name, Week Ending Date and fill the details as per shown in the above screenshot.
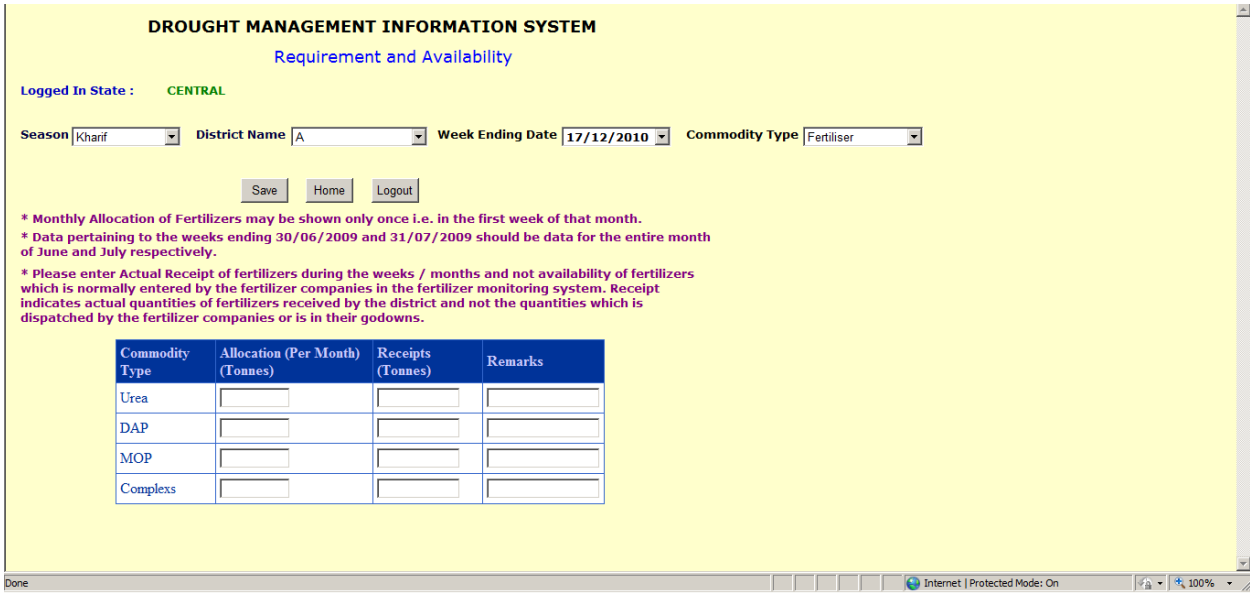
Requirement and Availability for Seed and Fertilizer: - The authorize user select the Season (Kharif/Rabi), District Name Week Ending Date, Commodity Type and fill the details as per shown in the above screenshot.
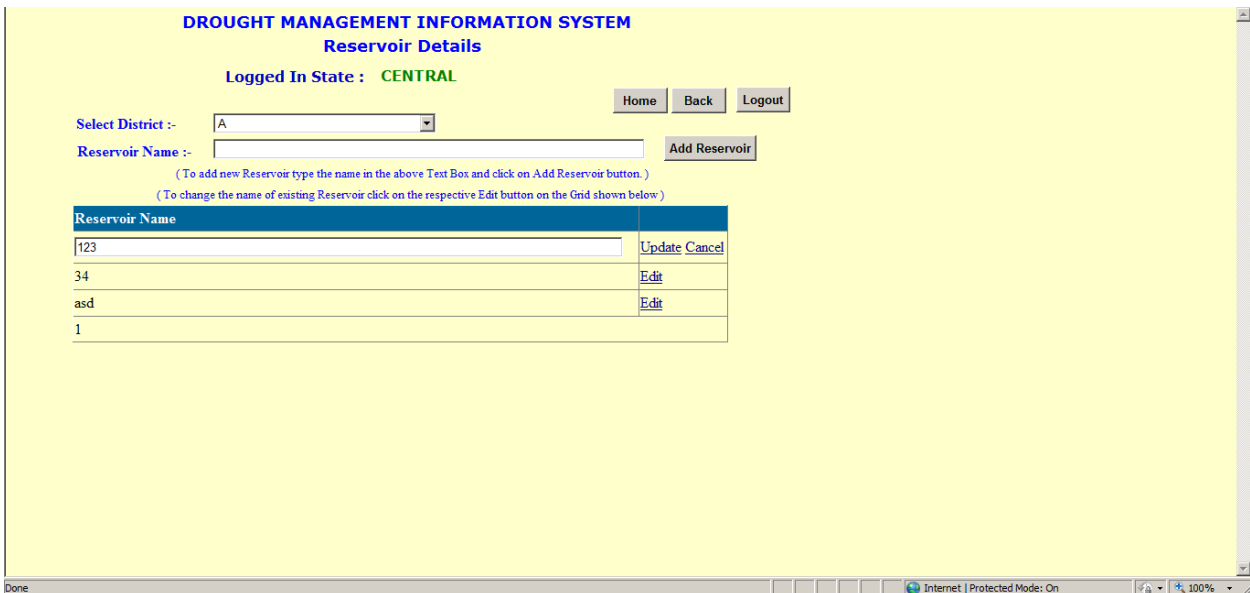
Reservoir Details :- The authorize user select the District and view the list of Reservoir, Add Reservoir in the selected District and Update the Details of the Reservoirs as per shown in the above screenshot.
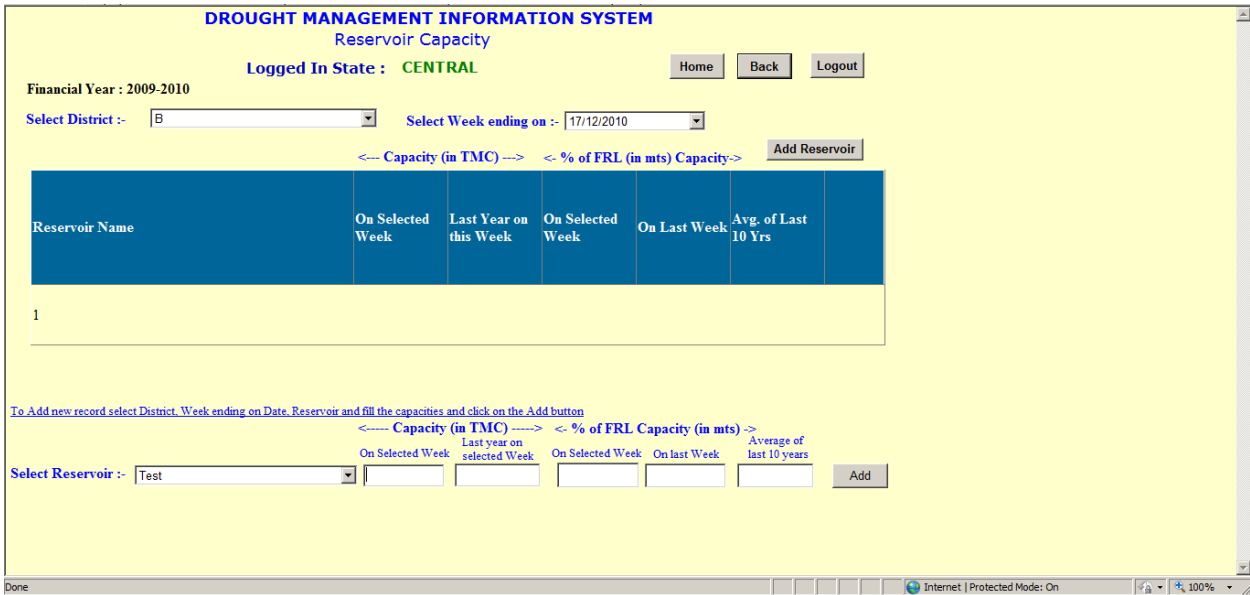
Reservoir Capacity :- The authorize user select the District, Week Ending on its show the details of the reservoir and user can select the reservoir name and add the Capacity detail of the reservoir as per shown in the above screenshot.
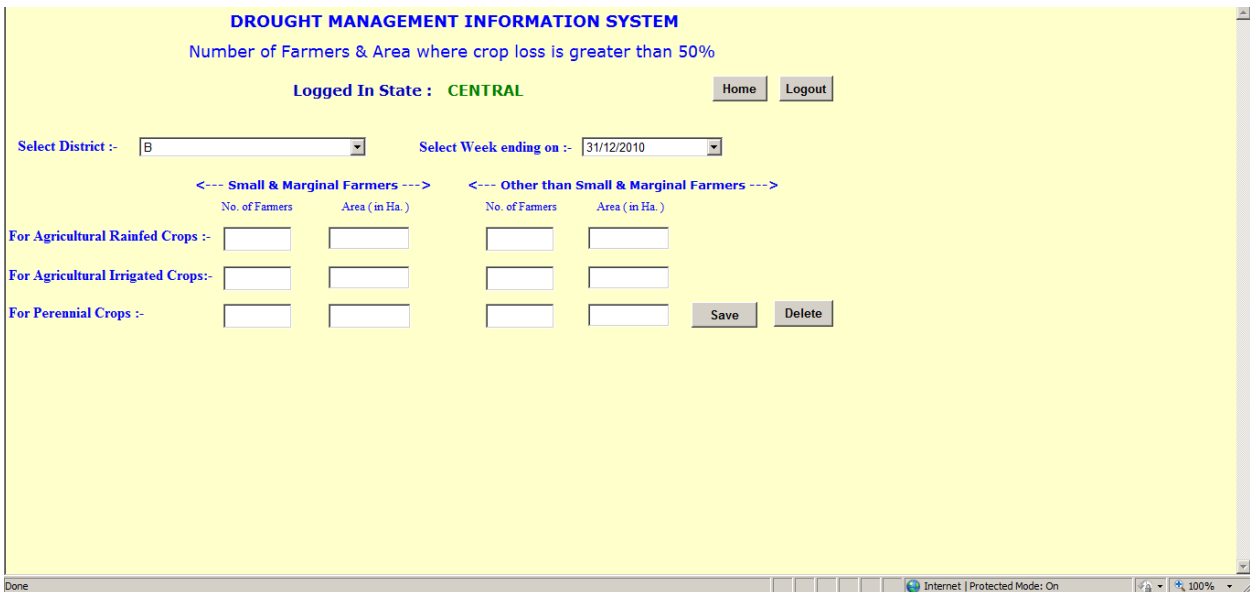
Number of Farmers & Area where crop loss is greater than 50% : - The authorize user select the District, Week Ending on and fill the details as per shown in the above screenshot.
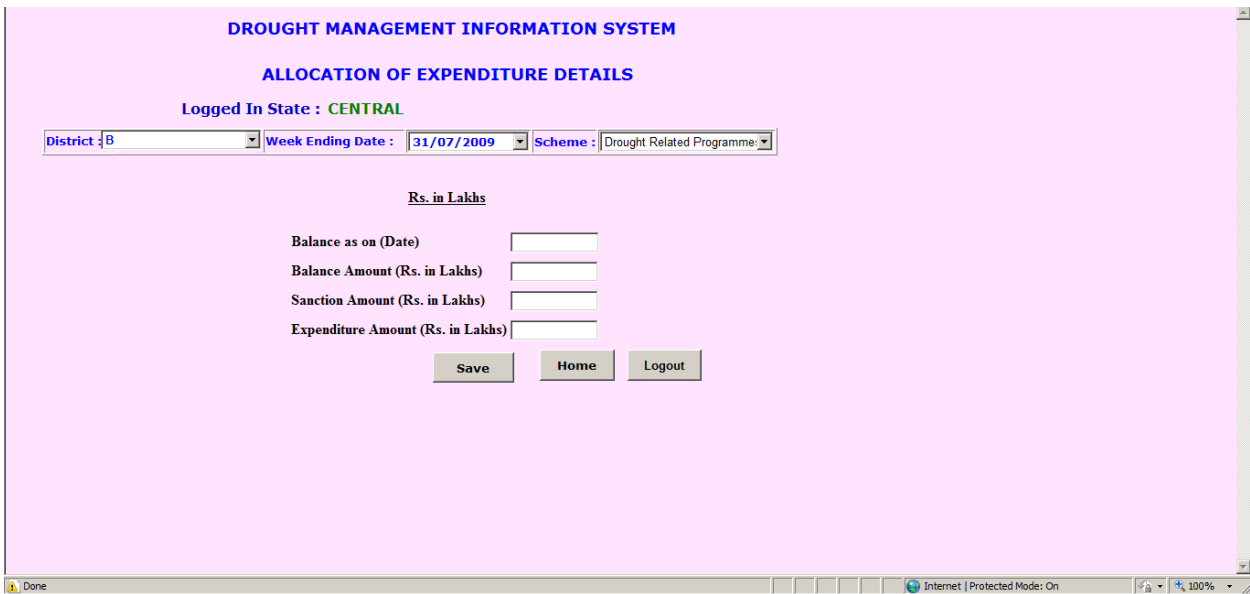
Allocation of Expenditure Details : - The authorize user select the District, Week Ending Date, Scheme and fill the details as per shown in the above screenshot.
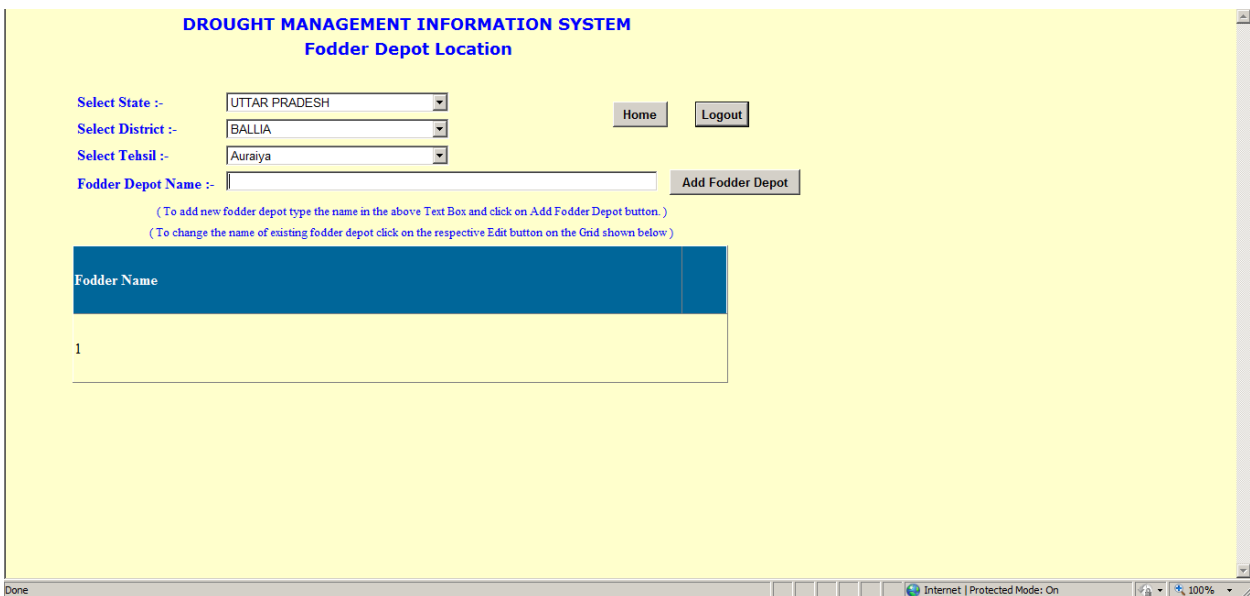
Fodder Depot Location: - The authorize user select the State, District, Tehsil and Add Fodder Depot Name as per shown in the above screenshot.
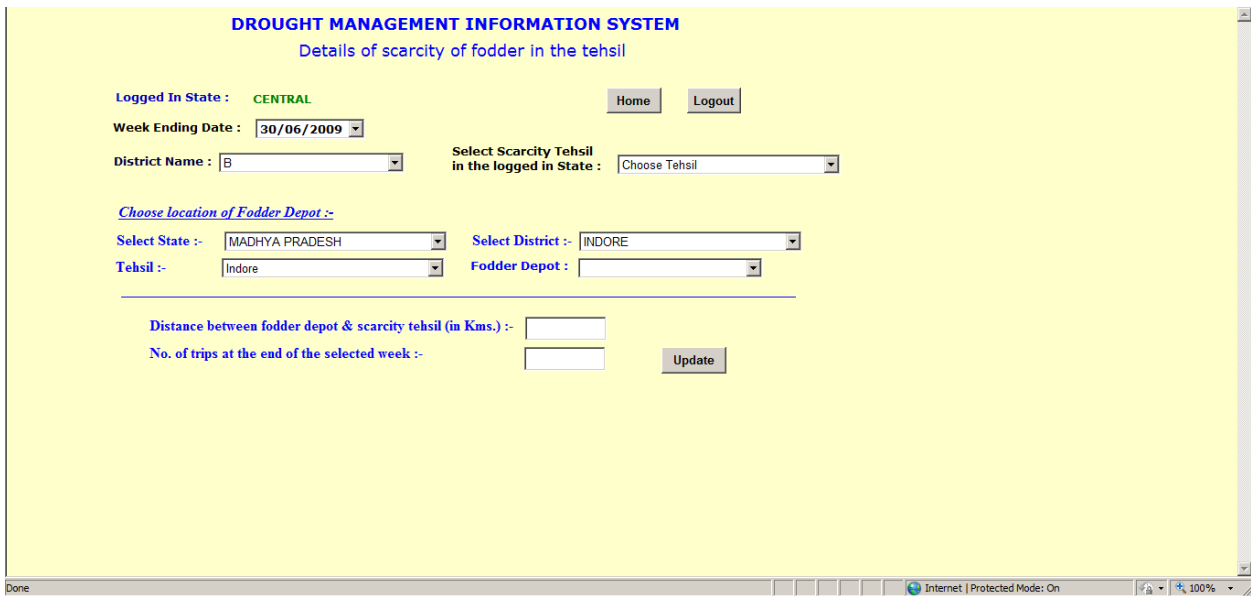
Details of Scarcity of Fodder in the Tehsil: - The authorize user select Week Ending Date, District Name, Scarcity Tehsil in the logged in State, State, District ,Tehsil ,Fodder Depot and fill the details as per shown in the above screenshot.
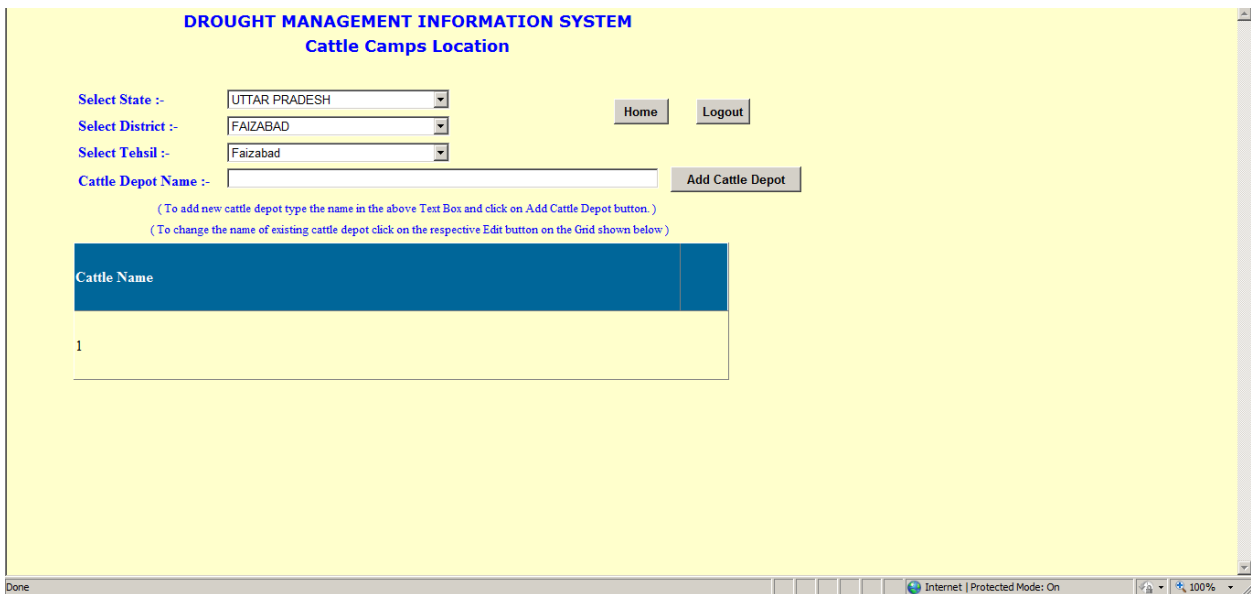
Cattle Camps Location: - The authorize user select State, District, Tehsil and Add Cattle Depot Name as per shown in the above screenshot.
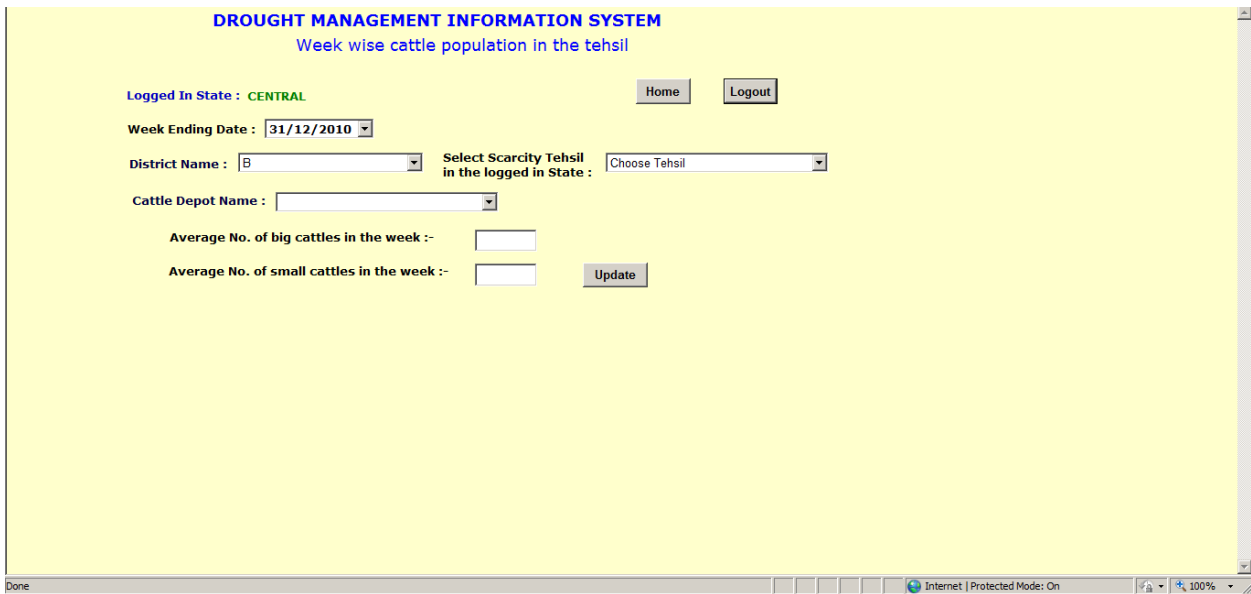
Week Wise Cattle Population in the Tehsil: - The authorize user select the Week Ending Date, District Name, Scarcity Tehsil in the logged in State, Cattle Depot Name and fill the details as per shown in the above screenshot.

