SRS
for
Providing Information on Soil Health (Service 2)
Under NEGP (A)

Presentation By:

SAHARA next
IT | BPO | Web Media | Mobility

Department of Agriculture & Cooperation
Ministry of Agriculture
Government of India

NATIONAL INFORMATICS CENTRE

Introduction

- Objective

  To provide information on:

  - Soil health Conditions
  - Package of Practices suitable to Soil Type
  - Balanced use of Fertiliser (In-Organic / Organic)
  - Automation of Soil Testing Labs for quick dissemination of results
  - Soil Survey
  - Organic farming
  - Details of Soil testing laboratories
  - Expert Advisory
  - Grievances redressal
  - To propose computerized system and to define its facilities as well as limitations.

Introduction

- Scope

1. Result of Front line demonstrations conducted on different crops for proving efficacy of Soil Health Management to be listed for different agro climatic zones
2. Advisory Services : Farmer to know about right kind of seeds of the same crop or an alternative crop depending upon expected yield and maturity period after considering soil condition and other agro-climatic parameters.

A. Soil Testing and Soil Health Card Process needs to be automate and should be a generic process which is adaptable to all the states across India. Along with the details of soil testing labs across states in India.

B. Information of the Organic / In-organic fertilizers Dealer Details

C. Work flow on Expert Advisory System. Should be accessible from State Agriculture Department, Agricultural Universities, Districts and Blocks to provide the Solution for any query asked by different farmers.

Introduction

- Purpose

1. To detail the As IS and TO BE process.
2. Develop the document that becomes an input for the design document.
3. Develop reference document for designer, developers and testers
   a. To understand requirements to standardize the software for Soil Testing and Soil Health Card for quick adoption at State Government and Agricultural Research Institutions.
   b. To understand manual procedures, analysis methods, constraints etc for soil testing & fertilizer recommendations for integrated nutrient management and issue of soil health card.
   c. Based on the analysis of the manual procedures, analysis methods and constraints practiced by states, making an attempt to propose a uniform Solution to be acceptable by all the states.
   d. Integration of the state specific stand alone systems data into NeGP(A).

Introduction

- ## Definitions, Acronyms and Abbreviations

Abb	Full Form	Abb	Full Form
SAU	State Agriculture University	KVK	Krishi Vigyan Kendra
DAC	Department of Agriculture and Cooperation	MSTL	Mobile Soil Testing Lab
GOI	Government of India	NIC	National Informatics Centre
SMS	Subject Matter Specialist	QMS	Quality Management System
HQ	Head Quarter	SHC	Soil Health Card
ICAR	Indian Council of Agricultural Research	SRS	Software Requirements Specifications
ICT	Information and Communications Technology	SAD	State Agriculture Department
IARI	Indian Agriculture Research Institute	SME	Subject Matter Expert
IISS	Indian Institute of Soil Science	ADO	Agriculture Development Officer
IT	Information Technology	AEO	Agriculture Extension Officer
JDA	Joint Director Agriculture		

Introduction

- **References**
  - Presentation from NIC on Soil Health Information
  - Soil SRS prepared by NIC, Pune
  - Soil SRS prepared by NIC, West Bengal
  - Discussion with DAC Officials, State Agriculture Department, Testing Laboratories.
  - http://www.nbsslup.in
  - http://www.iiss.nic.in/index.html
  - http://cfqcti.dacnet.nic.in
  - http://slusi.dacnet.nic.in
  - http://ncof.dacnet.nic.in
  - http://rbdcbangalore.dacnet.nic.in
  - http://rbdchisar.dacnet.nic.in
  - http://rbdcimphal.dacnet.nic.in
  - http://rbdcjabalpur.dacnet.nic.in
  - http://rbdcnagpur.dacnet.nic.in
  - http://slusiranchi.dacnet.nic.in
  - http://sctc.dacnet.nic.in
  - http://seednet.gov.in/
  - http://wbagrisnet.gov.in
  - http://www.nbsslup.in
  - http://www.iiss.nic.in/ http://stcr.gov.in

Database Requirement

- Database on Frontline Demonstrations
- Database on Soil Resources (Micro level conditions)
- Database on Agro Climatic Parameters.
- Database on Organic Fertilizers
- Database on In-organic Fertilizers
- Database of all Soil Testing Laboratories and Computerization of Soil Health Cards (Automation of Soil Testing Laboratories with Networking)

Database Requirement

- **Decision Support Systems (**Agricultural Resources Information System(**AgRIS))**
  - **Soil suitability, crop suitability, fertilizer suitability, water requirement**
- **Database on Agro-ecological conditions and Agro-ecological maps (NBSS & LUP)**
- **Database on crops (seed variety, expected yield, maturity period, block level, season etc.)**
- **National Database on Farmers with UID**
- **-**

Content Management

- Package of Practices
- Results of Frontline Demonstrations
- Soil Testing Manuals
- Training Schedules
- Video Clips (to be provided by Extension Division and NCOF)
- Latest Lab Testing machines
- Latest Technology in Soil test analysis
- Fee structure
- Soil Collection Centre
- -
- -

GIS Requirements

- Database on Agro-ecological conditions and Agro-ecological maps (NBSS & LUP)
- Soil Fertility Map
- Soil Degradation Map
- Soil Testing Laboratories Location Map
- -
- -

Information Providers

- **Soil Resources** – DAC, State Governments, ICAR, IISS, NBSS-LUP, SLUSI
- **Front Line Demonstrations** - DAC, Directorate of Extension, KVKs, States
- **Agro Climatic Parameters** – ICAR, DAC
- **Organic Fertiliser** - DAC, States, Industry
- **Inorganic Fertiliser** – DAC, DoF, States
- **Agro ecological conditions** – NBSS & LUP
- **Farmers Database** – DAC, States, Districts, Blocks
- **Crops** – DAC, ICAR, States
- **Soil Testing Labs** - DAC, States

Stake Holders

1. Indian Institute of Soil Science, Bhopal (IISS)
2. Central / State Agricultural Universities (SAUs) / Agricultural Colleges
3. National Bureau of Soil Survey and Land Use Planning (NBSS & LUP), ICAR Institutions, Deemed Universities, Project Directorates
4. Fertilizer Manufacturers
5. Krishi Vigyan Kendra (KVK) (results of front line demonstrations)
6. Soil Testing Laboratories
7. Soil and Land Use Survey of India
8. Rubber Board, Spices Board, Coffee Board, Tea Board
9. State Agriculture Department
    1. ATMA (District Level)
    2. SAMETI (State level)
    3. Block Agriculture Officer / Village Agriculture Officer

Contd..

Stake Holders

9. Non Government Organisations

1. Farmers Training Centres
2. Farmers Clubs and
3. Farmers Field Schools
4. NGOs / Self Help Groups
5. Private Sector Companies
6. Akshaya, NYK, Farm Clubs, Kudumbashre, KILA

ICT in Soil Health Management

The **National Project on Management of Soil Health and Fertility (NPMSF)** of the Department of Agriculture and Cooperation (2008) (http://www.agricoop.nic.in) is expected to strengthen **databases and informatics** associated with Soil health and fertility required for enhanced and sustainable agricultural productivity. Projects related to Soil Health Card & Soil Fertility Maps have been taken in various States, as given below:-

a) **Gujarat - AGRISNET Project (e-Krishi Kiran of Anand Agricultural University) (DAC Sponsored); http://agri.gujarat.gov.in/krushi_mahotsav_2006/soil_health_card.htm#;**

b) **West Bengal - AGRISNET Project (DAC Sponsored); http://wbagrisnet.gov.in/;**

c) **Karnataka - BHOOPALA Software, developed by NIC in the Raichur District, Karnataka;**

d) **Maharashtra – Software developed by NIC (Pune) and being used during the last 10 years;**

e) **Haryana (http://www.rkvyharyana.com/ost/SSHC.aspx)**

f) **Tamil Nadu (http://agritech.tnau.ac.in/agriculture/agri_soil_soilhealthcard.html)**

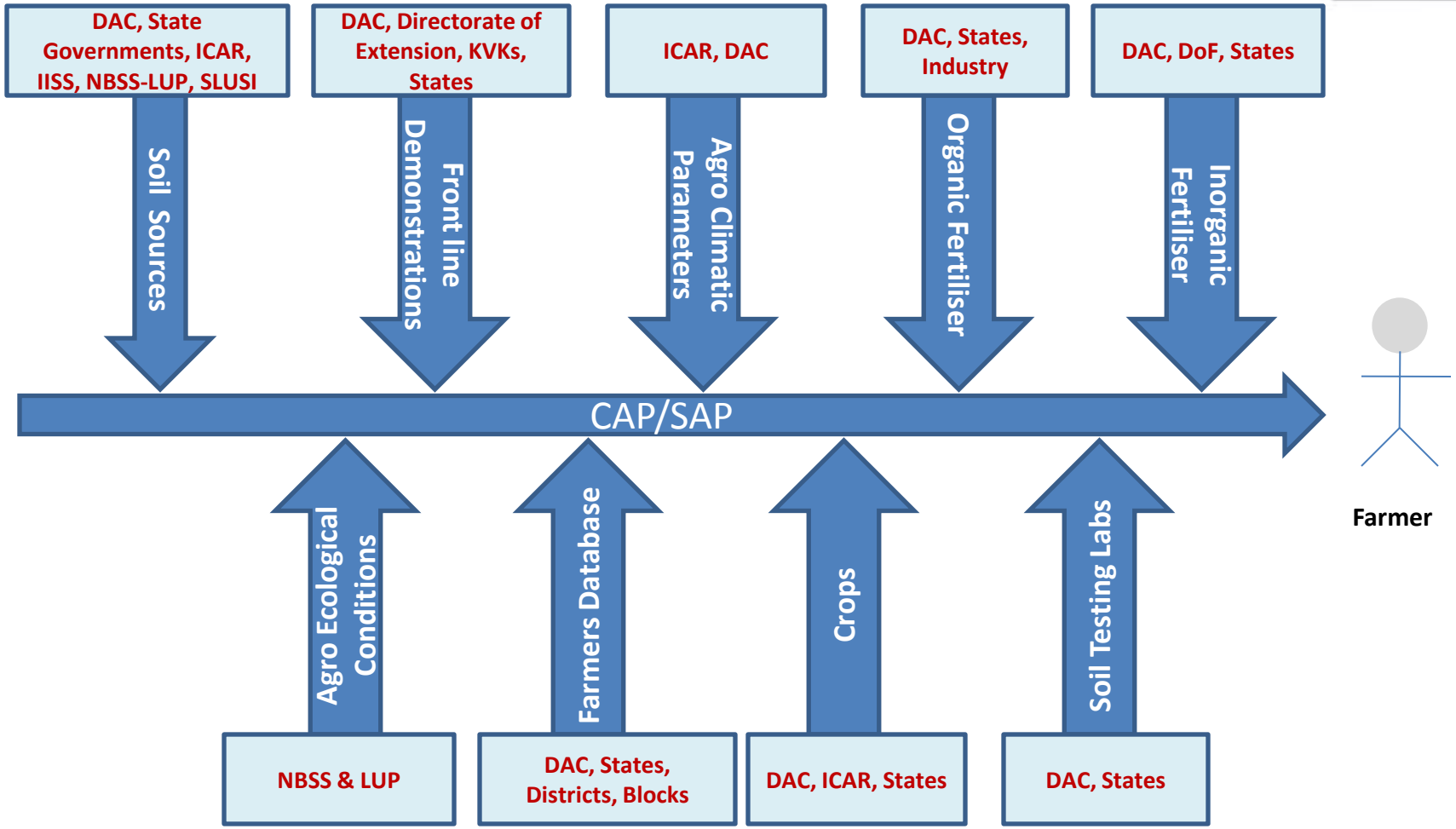
g) **Andhra Pradesh (http://www.apagrisnet.gov.in/s_index.jsp)**

