



ArcGIS aids map-based monitoring of crop diversification and promotion



Client:
Centre for Geo Informatics Research & Training (CGRT)

Website:
hillagric.ac.in

Industry:
R&D (Education)

Location:
Palampur

Organization Profile

The Center for Geo Informatics Research and Training (CGRT) has contributed significantly to agricultural research by creating basic agricultural spatial profiles and by providing training, laboratory support and GIS tools to the faculty and students at the University.

Solution

ArcGIS Server, ArcGIS Desktop, ArcGIS for Mobile

Highlights

Esri India helped CGRT by:

- Enabling systematic monitoring of standardized datasets
- Reducing time to finalize data attributes
- Enabling regular data backups
- Enabling instant changes and updates
- Simplifying republishing of changes

Project Summary

CSK Himachal Pradesh Agricultural University has been working tirelessly to enhance crop diversification and improve agricultural output and quality in the state. CGRT (Center for Geo Informatics Research and Training) is entrusted with the responsibility of creating the right information technology infrastructure to augment this effort. The creation of improved crop varieties and newly cultivated species at project sites required intelligent decision making that was supported by technically-advanced geo-spatial information systems, web-based mapping and remote sensors.

The Center for Geo Informatics Research and Training (CGRT) required an online solution that would provide spatial information that could be used for planning and monitoring crop diversification. To enhance the geospatial experience, the CGRT team implemented ArcGIS Server that maintained and published datasets and geo tagged images and other important data attributes, ensuring better data visualization at the state and national levels.

The new technology has proved to be a boon for the overall project and a new standard for updating datasets & reporting has been established.

Dr. Sharda Singh
Programme Director &
Professor, CGRT

Challenges

While developing an online solution to provide spatial data, the researchers at the Center found it difficult to create and port project site information in an organized manner that could depict the overall progress of the project. As the project was being monitored on both the national and international levels by the Indian State Government and JICA respectively, it was necessary to provide regular updates on it. The map server being used by the Center required experts in programming languages and database management who could update the preliminary datasets in the portal and obtain spatial information. This became a major concern for the researchers, resulting in limited use of the portal. The Center needed a system to create and update project data reports that could be monitored easily from different project management units located across the state.

Solution

Esri India proposed ArcGIS Server to improve planning and monitoring for crop diversification and promotion. ArcGIS Server provided a platform where GIS information could be shared among users in multiple locations. It published data to help survey groups in creating Detailed Project Reports (DPRs) and modify them based on the changes taking place at the project sites and at different project stages. Data visualization became simple with the Flex Viewer and

Silverlight complaint web templates. Time consuming and complex programming codes were no longer required to update and publish datasets. Besides providing uninterrupted data collection, ArcGIS Server technology helped maintain the database and take regular backups to support the R&D operations.



The following features of ArcGIS Server technology helped CGRT to improve the crop diversification process:

- Compatibility between old and new datasets
- Flexibility to perform data updates from any project management unit
- The ability to make data more usable by meeting OGC standards
- Automatic dataset updates using ArcGIS for Mobile
- In-built web publishing templates, like Flex Viewer and Silverlight, which
- supported data visualization

Benefits

CGRT implemented ArcGIS Server technology to take crop diversification planning to the next level. ArcGIS Server and ArcMap helped in publishing datasets in project reports without having to upload them on the map server each time. It helped the survey groups to save time and complete research within deadlines. The integration of the new software solution benefited users by regularly monitoring and providing updates for each agricultural asset. The overlaying Esri maps offered CGRT an interactive platform to perform analysis and identification of the sites.

With ArcGIS Server, the surveyors centrally managed the geo-data to extract important asset information and were able to simplify their workflow owing to the following:

- Systematic monitoring of standardized datasets
- Less time is taken to finalize data attributes
- Instant changes and updates, which could be made at any time at the client’s end
- Regular data backups using PostgreSQL
- Simplified republishing of changes at different project stages using web templates