Report: - Select the State and click on report which is shown in the above screenshot.
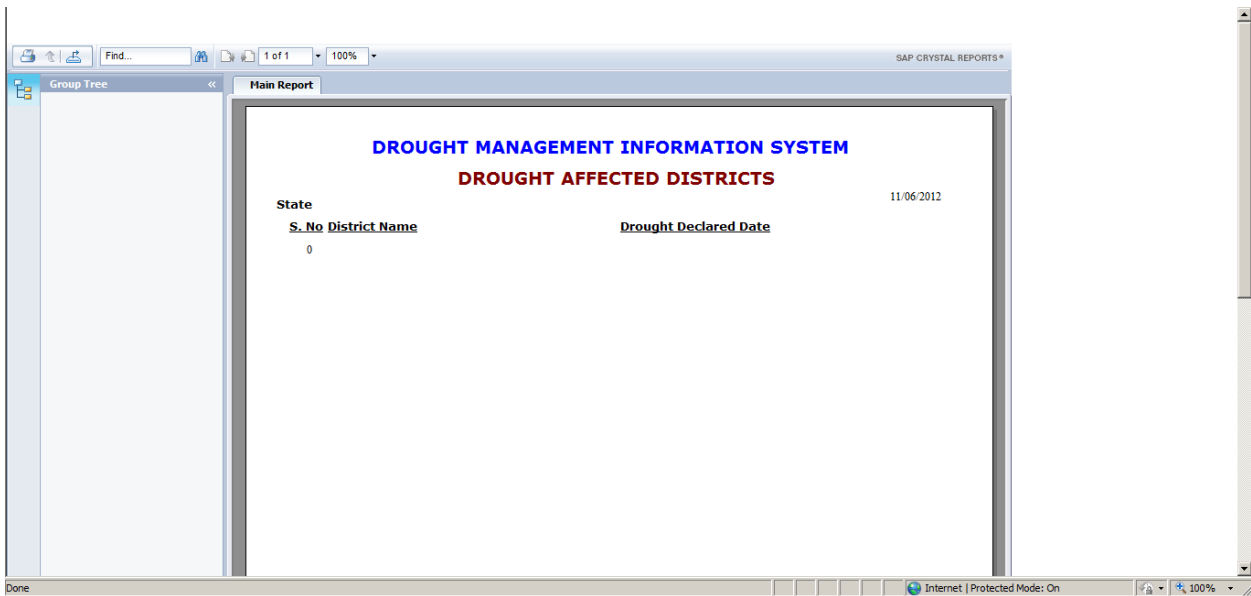
Drought Affected Districts: - View the list of Drought Affected District as per shown in the above screenshot.
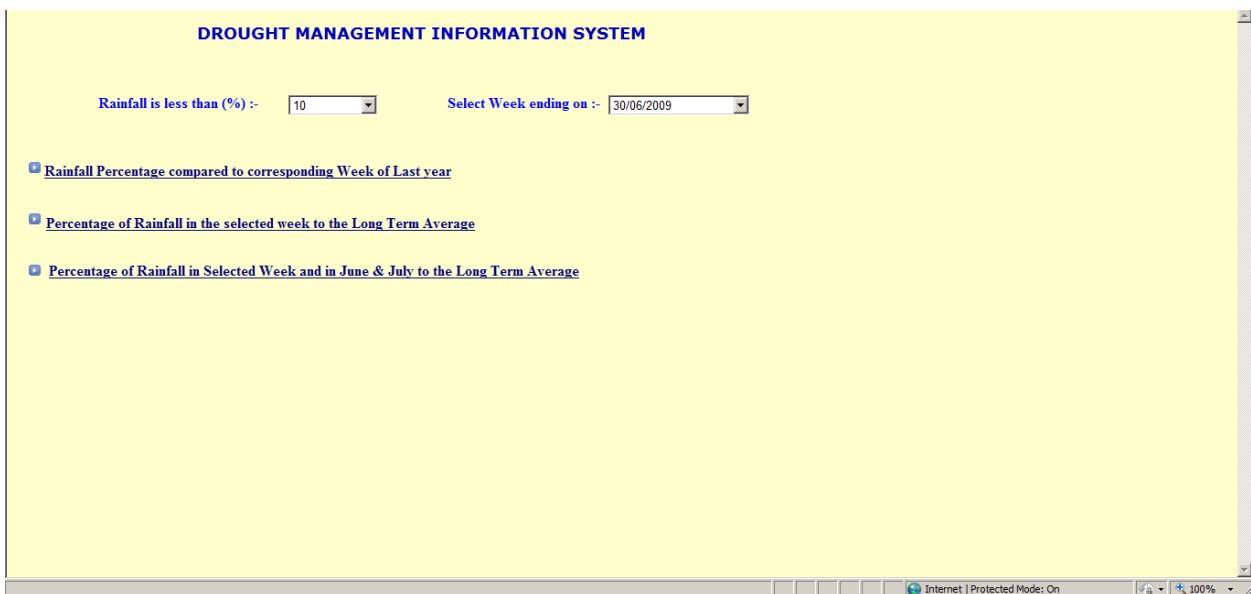
Rainfall Deficiency: - Select the Rain is less than (%), Week Ending on and click on any link which is provided in the above screenshot to view the report.
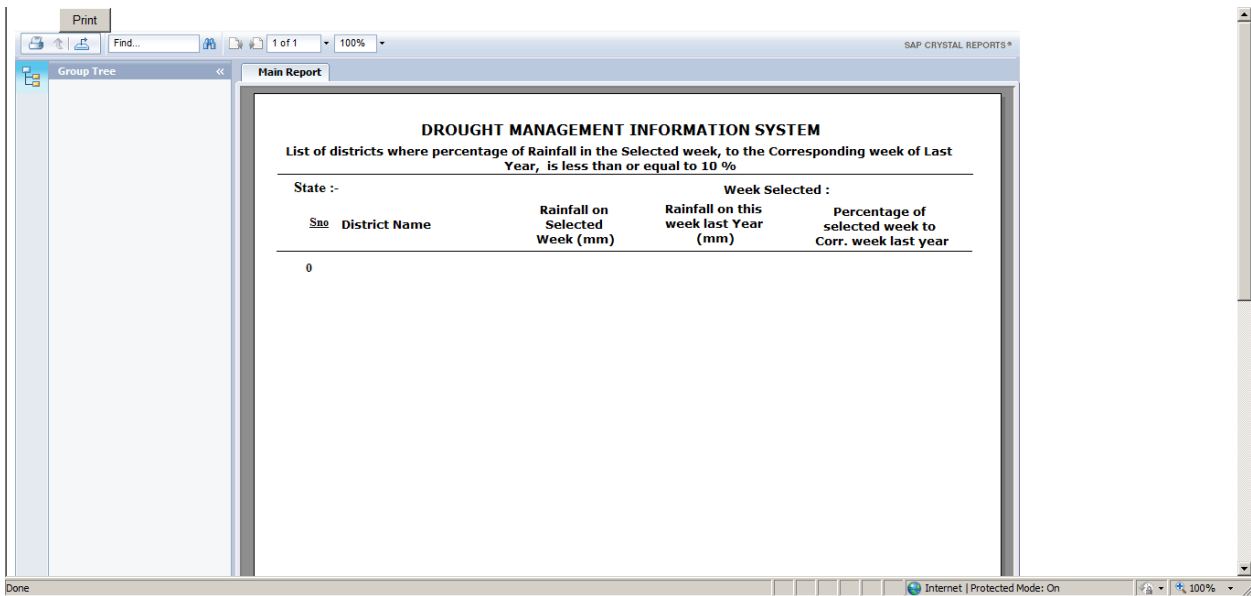
Rainfall Deficiency (Rainfall percentage compare to corresponding week of last year):- The report of Rainfall percentage compare to corresponding week of last year is shown above in the screenshot.
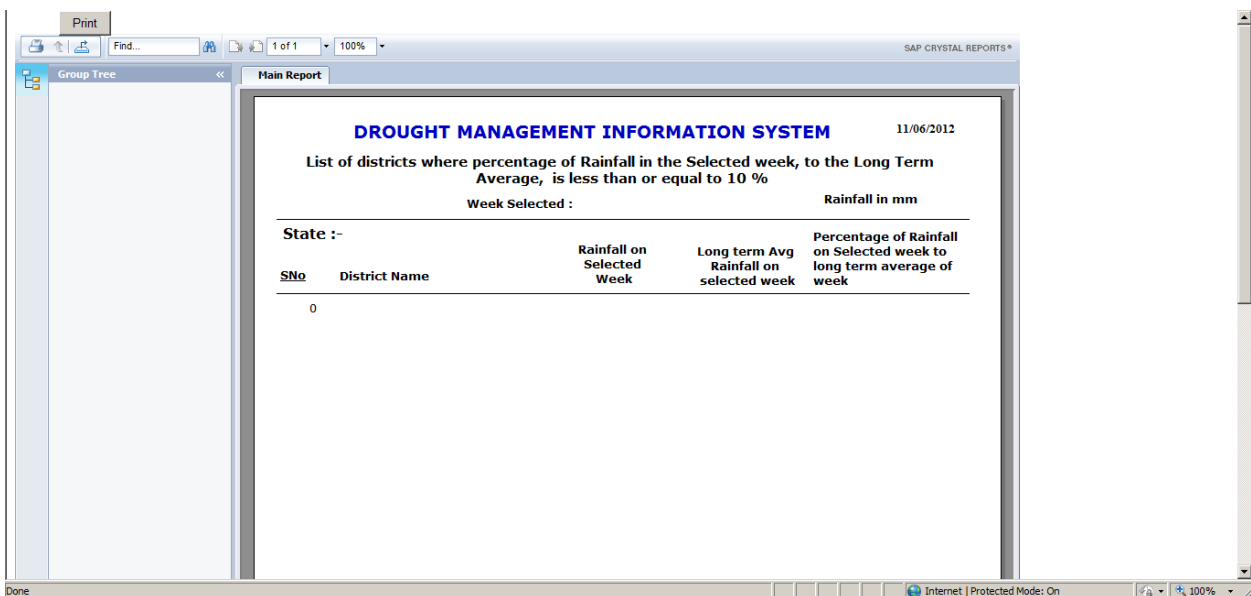
Rainfall Deficiency (Percentage of Rainfall in the selected week to the Long Term Average): - The report of Percentage of Rainfall in the selected week to the Long Term Average is shown in the above screenshot.
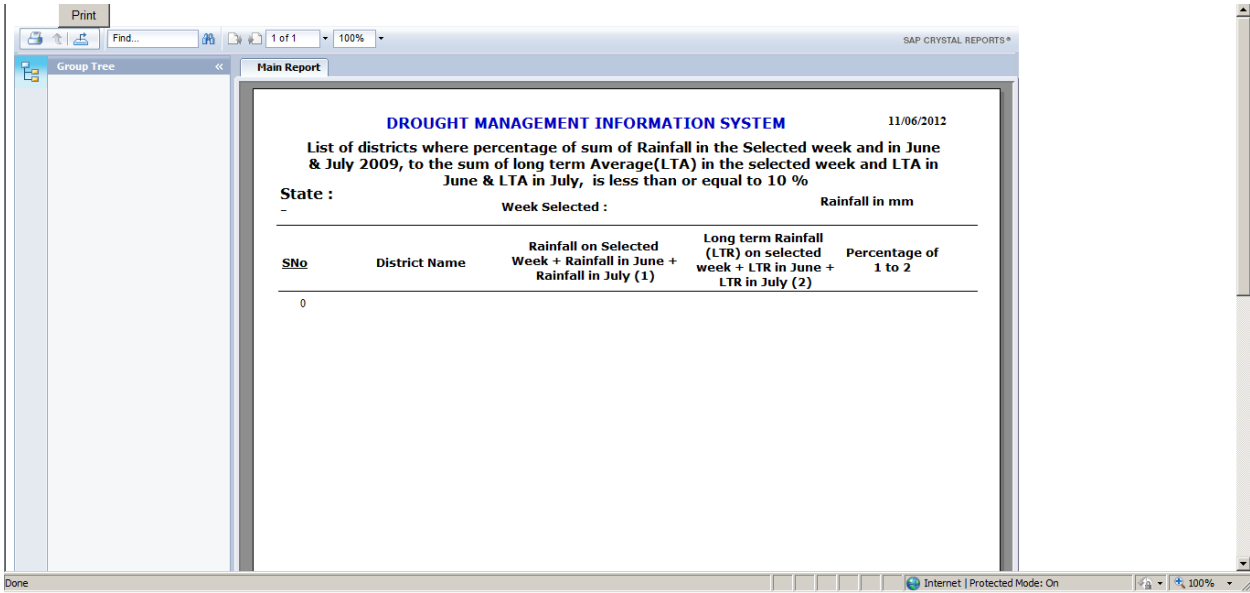
Rainfall Deficiency (Percentage of Rainfall on Selected Week and in June & July to the Long Term Average):-