h) **Tripura - ICAR Research Complex for NEH Region, (tsu.trp.nic.in/tripuraicar) - A NABARD funded Project;**

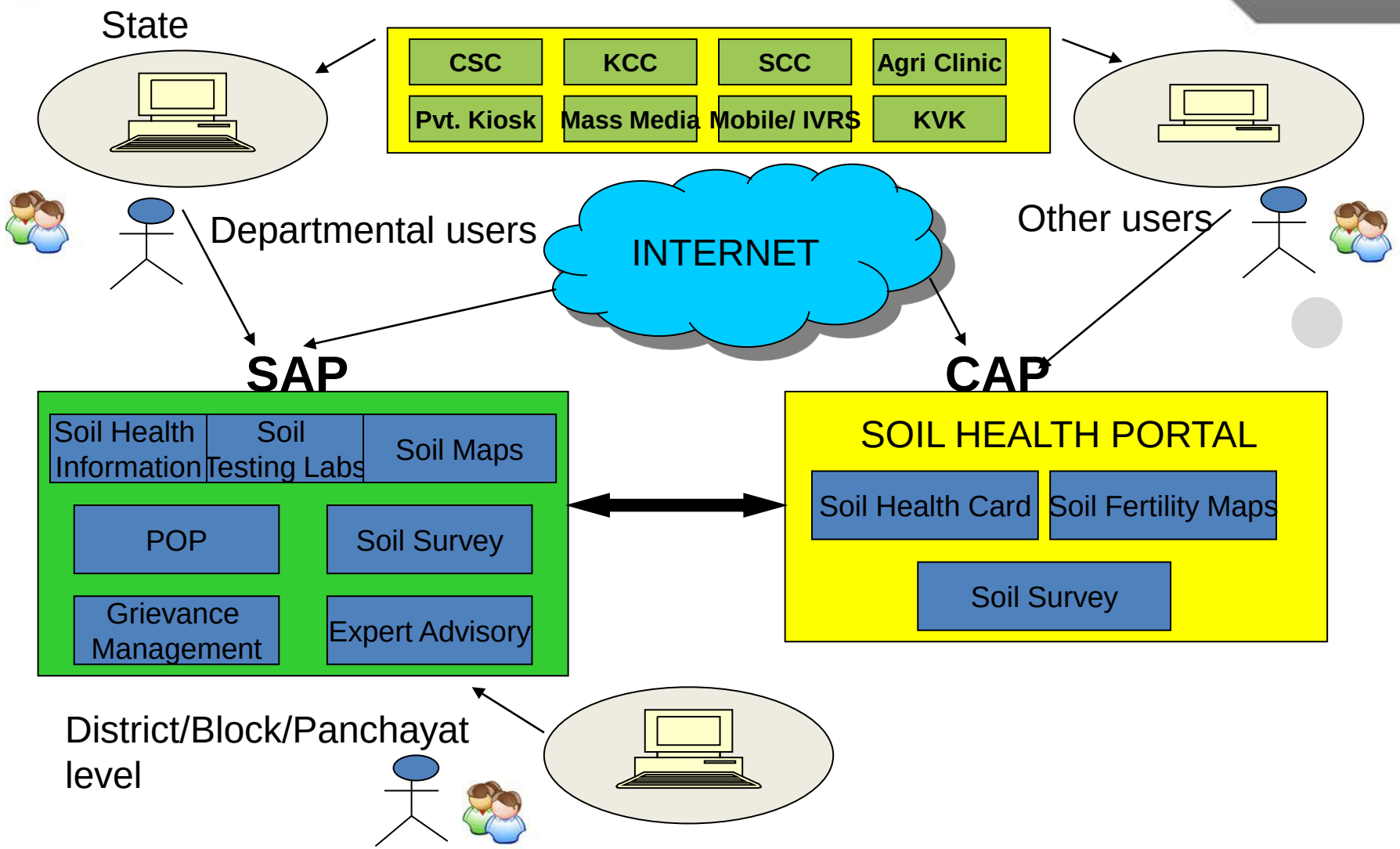
i) **IISS, Bhopal;**

j) **Software Standardisation efforts by NIC**

Service to Farmer Linkage



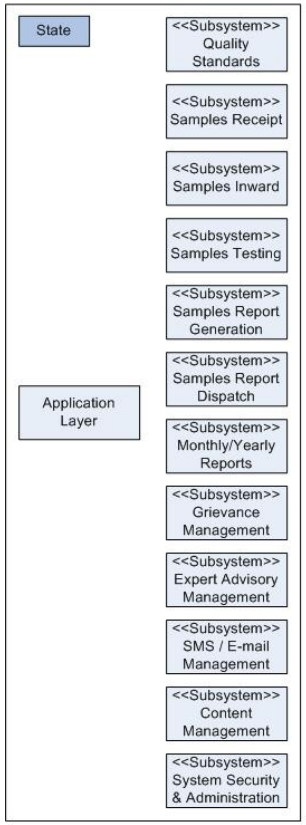
Service to Farmer Linkage

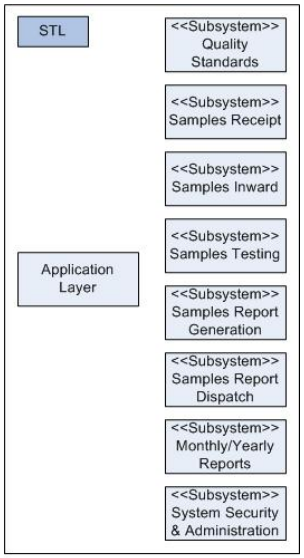


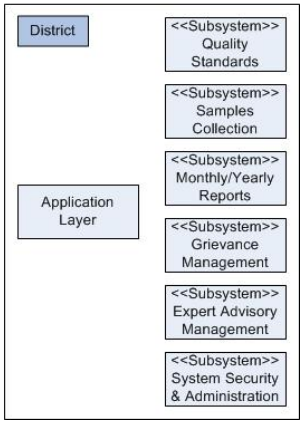
Overall Description

- Product Perspective
  - System Interfaces

Logical Diagram



