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INNOVATION FOR FOREST MANAGEMENT IN INDIA

A constellation of new tools enables India's forest managers to manage forests and improve community access to resources.

For Ms. Yangchen Bhutia, a forest officer in Sikkim, managing forests is what she does every day. Part of her job responsibilities include managing Sikkim's forests to increase forest cover and forest density and health; but, until recently she had few tools to help her.

Forest-PLUS has introduced a suite of technologies that have changed that reality for Ms. Bhutia and others like her across India, integrating satellite imagery and custom-built mobile applications for data collection in a modern forest inventory and data management system. With these new tools, forest managers, from citizens to civil servants, can easily monitor and measure changes in forest density across India in order to improve management of the resource.

V. DAKSHINAMURTHY/ FOREST-PLUS

THE FOREST DATA MANAGEMENT CONSTELLATION

REMOTE SENSING TOOLS

In order to effectively and efficiently manage forest and monitor activities, it is necessary to use imagery, either from aerial photography or from satellites. This is known as remote sensing. In the Indian context, degradation of forest (reduction in the number of trees in a forest without conversion to another land use) is the most important management question. For Sikkim Forest Department, it has been a challenge to monitor degradation with traditional remote sensing protocols because of their expense and

inadequate precision. In response, Forest-PLUS has developed and introduced innovative remote sensing methods that allow for the efficient measurement of degradation for the first time in India.

mFOREST

Field inventory data remains an essential part of forest inventories, despite advances in remote sensing technologies. With the deployment of a mobile application built by Forest-PLUS called mForest, inventory crews and community members are able to efficiently and effectively collect inventory data and use it to calculate forest stocking and density.

FOREST DATA MANAGEMENT SYSTEM (DMS)

To integrate and manage ground-based inventory and remote sensing data, a data management system is necessary. With deployment at the Forest Survey India and Sikkim State Forest Departments, the DMS allows for the rapid planning, design, collection, analysis and reporting of forest stocks across India with high certainty on the estimates.

A SUCCESS FOR INDIA'S FORESTS

Together, these tools have made Ms. Bhutia more effective and more empowered to do her job well. Moreover, these tools used in concert facilitate India's commitment to improve forest stocking and health on its forest lands. On the ground in communities and the forest department, stakeholders have been empowered with tools that improve knowledge and the ability to manage effectively. As Ms. Bhutia puts it, "The data products that have been generated by Forest-PLUS . . . have been found to be of great use for the Forest Department and the engagement of our staff in this process has made them aware of the requirements of monitoring forests".