The report of Percentage of Rainfall on Selected Week and in June & July to the Long Term Average as per shown in the above screenshot.
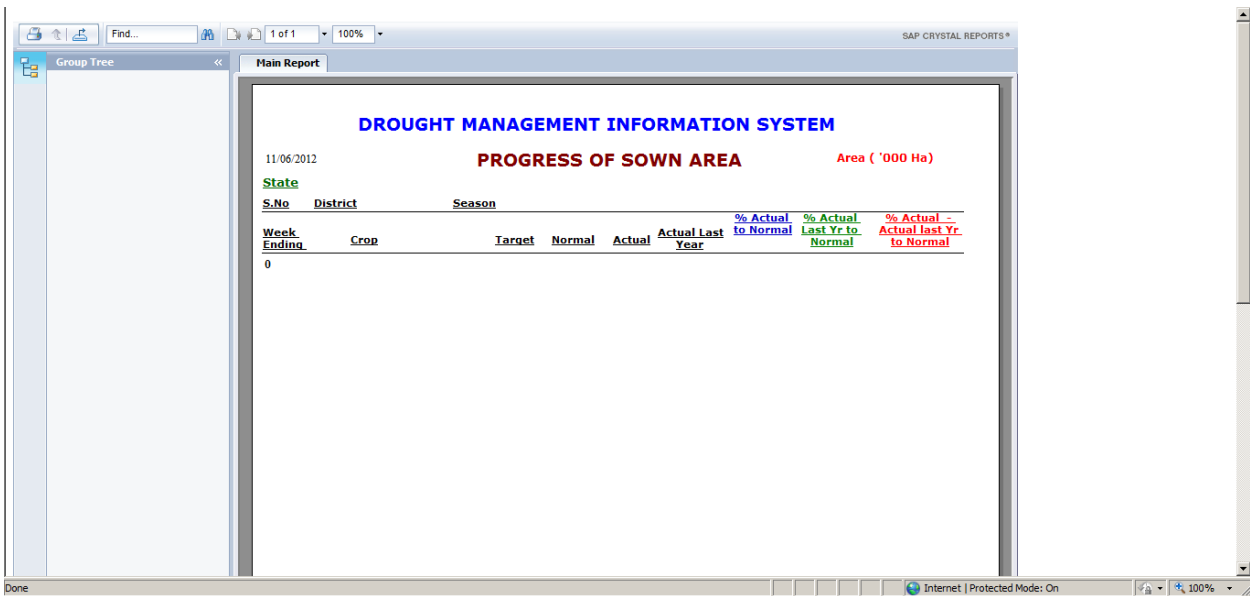