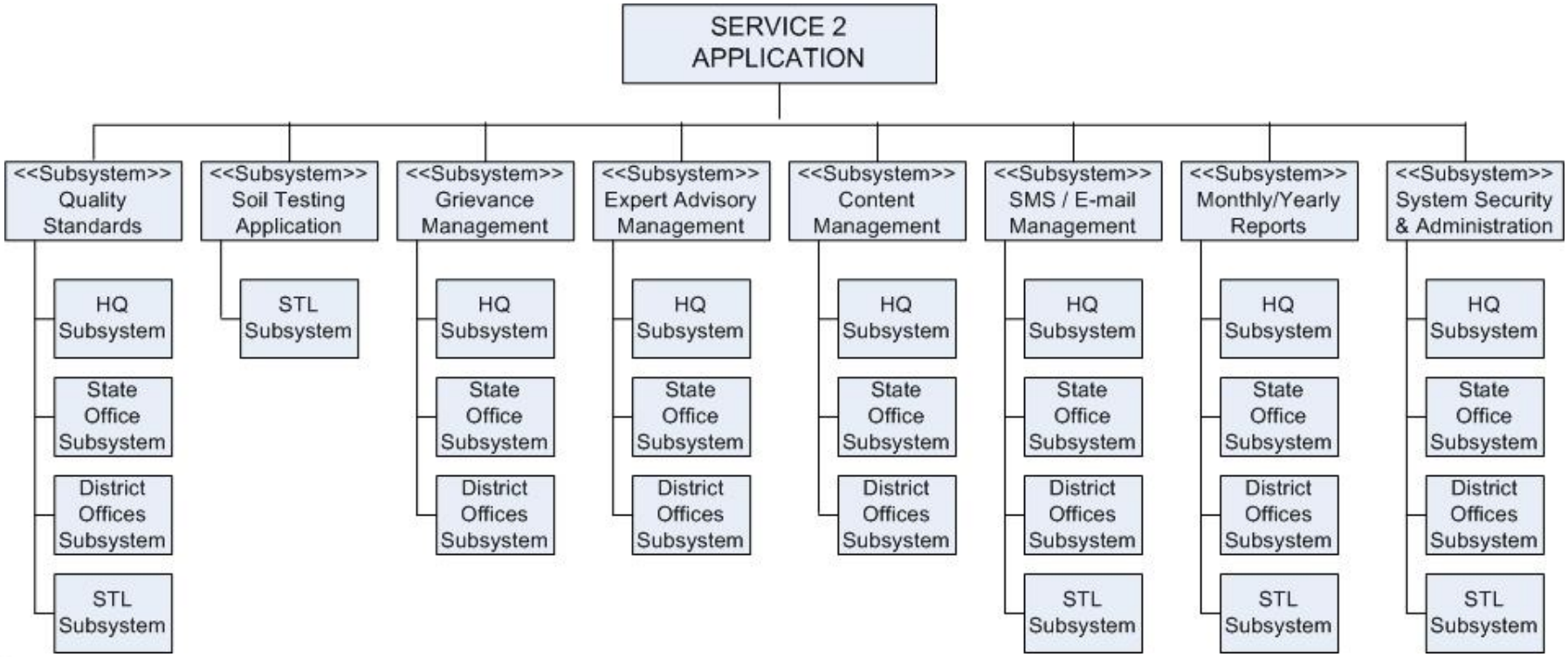




Overall Description

- Product Perspective
  - System Interfaces

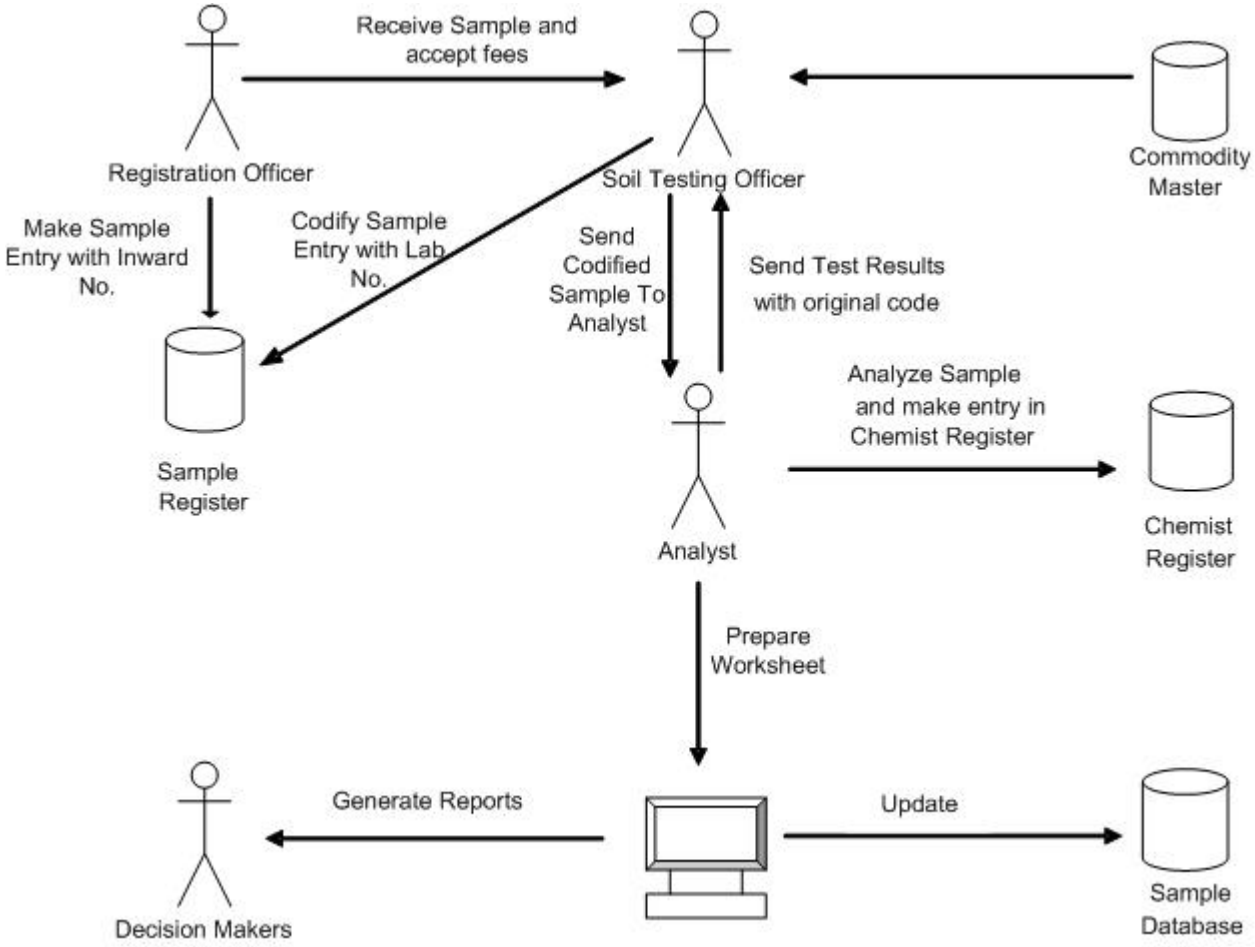
Category Diagram



Overall Description

- Product Perspective
  - System Interfaces

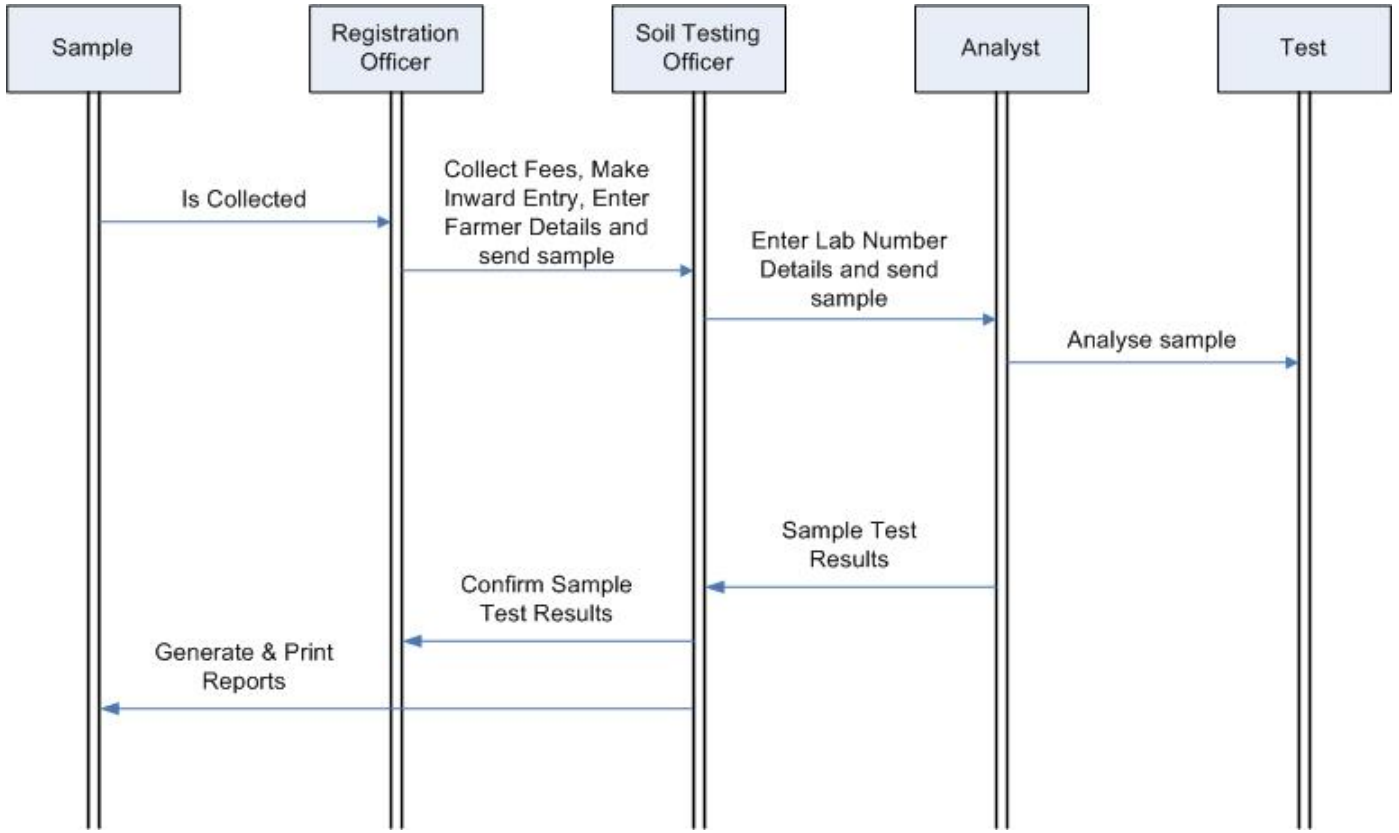
Presentation Diagram



Overall Description

- Product Perspective
  - System Interfaces

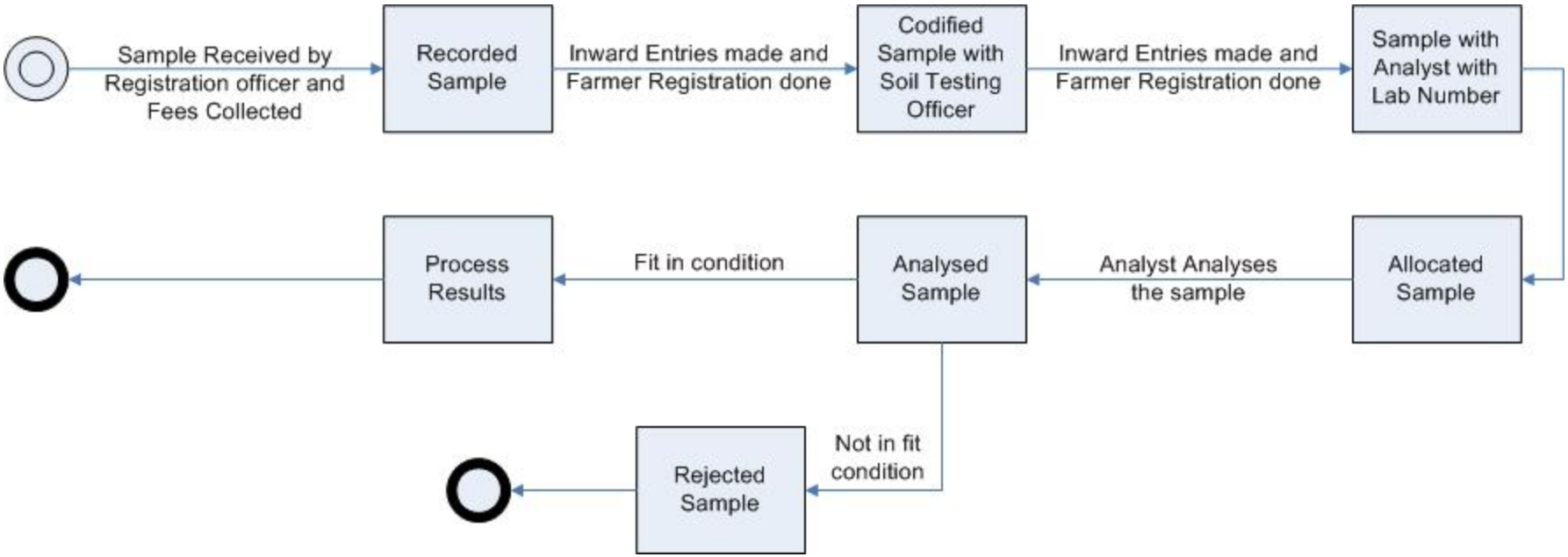
Sequence Diagram



Overall Description

- Product Perspective
