GIS-based decision support system for greening of hillocks in Tamil Nadu

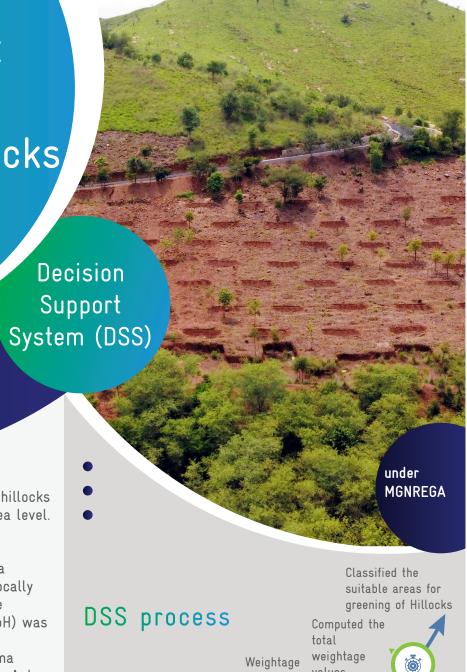
Thirvannamali district is now rich in green cover and biodiversity, thanks to better ground water storage and soil stability in the hillock region

Context

Tiruvannamalai district has several isolated hillocks at a minimum height of 120 metres above sea level. Most of the hillocks are in a degraded state causing severe losses in crucial ecosystems services. Restoration requires that there be a scientific approach to plan and implement locally suitable solutions. As part of WASCA climate resilient intervention, Greening of Hillock (GoH) was implemented with Department of Rural Development, Thiruvannamalai, under Mahatma Gandhi National Rural Employment Guarantee Act (MGNERGA) with the technical support from GiZ, New Delhi.

• • Intervention

GIS and Remote Sensing Tool are widely used to study the suitability of afforestation based on spatial data analysis. In addition, it is used to plan afforestation and land management measures. GIS-based thematic datasets such as slope, soil, land-use and geomorphology are used along with satellite images of the district to develop a Decision Support System (DSS) for greening of hillocks. The DSS process the different parameters to find the suitable site for the planation in the Hillocks. The DSS is deigned in ArcGIS platform for effective processing and visualisation. Ground verification of the DSS was carried out and fine-tuned for project implementation.



Generated 20*20m grid for the Hilly region

Spatially ioined all the thematic layers

code has given for each thematic layer







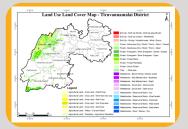
Process











Our Results



Output





Score card

• • • Outcomes

Based on expert consultation on the DSS for Greening of Hillock, the afforestation programme was implemented in the hillocks of Thiruvanamalai district, Tamil Nadu. Result is now an increase of green cover in the hillocks, plus better ground water storage and soil stability in the hillock region. The dry hillock has now become rich in biodiversity, hosting the flora and fauna of the region. Under the MGNERGA programme, different Natural Resource Management (NRM) and non-NRM works were carried out by the Government of Tamil Nadu. Based on the DSS and implementation of GoH in Thiruvalavamanli district, Department of Rural development (DRD) is planning to extend the Greening of Hillocks initiative to other part of Tamil Nadu through the MGNERGA scheme by involving the local people under the 100 days wages scheme and afforestation programme.

Before



FIELD IMPLEMENTATION



After

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