Progress of Sown Area: - The Report of Progress of Sown Area is shown in the above screenshot.
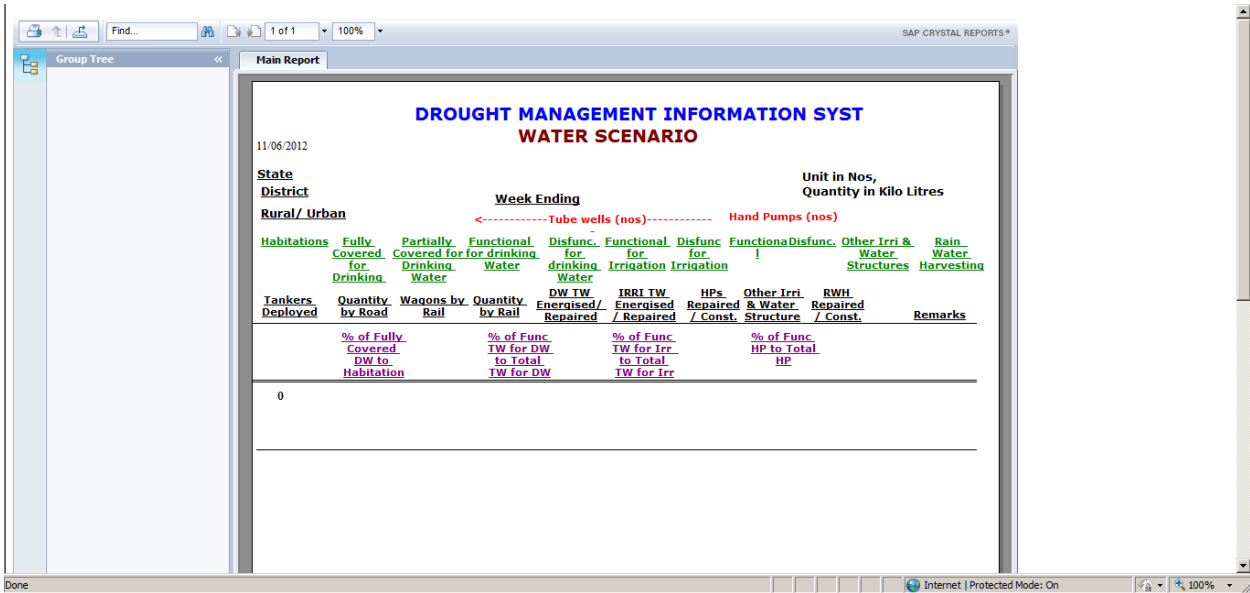
Water Availability Scenario: - The report of Water Availability Scenario will be shown in above Screenshot.
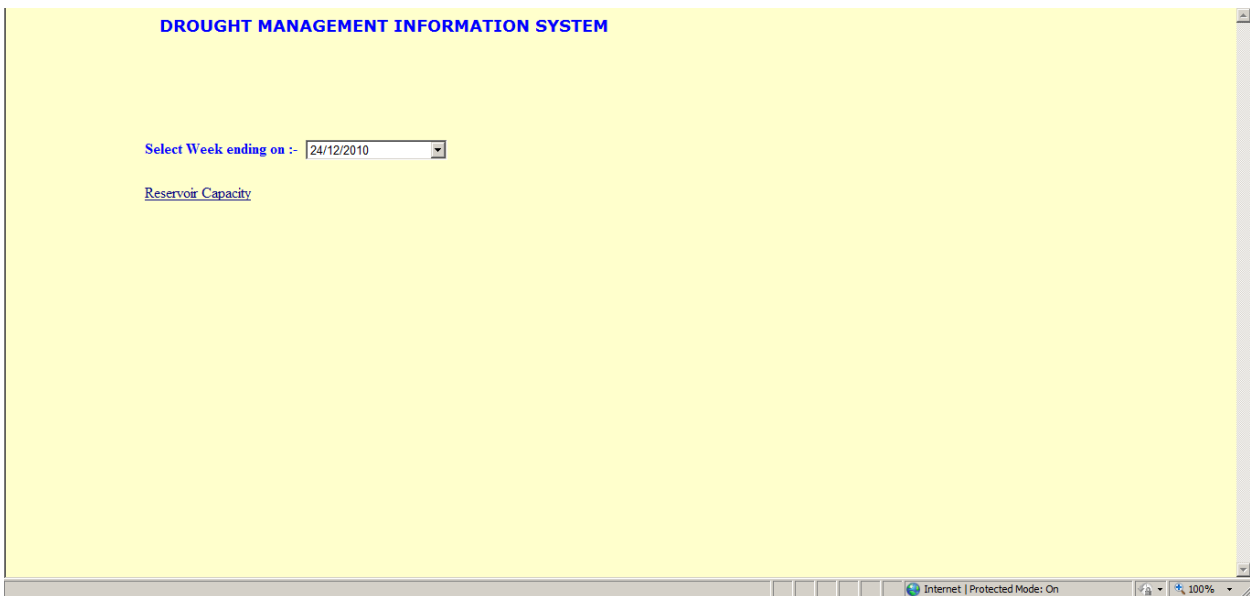