  - System Interfaces

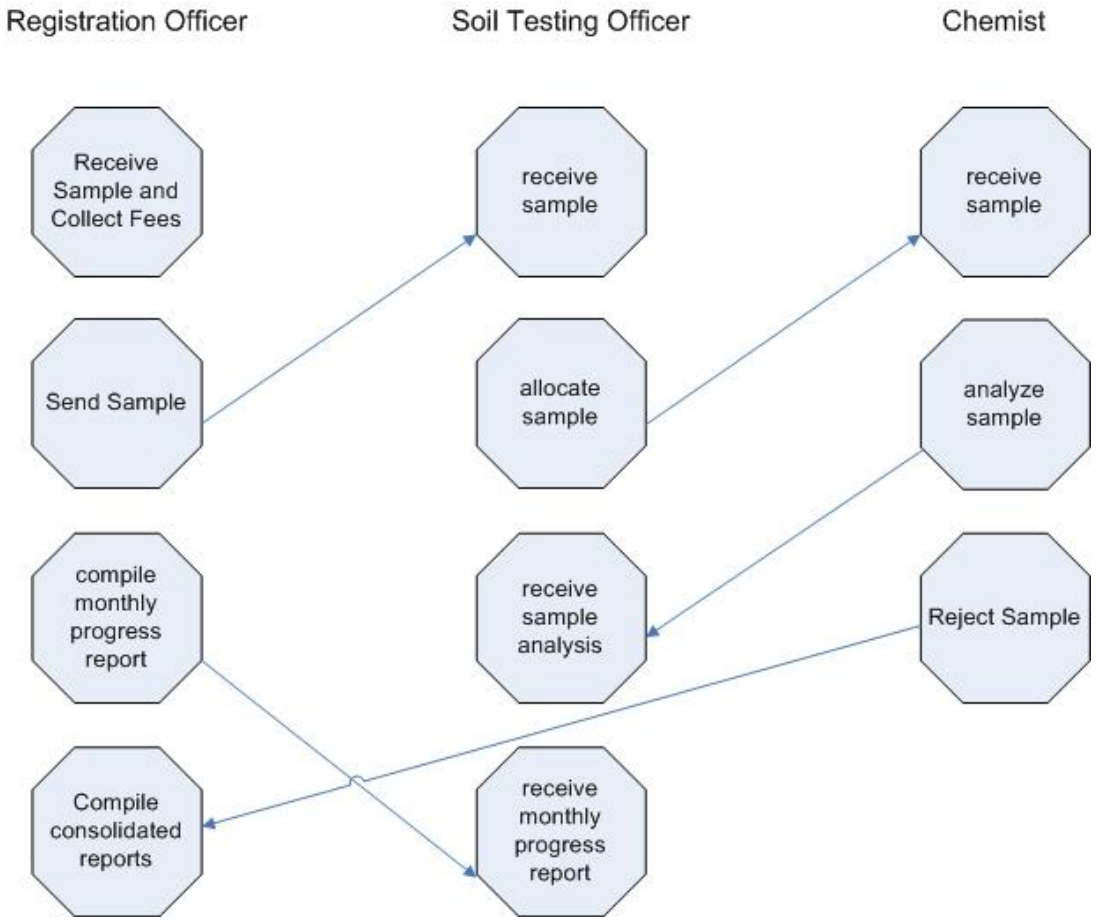
State Transition Diagram



Overall Description

- Product Perspective
  - System Interfaces

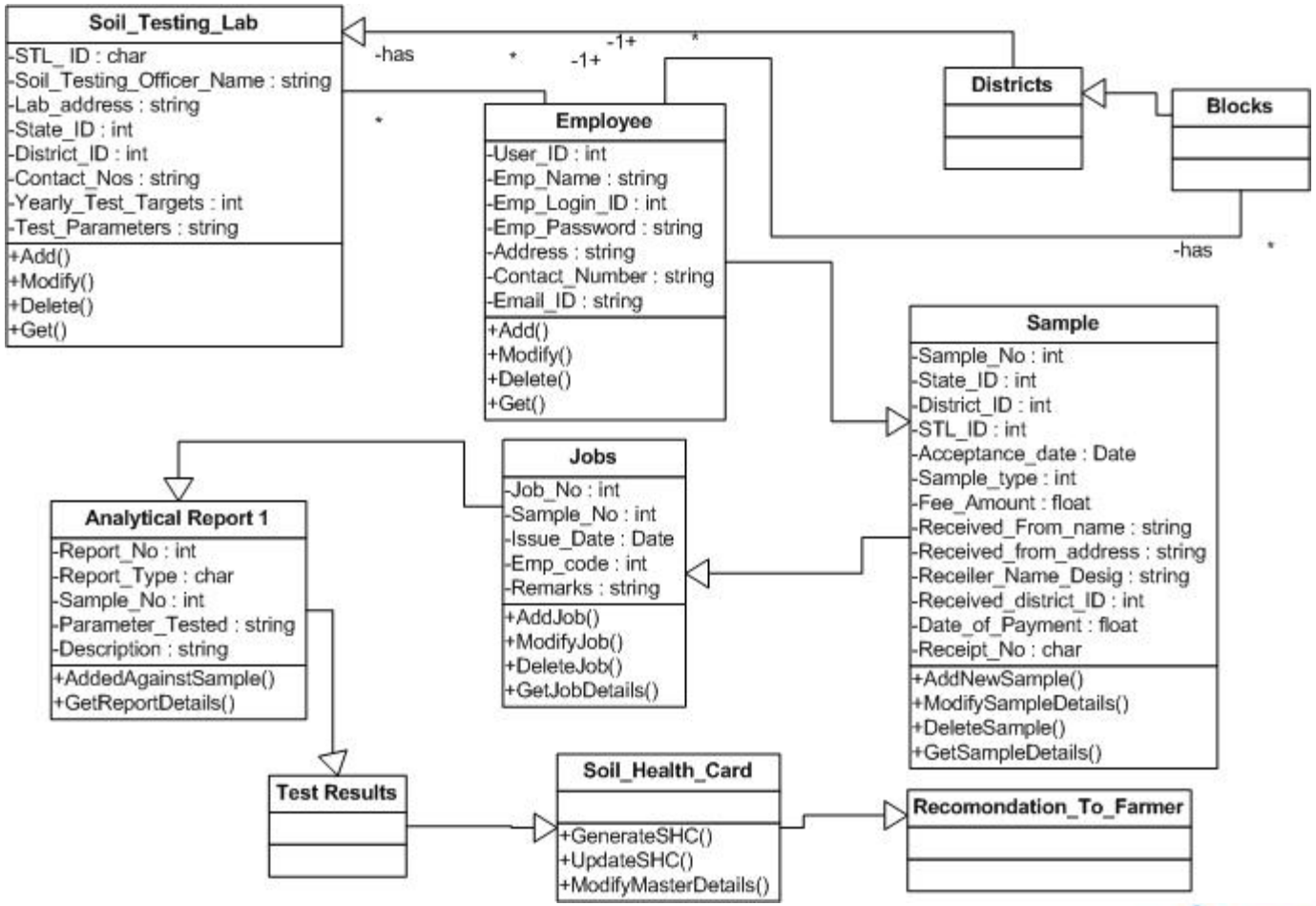
Activity Diagram



Overall Description

- Product Perspective
  - System Interfaces

Class Diagram



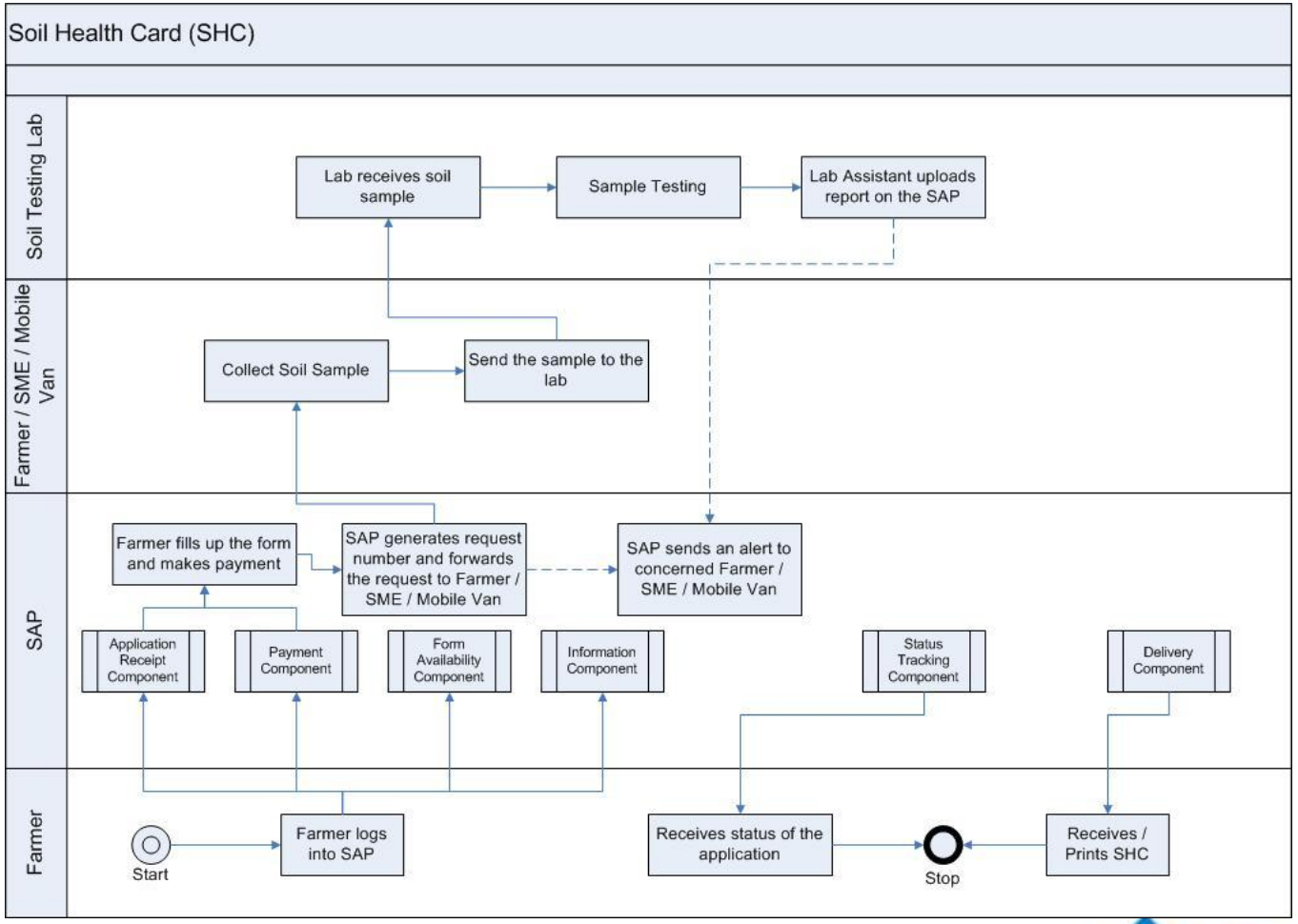
Overall Description

- Product Functions
  - Soil Testing
  - Generation of Soil Health Card
  - Push SMSes
  - Generation of Soil Maps
    - Rapid Reconnaissance Survey
