

ITC: RAVANDOOR CASCADE DEVELOPMENT

About the Company

ITC Limited is a leading Indian multi-business conglomerate incorporated in 1910. Its portfolio of businesses spans fast moving consumer goods, hotels, paper boards and packaging, agribusiness and information technology. The Company's agribusiness is one of the largest exporters

of agricultural products. The Agri-Business Division (ABD) of ITC Limited is among the large buyers, processors and exporters of various crops in India, creating a global benchmark as the single largest integrated source of quality agri-crops in India.

About the project

Biodiversity and ecosystem services are at the heart of several solutions for a sustainable increase in agricultural productivity that not only delivers better outcomes for food and nutrition security but also reduces externalities of production.

The present case study is from the Ravandoor tank cascade area located in the southern district of Mysore (Karnataka). The Ravandoor cascade, comprising 13 tanks, is one of the important habitats for local and migratory aquatic birds and also supports

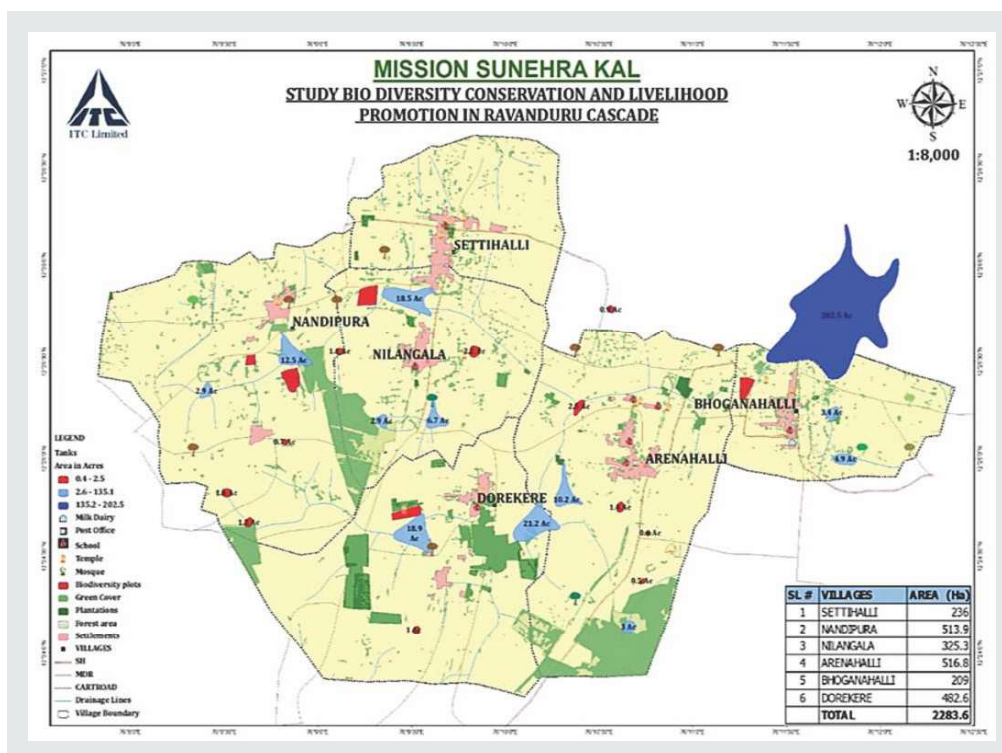


Figure 1 Ravandoor Cascade

irrigation for agriculture. The catchment area of Ravandoor cascade is also an important agri-produce sourcing location for ITC. The Ravandoor catchment covers an area of about 2,283 ha, of which 76% area is used for agriculture and 19% is under green cover (forests and plantations). Six villages are part of this catchment area with agriculture as the primary source of income.

The farmers are dependent on various ecosystem services like water from the river and tanks for irrigation and fodder and timber wood from forest areas. However, continuous pressure on natural resources, has caused disruptions in some of the available ecosystem services.