Reservoir Capacity: - The User Select the Week Ending on and click on Reservoir Capacity to view report of reservoir capacity the Reservoir Capacity link is show in the above screenshot.
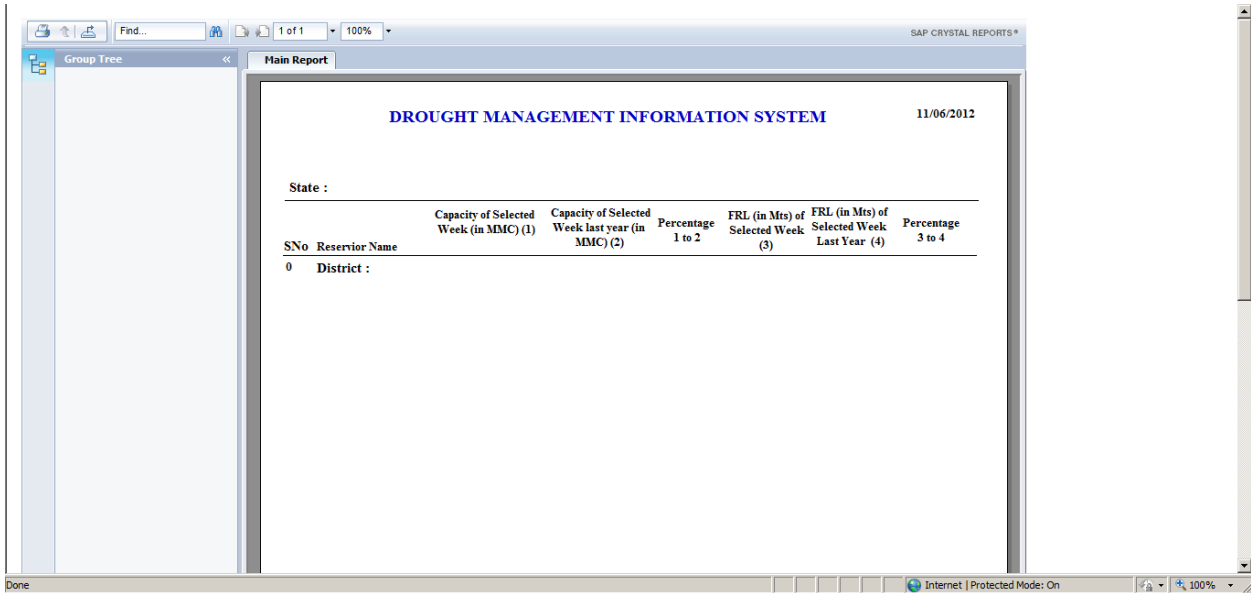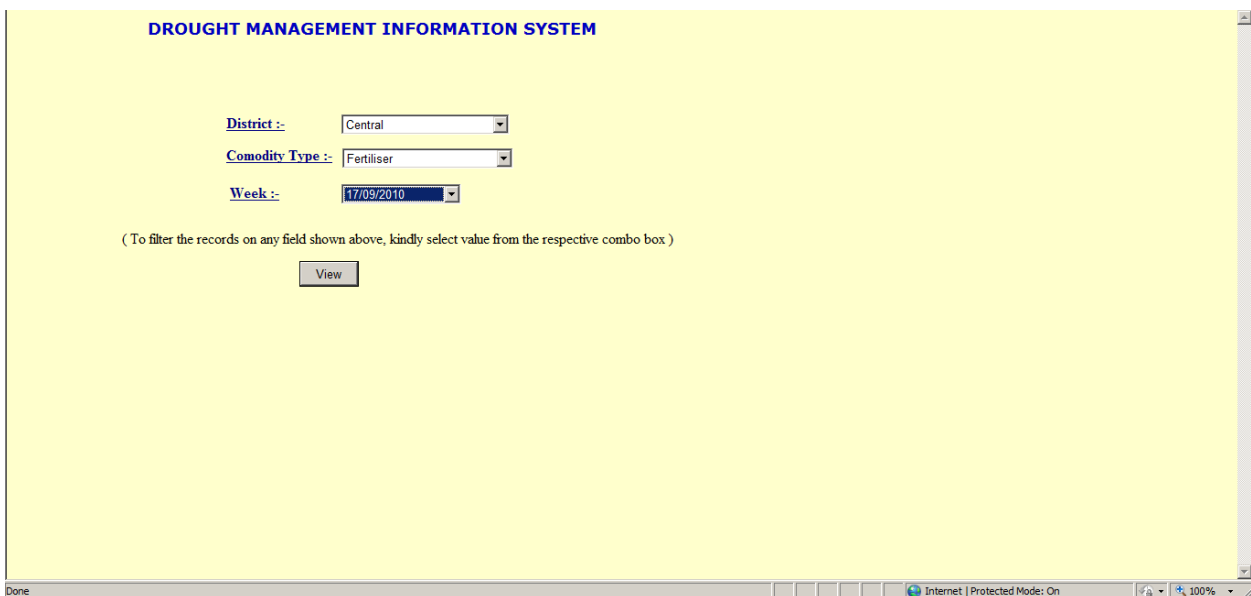
Reservoir Capacity: - The user can view the Reservoir Capacity shown in the above the Screenshot.
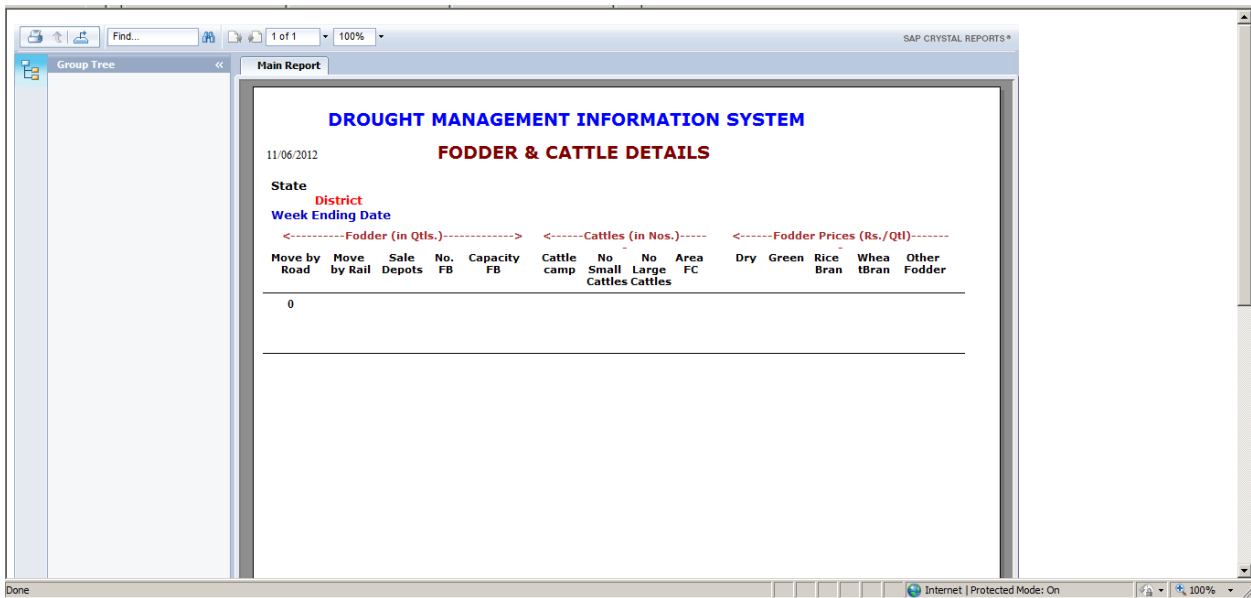