    - Detail Soil Survey
    - Land Degradation Mapping
    - Soil Resource Mapping
  - Generation of Various Reports and Queries
    - Reports Related to Soil Testing
    - Reports Related to Expert Advisory

Overall Description

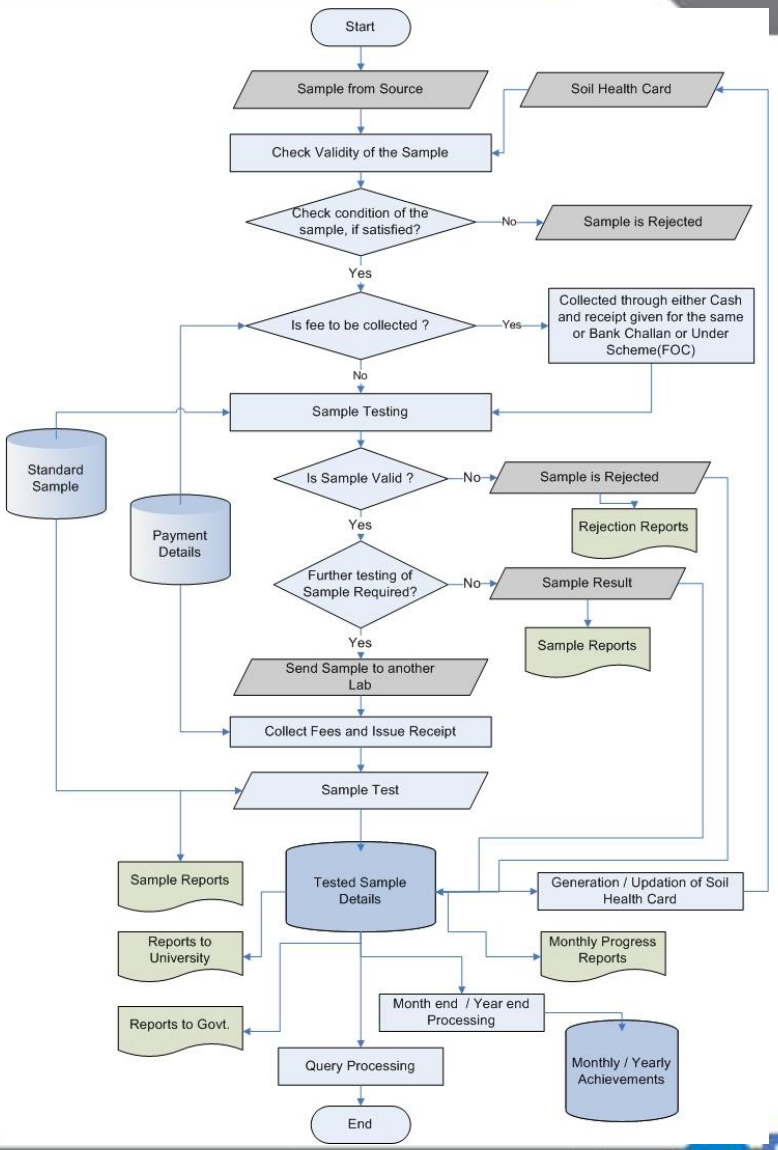
- Product Functions
  - Soil Testing

Soil Health Card Process



Specific Requirements

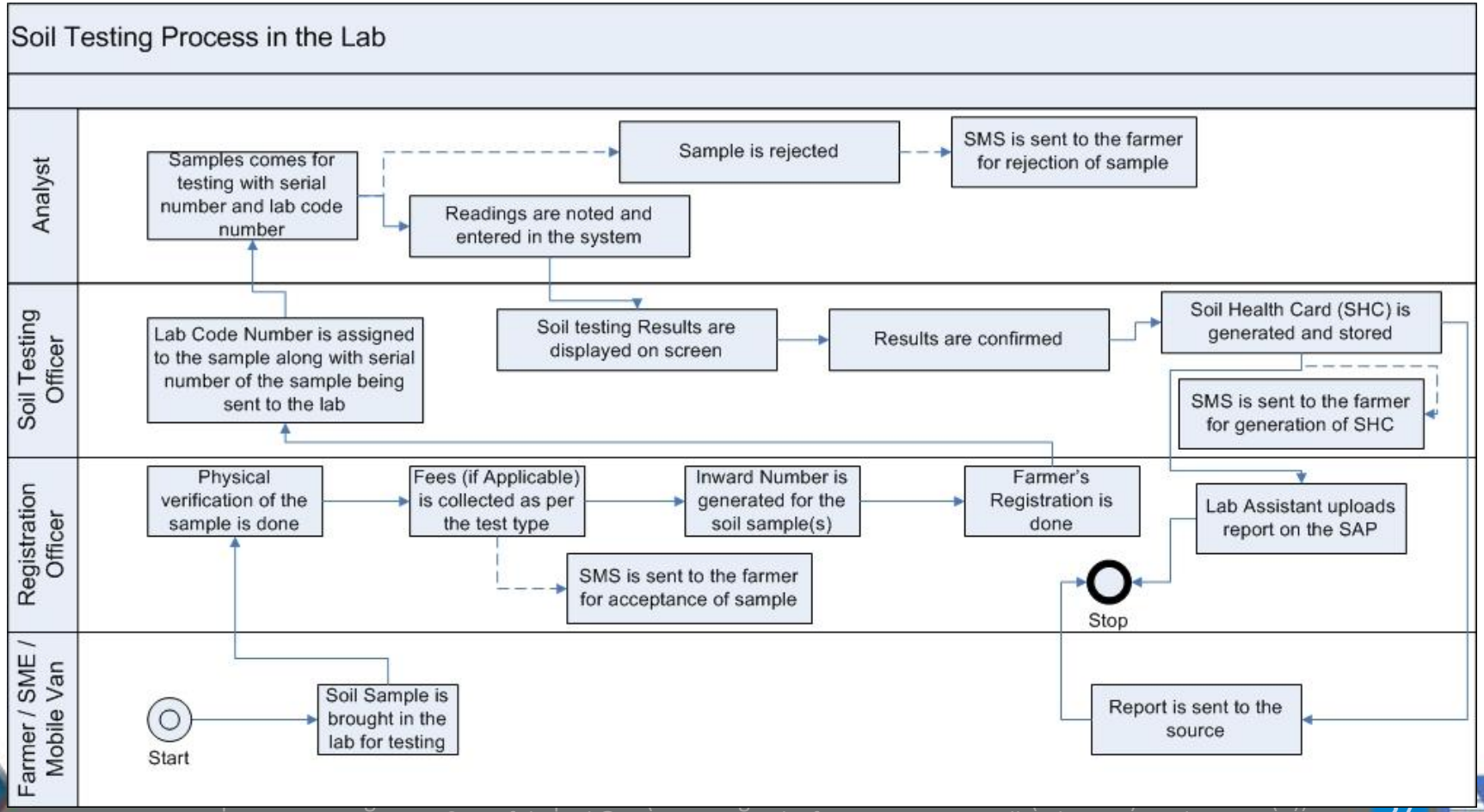
- Software Product Features
  - Flowchart for Soil Testing Process