Initiatives identified for minimizing impacts and dependencies

As a first step towards sustainability, ITC conducted a biodiversity risk and opportunity assessment in the Ravandoor catchment area to analyse the causes of reduction in agriculture production. The study identified two areas for immediate intervention: conservation of soil & water

and biodiversity enhancement. A structured programme was developed for the catchment area by involving local stakeholders, NGOs, the Government, local panchayat institutions and the Forest Department, to work on the identified areas.

Soil & Water Conservation:

The Ravandoor cascade has a total of 13 tanks and many other farm ponds. Due to continuous siltation over the years, the water-holding capacity of these tanks is considerably diminished, resulting in less storage of water. Through ITC's desiltation project, all tanks in the cascade were restored and the silt was applied on farmlands.

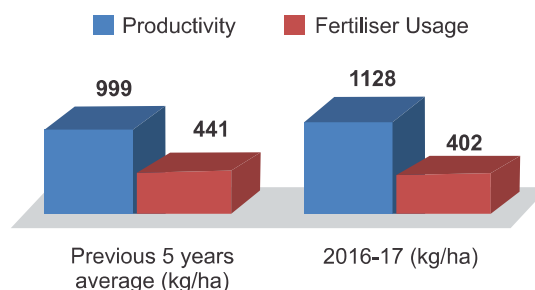


Figure 2: Trend of Production increase and fertiliser use reduction

During the biodiversity risk and opportunity assessment study period, it was also observed that the existing seasonal stream was partly encroached upon and silted up. The remaining drainage area was overrun with bushes and scrubs. Consequently, both, the volume of surface flows into the tanks, and the storage capacity of the tanks, were severely impaired. ITC addressed these issues systematically by

- clearing the encroachments through community mobilisation
- drainage line treatment of the entire area to capture the now abundant water flows to the tanks
- catchment area treatment to arrest soil erosion and increase in situ moisture retention
- development of existing pasture lands

ITC also put in place scientific monitoring systems by establishing sediment samplers and auto rain gauges in selected locations, at both, the control and project villages, to assess the silt and water flow impacts.

These interventions resulted in higher inflows into the tanks, and enhancement of water-holding capacity of all tanks in the cascade, leading to year-round availability of water. The use of silt on farmlands helped in improving organic carbon and other nutrients in the soil. This led to a 9% reduction in chemical fertiliser usage with a simultaneous increase in yields by approximately 13% as compared to the last 5 years' average (see figure 2 for details). The application of tank silt to agriculture lands led to savings in fertiliser costs of around INR 8,000 to 10,000 per hectare.

Biodiversity Enhancement

The baseline Shannon's Diversity index for flora was 2.23, which indicates a moderate scale of diversity and leaves considerable room for improvement. Biodiversity enhancement programme requires activities such as large-scale awareness generation and community participation, protection and conservation of existing trees, plantation of native species on field embankments and in-situ conservation of biomass in commons. ITC has taken the following biodiversity enhancement steps:

1. Creation of a buffer area of 500m along the drainage channels and planting of native tree species
2. Tree planting along farm boundaries and in the village common lands
3. Creation of kitchen gardens to improve diversity of shrubs and herbs
4. Sustained awareness drives on alternative sources of energy for fuel and no felling of trees
5. Creation of biodiversity parks across the cascade area along with planting of local fruit-bearing and other important trees, shrubs and herbs

6. Continuous monitoring of plant survival by village biodiversity committees
7. Preparation and submission of 'Peoples Biodiversity Registers' in partnership with the Gram Panchayats
8. Convergence with stakeholders like the Forest Department and other line departments for necessary approvals and for access to resources like tree saplings
9. Capacity building of the Tank User Group (TUG) /biodiversity committees through regular meetings, trainings, exposure visits, mass campaigns, display boards and IEC materials



The conservation and augmentation of plant species and population resulted in enhancement of green cover in the catchment area. This was reflected in the Shannon's Diversity index for floral diversity that showed an increase to 2.49. This rise in the diversity index has taken place over the last three years and is likely to improve further since these interventions will continue for the next three to four years. Local people are also taking responsibility for the conservation of trees and other natural resources.

Business case for the company

Mainstreaming biodiversity and ecosystem services into agricultural production and providing alternative options to unsustainable agricultural practices helped ITC in safeguarding its agri-supply chain as well as in enhancing its brand reputation.