Fodder & Cattle Details: - The User can view the Report of Fodder & Cattle Details which is shown in the above screenshot.
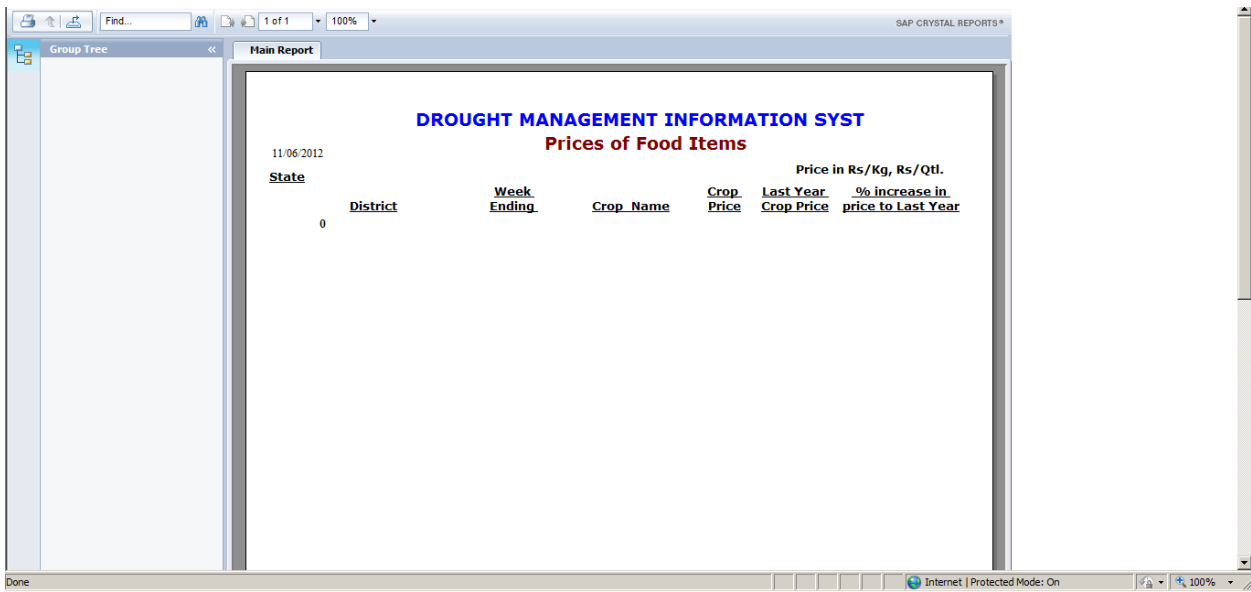
Prices of Food Items: - The user can view the report of Prices of Food Items as per shown in the above screenshot.