Specific Requirements

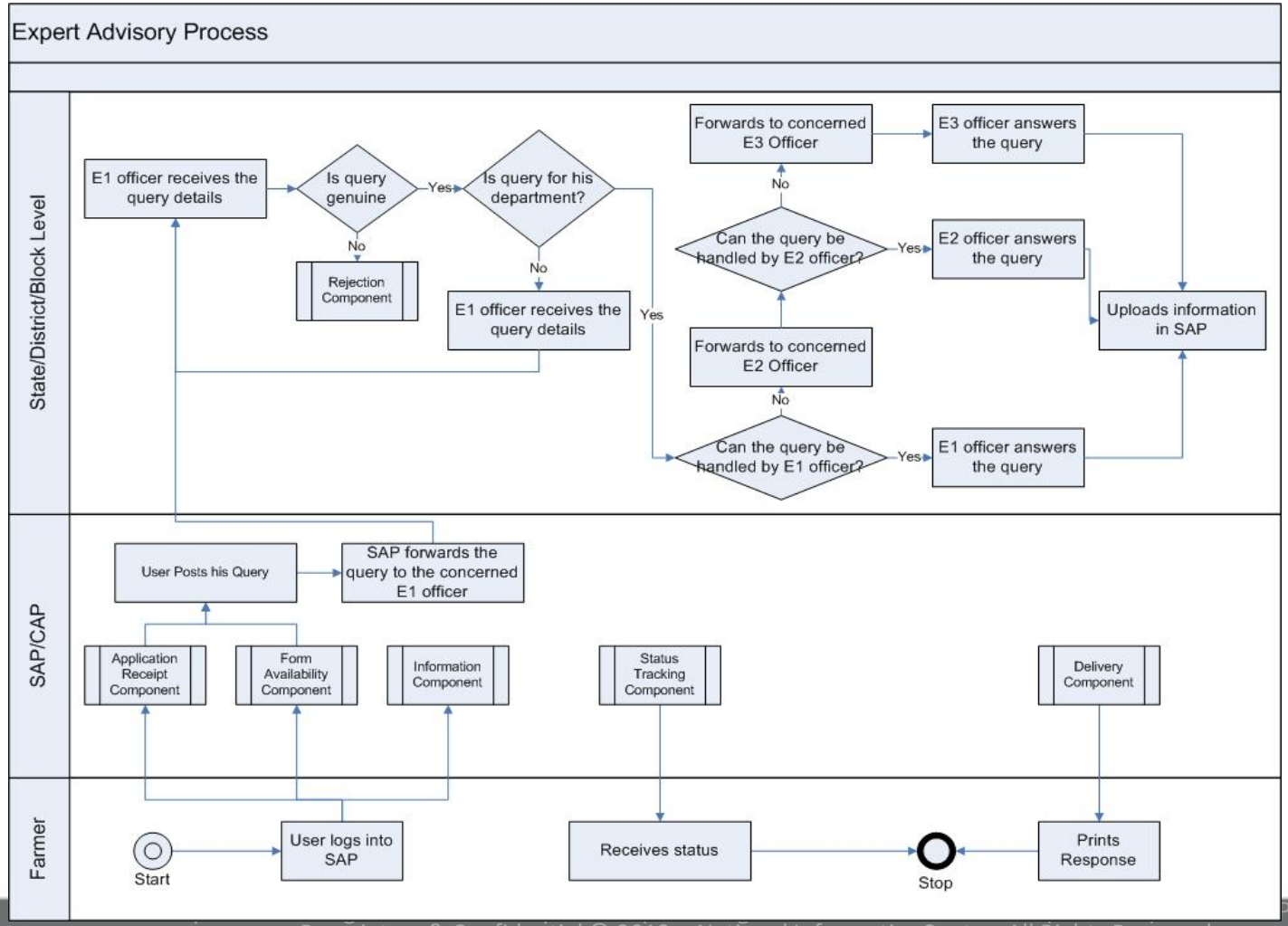
- Software Product Features
  - Workflow Diagrams

Soil Testing Process in the Lab



Specific Requirements

- Software Product Features
  - Workflow Diagrams



Expert Advisory Process

Specific Requirements

- Business Process Description
  - Business Process AS IS

S.No.	Activity	Mode
1	Receipt of Soil Sample	Manual
2	Collection of Fees	Manual
3	Receipt Generation	Manual
4	Inward Entry of Sample	Manual
5	Testing of Sample	Physical process, through approved standard procedures
6	Result and Analysis of Soil Sample	Automated in Maharashtra & Karnataka (is being done through standalone software – no data sharing happening through the existing system, except manual printouts of reports being sent to department and farmers)
7	Providing Recommendations	Automated in Maharashtra & (is being done through standalone software – no data sharing happening through the existing system, except manual printouts of reports being sent to department and farmers)
8	Generation of Soil Health Card	Automated in Maharashtra & Karnataka (is being done through standalone software – no data sharing happening through the existing system, except manual printouts of reports being sent to department and farmers)
9	Dissemination of Results	Manual

Specific Requirements

- Business Process Description
  - Business Process TO BE

S.No.	Activity	Mode
1	Receipt of Soil Sample	Automated
2	Collection of Fees	Automated – through web based application
3	Receipt Generation	Automated – through web based application
4	Inward Entry of Sample	Directly into the web based application
5	Testing of Sample	Physical process, through approved standard procedures
6	Result and Analysis of Soil Sample	Automated in Maharashtra & Karnataka (but in the new system it will be done through web based software)
7	Providing Recommendations	Automated in Maharashtra & (but in the new system it will be done through web based software)
8	Generation of Soil Health Card	Automated in Maharashtra & Karnataka (but in the new system it will be done through web based software)
9	Dissemination of Results	Automated. A SMS will be pushed to the mobile of the farmer by the system. It will be available on the web also and farmer can directly download it from there. This will also be linked to SAP & CAP as the software will be web based.
10	Data Transmission with CAP & SAP	Will be done through web services.

Overall Description

- Product Functions
  - Soil Testing

    Steps:
    - Sample Inward
      - » Sample types can be defined as:
      - » General Soil Sample
      - » Special Soil Sample
      - » Soil Survey Soil Sample
      - » Micronutrient Sample
      - » Water Sample
    - Payment
    - Inward Entry
    - Inward Number Generation
    - Entering of sample details and numbering a sample

Overall Description

- Product Functions
  - Soil Testing

    Steps Contd.:
    - Sample Rejection
    - Entry of readings of analysis tests
    - Filling test readings on reading sheet
    - Entering test readings in the system
    - Result preparation
    - Result processing
    - Display results
    - Locking of readings record
    - Micronutrient suggestion and recommended crops
    - Water suggestion

Overall Description

- Product Functions
  - Generation of Soil Health Card

    Soil Health Card is the report of the soil issued by Soil Testing Laboratories based on the nutrients essential for plant growth the essential nutrients are:

    - Primary Nutrients – Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus, Potassium
    - Secondary Nutrients – Calcium, Magnesium, Sulphur
    - Micro Nutrients – Iron, Zinc, Manganese, Copper, Boron, Molybdenum, Chlorine

Overall Description

- Product Functions
  - Generation of Soil Health Card
    - The Soil Health Cards, which are based on the principles of the ration card, provide permanent identification and status of the land to farmers.
    - They are made out after a detailed analysis of samples of soil collected from land held by individual farmers.
    - The card would act as a tool in helping the farmers to monitor and improve the soil health based on field experience and working knowledge of the soils in their home turf.
    - Soil Health Card is:
      - A tool to help the farmer to monitor and improve soil health
      - A tool to record long-term trends in soil health
      - A tool to keep record of soil quality
      - A tool to detect soil quality changes over time
      - A tool to communicate with soil specialist about issues or problems related to soil
      - A tool to identify researchable topics

Overall Description

- Product Functions
  - Push SMSes
    - Knowledge is going to play a dominating role in all the developments leading towards agrarian prosperity of India. The purpose of this Techno-social networking project is to employ the latest Information Communication Technology, infrastructure and managing resources to reach the unreached.
    - The mobile penetration in rural part is significant. This technology is one of the fasted adopted by the rural population and the youths in particular. With the explosion of mobiles usage especially in the rural area the department saw an opportunity and explored this tool for real time communication.
    - Based on the above strategy, various type of the push SMS can be sent to the farmers containing the remarks about their soil and soil health.
    - SMS containing the information for improving soil health can also be sent using the push SMS mechanism.

Overall Description

- Product Functions
  - Generation of Soil Maps

    The overall situation of the District is described by:
    - Low rainfall
    - Erratic rainfall
    - 87% of the area under cultivation
    - Low level Farming Technology
    - Poor soil fertility
    - Soil constraints such as shallow soils, rock outcrop etc.
    - Depletion of the ground water level
    - Less forest and vegetation cover
    - Human and Animal population pressures
    - Poor marketing and transport network

Overall Description

- Product Functions
  - Generation of Soil Maps

    Soil Mapping processes to generate Soil Maps (Types of soil surveys):
    - Rapid Reconnaissance Survey
    - Detail Soil Survey
    - Land Degradation Mapping
    - Soil Resource Mapping

Overall Description

- Product Functions
  - Generation of Various Reports and Queries
    - Reports related to Soil Testing
      - Monthly Progress Report: Prepared by department of agriculture of different states and needs to be sent to centre
      - Yearly Progress Report: A consolidated report of 12 monthly progress reports creates the yearly progress report and will be sending by different states to centre on yearly basis.
    - Reports Related to Expert Advisory
      - Queries came from farmer in a month / year
      - Queries responded in a month / year
      - Queries responded by Block, District and Department of Agriculture in a month / year

Overall Description

- Product Perspective
  - Memory Constraints
    - The proposed system will be suitably performed on 512 MB and above primary memory.
    - However, lower primary memory will not debar the system from running but performance might not reach up to expected level.
    - There is no such need in major secondary memory availability, so it is not constrained.

Overall Description

- Product Perspective
  - Operations

    During the course of application usage, general user including CAP and SAP users will not be required to perform any operation other than system features. Applications and portals will be hosted into the Data Centre in secured government domain. Normal maintenance operations such as backup will be scheduled and automated and will be looked into by the system administrators in case of any recovery is to be done. User initiations not needed. No additional data processing operations by the users would be required except the system interactive options.

Overall Description

- Product Perspective
  - Site Adaptation Requirements
    - The application proposed will be developed as a web based application. For running the application the computer system having a basic GUI based Operating System and browsers will be required as minimum requirements along with internet connectivity.
    - Skill manpower along with data entry operators at various locations like centre, states and other offices at block level will be required to upload and update the information/data.

Overall Description

- User Characteristics

  All users of the system, e.g. DAC, SAD, Researchers / SAU, although are literate people excluding the farmers who may or may not be literate, yet training needs to be imparted to all users of the system for effective use and timely dissemination of information / data through the system.

Overall Description

- Constraints
  - Regulatory Policies - As per Govt. Directives
  - Hardware Limitations - Dependency on connectivity, bandwidth constraints in different regions across the country for Web/Mobile based interface.
  - Interfaces to other applications - The portal needs to interact with different set of applications at state soil testing labs in different states.
  - Parallel Operation - Unexpected increase in the number of concurrent user requests during peak transaction period.
  - Higher-Order Language requirements: The application will be in vernacular languages and language is not constrained.

Overall Description

- Assumptions and Dependencies
  - It is assumed that every Soil Testing Lab will have hardware and software infrastructure setup like PC, UPS, printer, internet connection, OS, required patched and anti-virus etc.
  - User will be provided with login & password facility.
  - Data input and its accuracy though will depend on the user.

Specific Requirements

- External Interface Requirements
  - User Interfaces

    Web based Graphical User Interface (GUI) will be provided. Portal will be completely menu driven and user friendly. The GUI consists of the various Input forms, output screens along with the help files provided as per the requirement.

Specific Requirements

- External Interface Requirements
  - Hardware Interfaces

    The following hardware interfaces are required to access the portal:

    - **Computer System**: any x86 based computer having minimum 512 MB RAM
    - **Printer**: Dot matrix printer (132 columns) preferably a Laser Printer will be needed to take the various outputs of the system time to time.
    - **UPS**: 0.5 or 1 KVA Online UPS will be required to maintain the uninterrupted power supply to computer and printer.

