Department of Soil Survey & Soil Conservation plants GIS seeds to reap rich automation harvest

Client:
Department of Soil Survey & Soil Conservation

Website:
keralasoils.gov.in

Industry:
Government

Location:
Trivandrum

Organization Profile

The Department of Soil Survey & Soil Conservation provides sound soil and land resource information and works to ensure soil health and conservation in the state of Kerala. The 1,300 employee organization has 49 offices across 14 districts in the state.

Solution

ArcGIS Server, ArcGIS Desktop, ArcGIS Viewer for Flex

Highlights

Esri India helped Department of Soil Survey & Soil Conservation by:

- Quickly configuring the MISSK application
- Providing farmers access to vital soil and other information
- Enabling planners to select and retrieve soil parameters
- Enabling planners to formulate micro level planning

Project Summary

The Department of Soil Survey & Soil Conservation provides sound soil and land resource information with the aim of ensuring soil and water conservation and optimal utilization of resources through scientific land use.

The soil and land resource inventory of each area created by the Department provides the necessary scientific database for the adoption of suitable soil and water conservation measures to prevent soil erosion, enhance ground water recharge and improve the productivity of the agricultural sector.

The Department was facing several challenges including the fact that it was using traditional methods for creating and distributing thematic maps to end users, which was time consuming. It was keen to develop a 'Microlevel Information System on the Soils of Kerala' (MISSK).

Challenges

Besides difficulties in generating soil and other maps, the Department of Soil Survey & Soil Conservation was facing problems in retrieving and sharing soil data and updating it. It required a system that would help farmers manage their land by understanding its potential and limitations. The Department wanted to support planners, administrators and researchers in formulating micro level plans by gaining knowledge about the existing resources of the region.

Solution

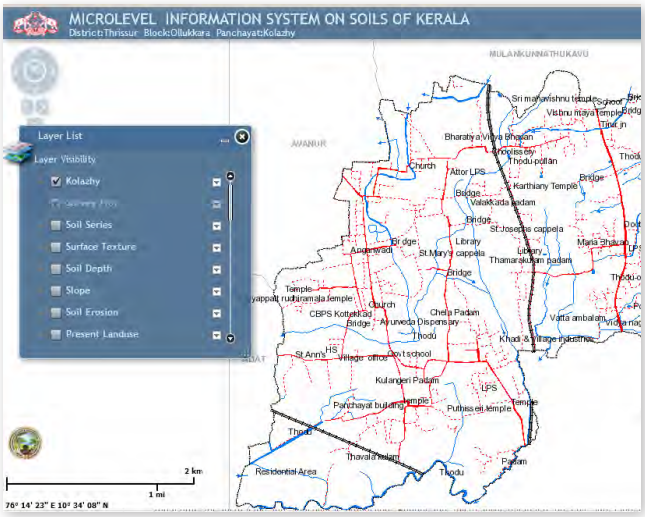
A web application was configured for the Department without any customization and by using the out-of-the-box capabilities of ArcGIS Desktop, ArcGIS Server and ArcGIS Viewer for Flex.

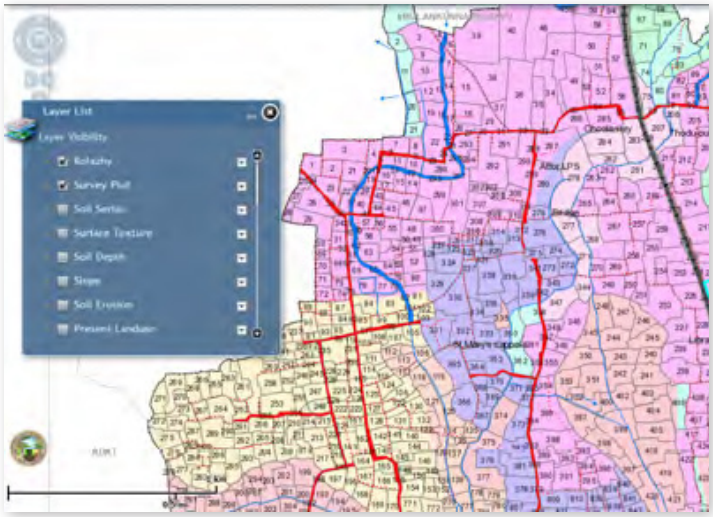
MISSK features a panchayat-level resource inventory with Cadastral details on a 1:5000 scale. The GIS-based system assists farmers and

Esri India has helped with conceptualizing and configuring the application, designing the database and hosting of the Microlevel Information System on Soils of Kerala (MISSK), to enable users to access all the information on soils online by selecting the respective survey numbers. This helps farmers to identify the potential of land and planners and researchers to formulate micro-level planning by understanding the status of the resource base in the region. ArcGIS for Desktop Advanced (ArcInfo) and ArcGIS for Server Standard Enterprise (ArcGIS Standard Server) have been extensively used for developing the MISSK without any customization.

Dr. P.M. Premachandaran
Director, Department of Soil Survey & Soil Conservation

extension workers in selecting appropriate crops, optimizing fertilizer use and identifying suitable agricultural machinery and tools in an easy manner. The system is capable of effectively addressing the requirements of the Department at both the macro and micro levels.





Benefits

The ArcGIS Server web application was very easy to configure and the department could come out with the MISSK application within a week!

Information relevant at the plot level for a farmer - on soil and land resources, soil texture, soil depth, erosion status, land use patterns, nutrient status, crop suitability and land type can now be retrieved easily with just a few mouse clicks.

For planners, researchers and administrators, soil parameters at a regional scale could be easily selected and retrieved using the search tools.

The application has helped farmers to identify the potential of land and planners and researchers to formulate micro level planning by understanding the resource base in the region.