Requirement and Availability for Seed and Fertilizer: - The user selects District, Commodity Type, and Week as per shown in the above screenshot to view the report.
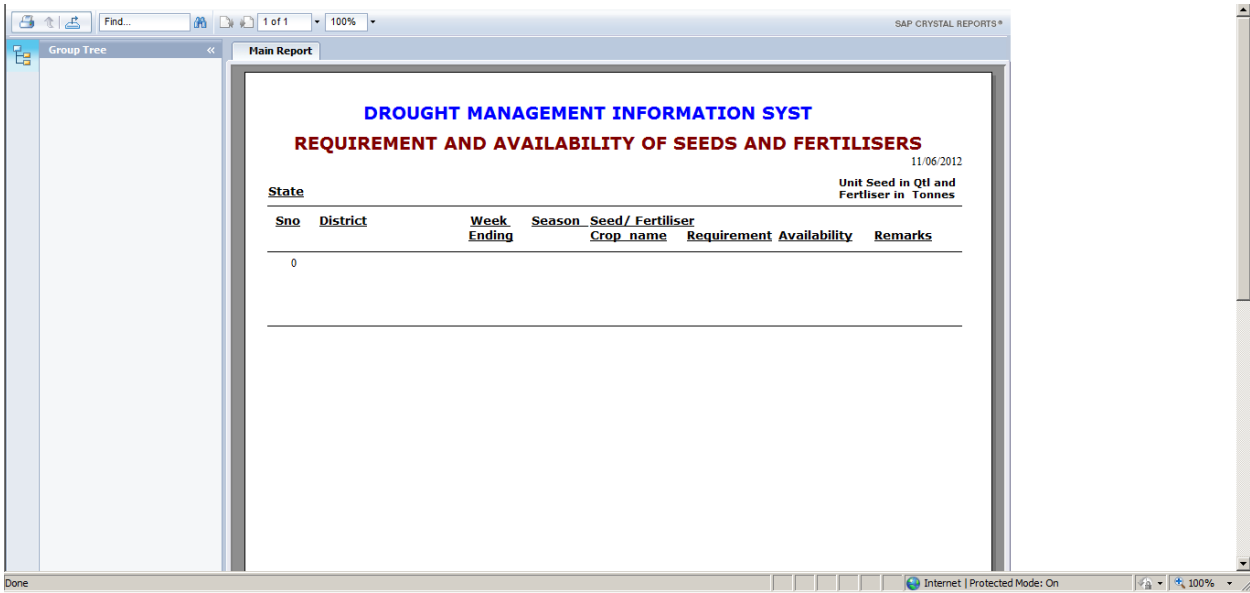
Requirement and Availability of Seed and Fertilizers: - The user can view the report of the Requirement and Availability of Seeds and Fertilizers as per shown in the above screenshot.
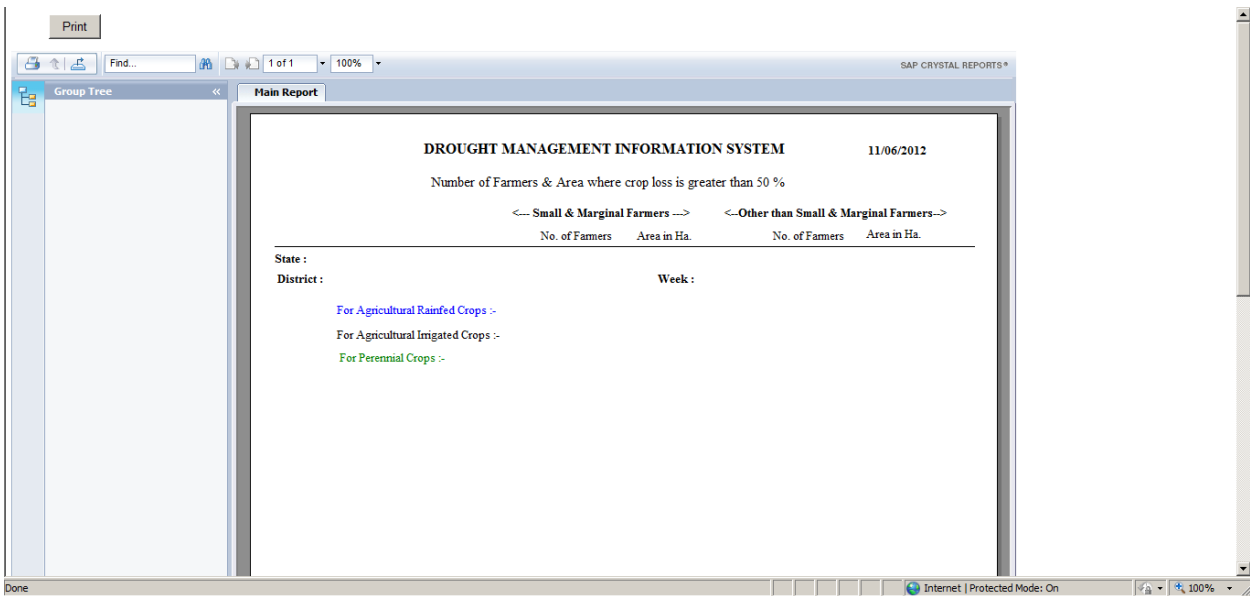
Number of Farmers & Area where crop loss is greater than 50%:- The user can view the report of Number of Farmer & Area where crop loss is greater than 50% as per shown in above screenshot.
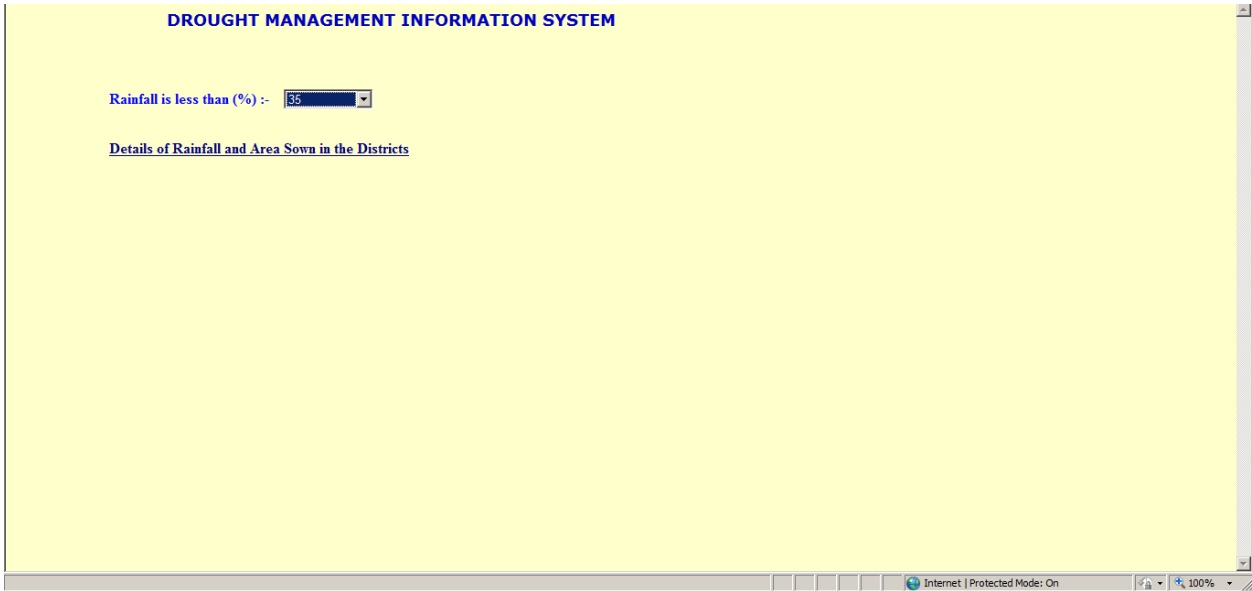
Rainfall: - The user selects Rainfall is less than (%) and click on the link which is shown in the above screenshot to view the report of Rainfall.
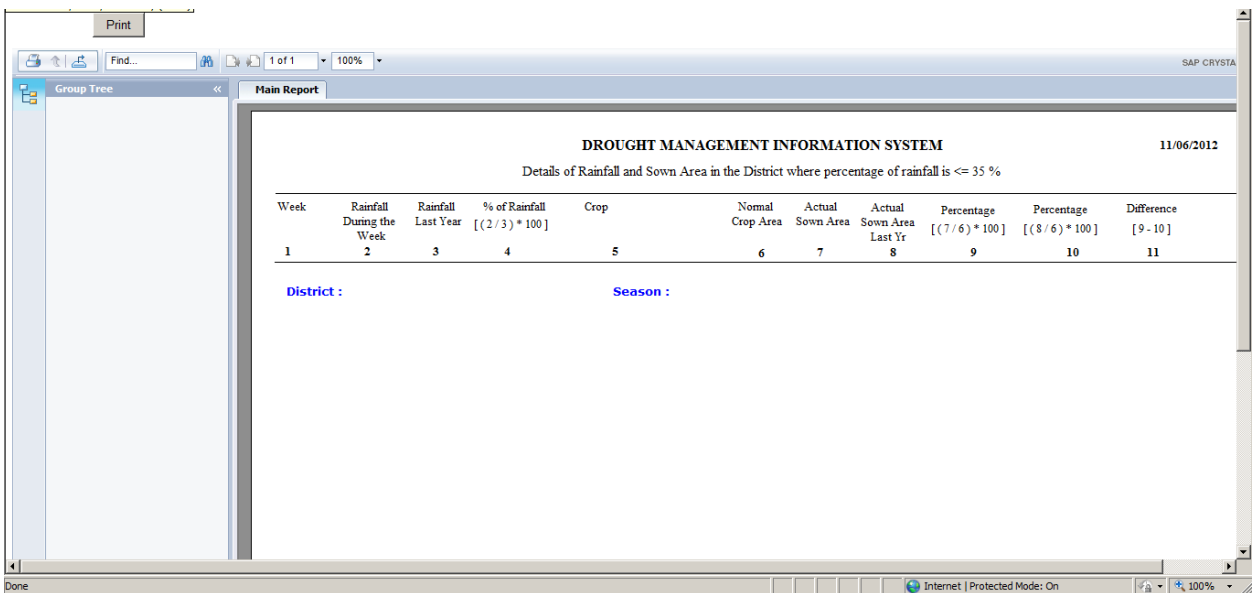
Rainfall (Area of Rainfall and Sown Area in the Districts): - The user can view the report of Area of Rainfall and Sown Area in the Districts as per shown above screenshot.
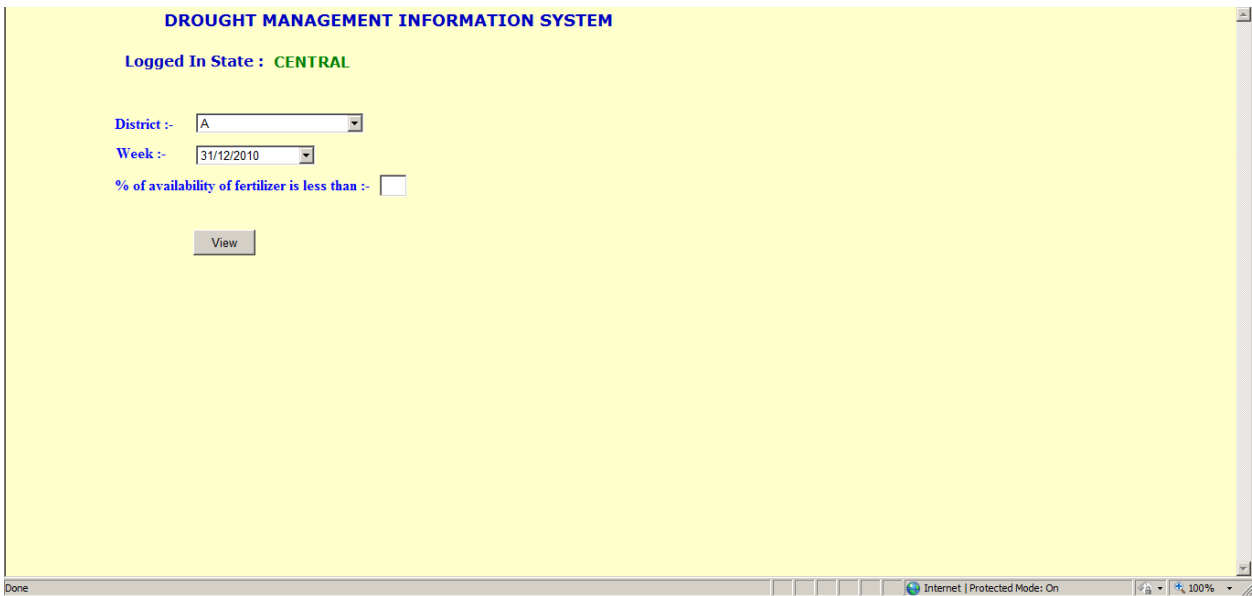
Fertilizer Deficiency: - The user selects the District, Week and fill the % of availability of Fertilizer is less than filed to view the report of Fertilizer Deficiency.
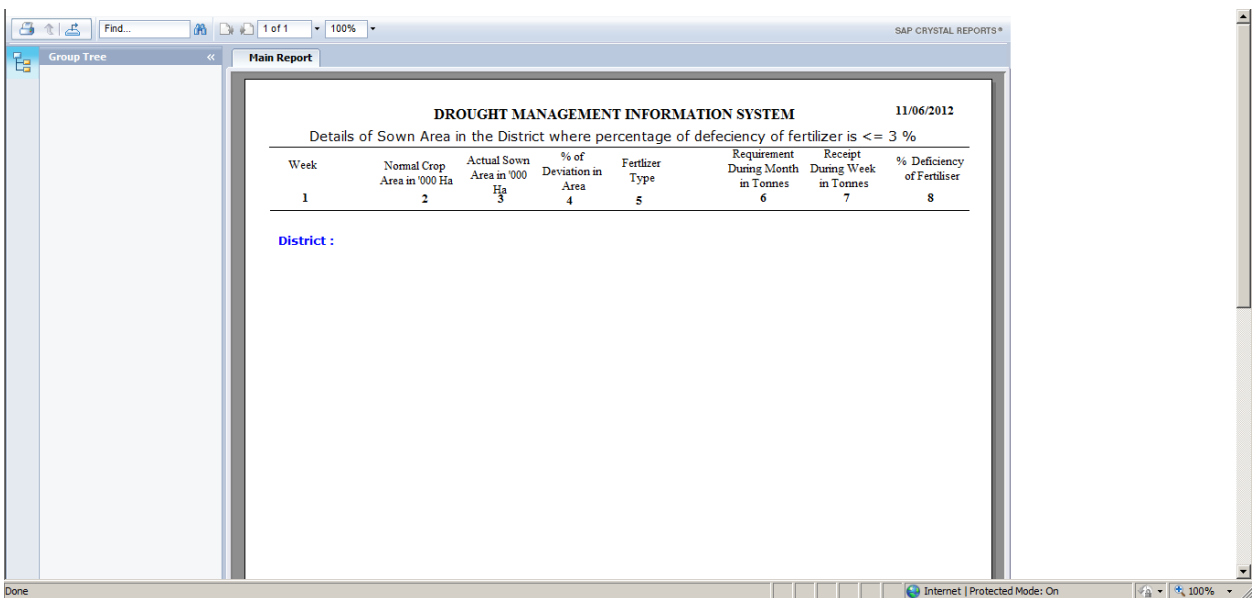
Fertilizer Deficiency: - The user can view the report of Fertilizer Deficiency as per shown in the above screenshot.