Specific Requirements

- External Interface Requirements
  - Software Interfaces

    At Client End:

    - Base OS: Any Windows based operating system or any other system having graphical user interface based Operating System
    - Browser: Internet Explorer 6.0 or above, Mozilla Firefox, Google Chrome or Opera

    At Server End:

    - Base OS – Will be decided later at the development stage
    - Framework - Will be decided later at the development stage
    - Technology Platform – Will be decided later at the development stage
    - Database - Will be decided later at the development stage
    - Browser – Internet Explorer 6.0 or above

Specific Requirements

- External Interface Requirements
  - Communications Interfaces

    The Application will work on Local Area Network (LAN) or Internet also. Along with this, the system will interact the SMS Gateway server to push SMS to different stakeholders and emails servers also to send the automated emails generated from the system to various stakeholders of the system.

Specific Requirements

- Performance Requirements
  - Scalability Requirements

    The system is scalable and can be rolled out to all the states in Pan India after the pilot implementation in 7 states. As the basic processes having transactional flows like Soil Testing Labs, Expert Advisory systems etc have same processes throughout India.

Specific Requirements

- Business Process Description
  - Response Time
    - It will take less time (in seconds) for database access/update transactions. However, for report generation and query retrieval it may take sufficiently more time depending on data volume and complexity of queries.
    - The response time should be as follows:
    - 90% of the responses should be within 2 sec
    - 5-10 second: For user operation on data (for e.g. sorting of data in a column) or (5 to 50 records per page up to max of 100,000 records)
    - 10-20 second: For user awaiting response from the system upon executing a transaction (for e.g. a query/update).
    - 1 minute – Unacceptable response time

Specific Requirements

- Design Constraints
  - System shall store and retrieve persistent data.
  - System shall support PC and all other platforms available commonly.
  - The system must be designed to allow web usability. That is, the system must be designed in such a way that will be easy to use and visible on most of the browsers

Specific Requirements

- Software System Attributes
  - Usability

    The Screens should be designed for ease of use by non technical users who do not have any computer knowledge. The GUI design shall be intuitive and task-based without any superfluous design. The design should adopt the following principles:
    - Use relative font size so that a user can easily change overall font size from the browser interface.
    - Text equivalents should be given for all graphics.
    - Application should function even if Javascript, CSS and Frames are turned off.
    - **Navigability** –The user should be able to perform operations without having to navigate through multiple pages/links – No operation should require more than 2 to 3 clicks.
    - **Familiarity** – The system's interfaces and navigations should be based on other systems that the users are familiar with.
    - **Administration** – The system should not require any administration tasks at the user level. Interfaces should be available for administration/setup operations.
    - **Help** - The system should come equipped with Computer based tutorial in English and ten other languages for users to "self-Soilve" any navigability or operational doubts.
    - **Standards Adherence** – The system should adhere to commonly accepted standards of web-design (such as acceptable size of web pages, minimal images, small style sheets etc)

Specific Requirements

- Software System Attributes
  - Reliability
    - From the application portal, it is expected that there shall not be any bug and the system shall be tested on end cases to offer user a quality and reliable package.
    - Due to any human interventions, the system should not behave abnormally.

Specific Requirements

- Software System Attributes
  - Availability

    Application shall be up and running and must be available 24x7 and any one shall be able to connect to it from anywhere. It shall trap all errors and prevent users from accessing unauthorized areas of the application. In case of application or a hardware failure, the system should re-initiate immediately. In case of a possible hardware failure or corruption of database the system administrator should immediately restore the backup.

Specific Requirements

- Software System Attributes
  - Security

    The system should have protection against
    - Unauthorized creation/modification of data - through user name and password authentication as defined for relevant user groups.
    - Unauthorized viewing of data - through user name and password authentication as defined for relevant user groups.
    - The software should adhere to security guidelines, standards and policies prescribed by NIC's Security Division and should be audited & certified for compliance to these standards by Security Division before it is hosted in Production Environment.
    - The software should be protected against any unauthorized access to the software.

Specific Requirements

- Software System Attributes
  - Maintainability

    In order to ensure maintainability of the application, the following should be insured
    - The application will be designed and developed based on the instructions given by NIC / DAC. Software Code must be modular and well documented
    - All the artifacts related to the software such as code, SRS, User Manual etc. should be well documented and self-explanatory for any programmer to understand. Detailed documentation shall be available at each stage for easy comprehensions of the application system.
    - All documents shall be prepared as per the defined documentation standards.
    - The system administrator shall take regular back up of the database.

Specific Requirements

- Software System Attributes
  - Portability

    The software will be hosted / installed in the environment as decided by NIC/DAC later on.

Specific Requirements

- Software System Attributes
  - Language Support
    - The system will support the entry and display of :
      - Non-Latin scripts such as Hindi, Tamil and other Indian vernacular languages
      - The application will store data using Unicode representation.
    - Nowadays there are many plug-in based applications are available in market, through which the phrase written in one language can be translated in different languages. By using these plug-ins, a portal that supports vernacular languages can be developed.
    - The database can developed in a base language for e.g. in English. This plug-in is then placed between the database and the application. The language of the data is first selected in the application and then data is entered through the form available in the application. This information of the language and the data reaches the plug-in first. The plug-in understands the language and then translates the data in to base (English) language and then stores the data in the database. Similarly, when the information is retrieved from the database, it reaches the plug-in first, meanwhile; the plug-in also has the information of the language in which the data in base (English) language needs to be translated into, from the form available in the application. The plug-in then translates this data in the language of the user's choice and displays the same on the form available in the application.
    - Examples of the above mentioned plug-ins are as below:
      - An Application related to Land Use and Acquisition has been developed by NIC which makes use of the plug-in developed by C-DAC, Pune.
      - Details of another such Plug-in software developed by C-DAC, Pune is available at the mentioned link:

http://pune.cdac.in/html/aai/mantra.aspx

      - A software by the name of "MANTRA – Rajbhasha" has been developed by C-DAC, Pune. The details of the same are available at the below mentioned link:

http://pune.cdac.in/html/aai/mantra_rajbhasha_en.aspx

Specific Requirements

- Software System Attributes
  - Interoperability

    The software will interoperate with other software applications which are being developed under National e-Governance Program, Mission Mode Project, in particular Central Agriculture Portal and State Agriculture Portal. The following are the likely points of information exchange/reconciliation:
    - State,District, Block Codes/Names
    - Panchayat Codes/Names
    - Scheme Code/Names
    - Scheme component Code/Names

Specific Requirements

- Other Requirements
  - Team of skilled resources needs to be deputed specifically to run the system at centre and state level
  - Regular updations from the side of Centre and State based on the requirements
  - Systems used for running the portal at different stakeholder's place needed to be capable to run the application smoothly.
  - 24X7 internet connectivity is must to run the system smoothly.
  - Supply of the stationary related to the system should be there based on the requirements.

Annexure

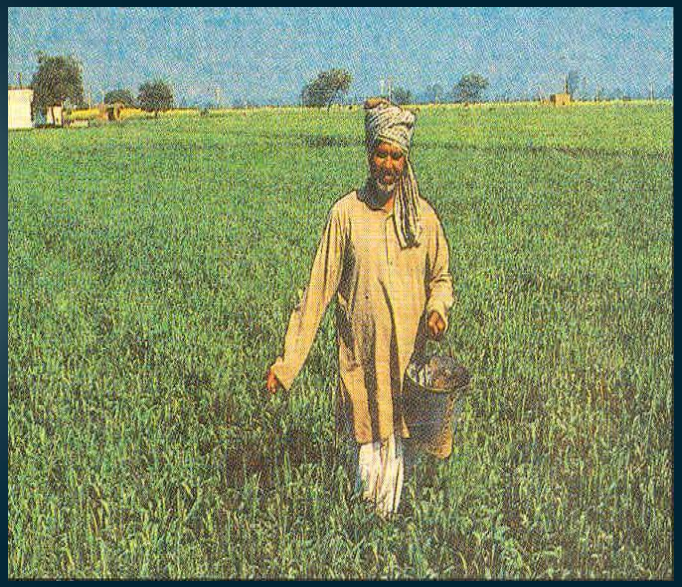
- Package of Practices for Pilot States
  - Package of Practices Himachal Pradesh are available at:
    - http://hpagrisnet.gov.in/agriculture/Agriculture%20Pages/package%20of%20practice.aspx
  - From state agriculture University Level the Package and Practices are: For fruits, flowers, veg., Forestry crops found on:
    - http://www.yspuniversity.ac.in/package/pack-practices.htm (Solan)
  - Package of Practices Madhya Pradesh are available at:
    - http://mpkrishi.org/
  - Package of Practices Maharashtra are available at:
    - http://ncof.dacnet.nic.in/POP_Maharashtra.pdf
    - http://rkmp.co.in/extension-domain/maharashtra/package-of-practices

Thank You

“Sahara Next” enables you to be Productive Anytime, Anywhere…

For more Questions & Queries kindly mail us at **agrimmp@saharanext.com**

THANK YOU



it’s the era of COLLABORATIVE COMMERCE let’s make it BIG TOGETHER

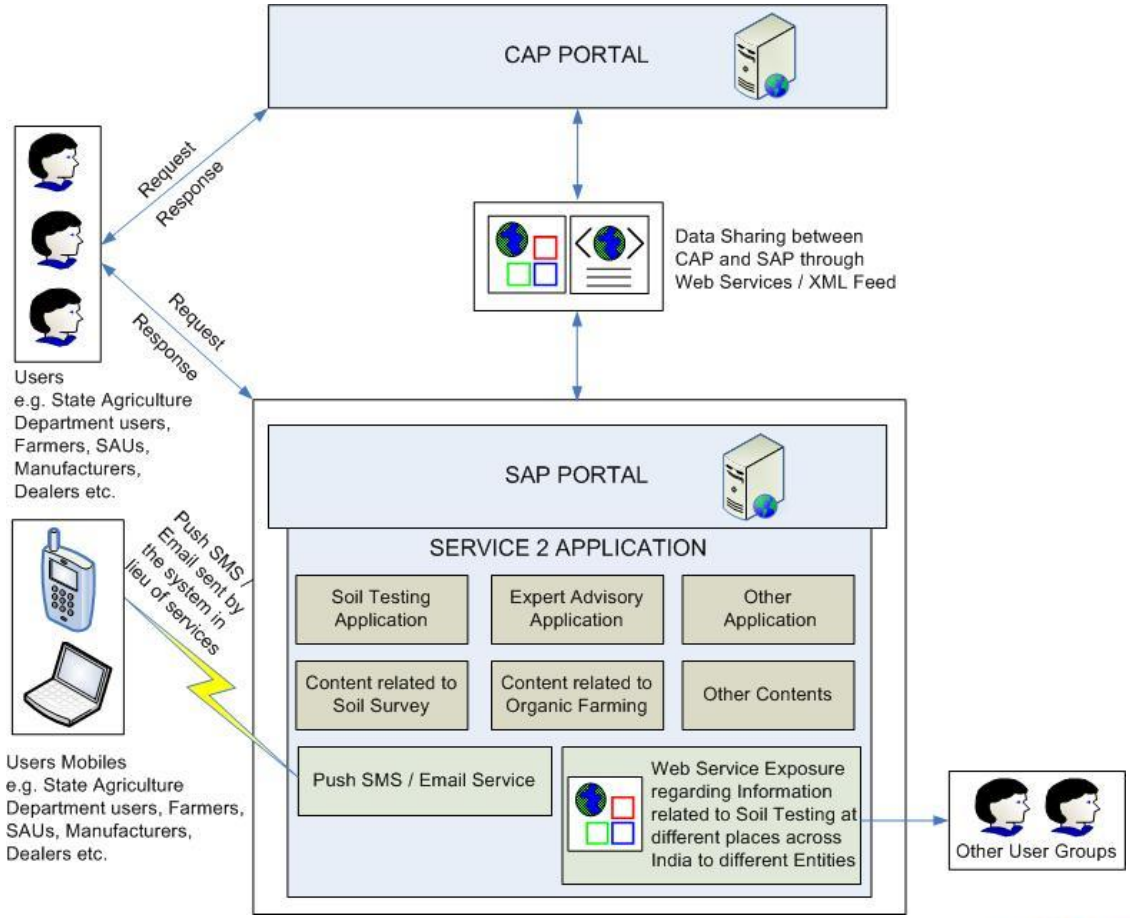
Specific Requirements

- Software Product Features
  - Use Cases
    - Use Case for Master Tables
    - Use Case for Soil Testing Process
    - Use Cases on Frontline Demonstrations
    - Use Case on Soil Resources (Micro level conditions)
    - Use Case on Agro Climatic Parameters
    - Use Case on Organic / In-organic Fertilizers
    - Use Cases for Expert Advisory

Overall Description

- Product Perspective
  - System Interfaces

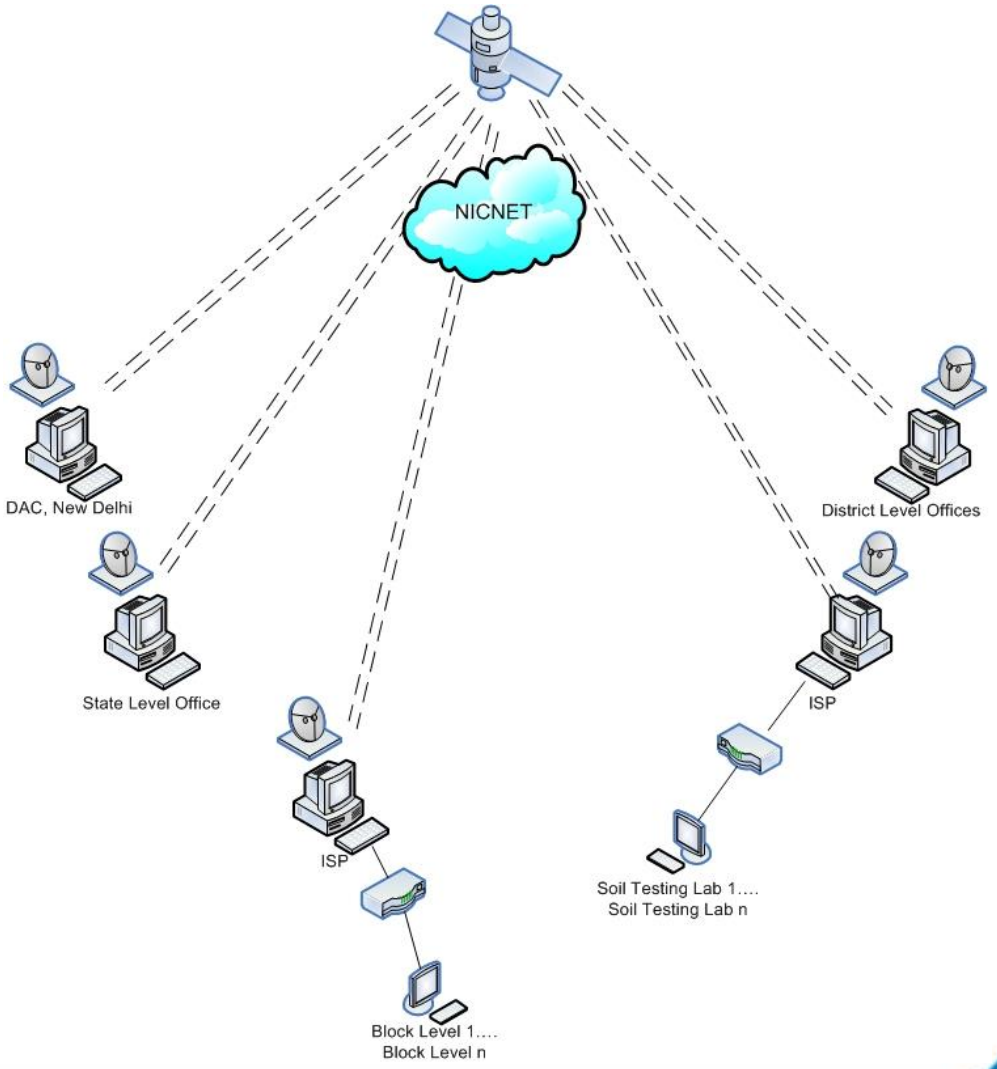
System Architecture Diagram



Overall Description

- Product Perspective
  - System Interfaces

Deployment Diagram



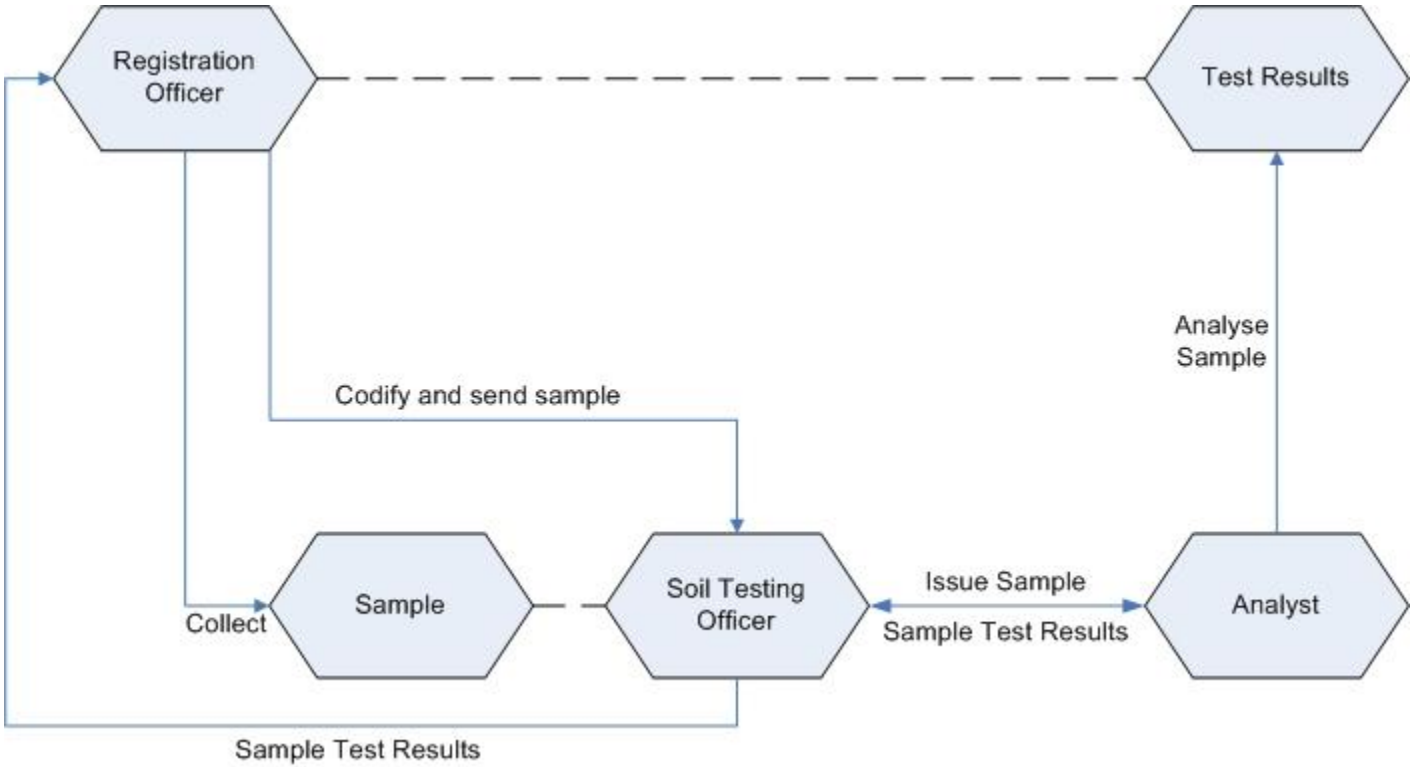
Introduction

- **Overview**
  - Soil Health & Soil Health Card
  - Organic Farming
  - Soil Survey
  - Soil Fertility Maps

Overall Description

- Product Perspective
  - System Interfaces

Collaboration Diagram



Overall Description

- Product Functions
  - Agro Climatic Regions

    The planning commission has broadly identified 15 agro climatic regions (ACR) in the country:

    - Western Himalayan Region
    - Eastern Himalayan Region
    - Lower Gangetic Plain
    - Middle Gangetic Plain
    - Upper Gangetic Plain
    - Trans Gangetic Plain
    - Eastern Plateau and Hills
    - Central Plateau and Hills
    - Western Plateau and Hills
    - Southern Plateau and Hills
    - East Coast Plains and Hills
    - West Coast Plains and Hills
    - Gujarat Plains and Hills
    - Western Dry Region
    - Island Region