5.2 Drought Declaration Certificate

Annex 3: Drought Declaration Certificates

CERTIFICATE
Declaration of Paisewari / Annewari / Girdawari

Date:
Place:

This is to certify that Kharif / Rabi crops for the year........... in the following villages were damaged due to .... and the yield in terms of Paisewari / Annewari was 50 paise / 8 anna or below.

The Paisewari / Annewari / Girdawari has been arrived through the crop-cutting experiment or eye estimation conducted during months of in accordance with the procedures laid down for it.

Sr. No.	Name of the Villages	Names of Crops Damaged	Extent of Damage in Terms of Percentage
		1	
		2	
		3	

District Collector / Deputy Commissioner
District

5.3   Notification of Drought

CERTIFICATE
Notification of Drought

Date:
Place:

Upon the declaration of drought by the State Government on which includes this district, I, Collector / Deputy Commissioner, of district, hereby notify the Talukas / Tehsils / Blocks and the villages included therein, shown in the Table below, as affected by drought. I have satisfied myself through the reports of the field agencies in the district that the all the conditions, necessary for the declaration of drought, as specifically mentioned in the State Government's order dated exist manifestly in these Talukas / Tehsils / Blocks and the villages included therein:

	Villages Included
Talukas / Tehsils / Blocks	
Talukas / Tehsils / Blocks	

The notification shall be effective from today till the date the State Government revokes the drought through a specific order. Upon the issue of such an order revoking the declaration of drought, this notification shall stand cancelled / revoked on its own.

It is directed that all the concerned Departments at the district level commence relief programmes immediately upon the declaration of the notification and submit the progress of their schemes to the District Administration through various returns prescribed in the Manual on Drought Management. It is also directed that information upon all the relief schemes be made available to the people of the district through the Government web site, local newspapers and other channels of mass media.

District Collector / Deputy Commissioner
District

5.4   Declaration of Drought

CERTIFICATE
Declaration of Drought

Date:
Place:

Having taken into account the conditions as arising from rainfall deficiency, decline in the availability of ground and surface water, and poor crop conditions, and ascertained the distress situation that is likely to develop in the area affected by these conditions, on the basis of reports available from the Collectors / Deputy Commissioners of concerned districts, the State Government has decided to declare drought in the following districts:

1.   ....
2.   ....
3.   ....

The declaration of drought would come into effect on _____ and would continue to be in effect till the State Government issues a revocation order.

The State Government hereby authorizes the Collectors / Deputy Commissioners of the concerned districts to notify the Talukas / Tehsils / Blocks and the villages included therein as drought-affected and disseminate the notification through public display and mass media. All the relief measures to be implemented upon the declaration of drought will commence after the notification of drought, specifying the Talukas / Tehsils / Blocks and the villages included therein is issued by the Collector.

By the Order and in the name of Honourable Governor,

Relief Commissioner/ Secretary, Disaster Management
State Government

5.5   Structure and Contents of Memorandum

Structure and Contents of Memorandum

	Table of Contents	
	Executive Summary	Basic Information upon Drought, Magnitude of Relief Efforts, and the Total Demand for Assistance through the NCCF
I	Introduction	a. Area
		b. Population (Proportion of Scheduled Caste / Tribe Population)
		c. Cultivable Area Crop-wise
		d. Area under Irrigation and Dryland Farming
		f. Total number of farmers in the State (District-wise)
		g. Number of small and marginal farmers
		h. Number of landless agricultural labourers
		i. Agriculture: Its contribution to State GDP
II	Incidence and Spread of Drought	a. Declaration of Drought (Notification to be attached) and grounds for such a declaration
		b. Deficiency in Rainfall
		c. Area under Sowing
		d. Normalized Differential Vegetation Index
		e. Moisture Adequacy Index
		f. Water Storage in Irrigation Projects
		g. Depletion of Groundwater
		h. Paisewari / Annewari / Girdawari
		i. Availability and prices of foodgrains
		k. Migration of Population
III	Drought Relief and Mitigation Measures	a. Relief Employment under the NREGS (District-wise Number of works and total number of workers attending)
		b. Provision and Distribution of Foodgrains
		c. Availability and supply of drinking water: Number of Tanker/ Trains / Bullock Carts
		c. Implementation of Temporary Water Supply Schemes
		d. Information upon Cattle Camps and Fodder Depots
		e. Information upon any other relief measures
		f. Expenditure on Drought Relief and Mitigation Measures
IV	Request for Central Assistance	a. Agriculture (Assistance to small and marginal farmers for irrigated and dryland cultivation)
		b. Horticulture (Assistance to small and marginal farmers)
		c. Water Supply (Temporary Water Supply Schemes)
		d. Water Supply (Deployment of Tankers / Bullock Carts/ Trains)
		e. Cattle camps and fodder depots
		f. Medical care for cattle against epidemics
		g. Relief Employment (Estimated Demand for work)
		h. upplementary Nutrition
		i. Total funds available under the Calamity Relief Fund
		j. Total Requirement of assistance through the NCCF