

Conservation Research Division

Title of the Project:- Biodiversity Assessment of Encroachment removed area of Madan Mahal Hills of Jabalpur and it's surrounding forest area for ecological restoration through plantation and conservation of cleaned area.

Why this Project:-

As per the direction of Hon'ble High Court of Jabalpur, Encroachments of Madan Mahal Hills were demolished and area was cleaned. This area is being restored ecologically through raising of plantation. For selection of suitable species for plantation this project was designed. There is a good forest type available nearby the encroachment free area. This forest area was taken for the survey.

Research Methodology :- Following action were taken to fulfill the objectives of the project.

- a. **Survey of forest cover (Floral study):** Forest cover survey was conducted in adjoining forest areas of encroachment areas. Inside the forest areas, 0.5 km to 1 km away from the boundary of encroachment area quadrates were laid.

Following types of quadrates were laid:

- 1: 0.1 ha quadrates to assess the composition of trees.
- 2: 10X10m to assess the composition of shrubs, established regeneration.
- 3: 1X1m to assess the composition of herbs, unestablished regeneration and grasses.

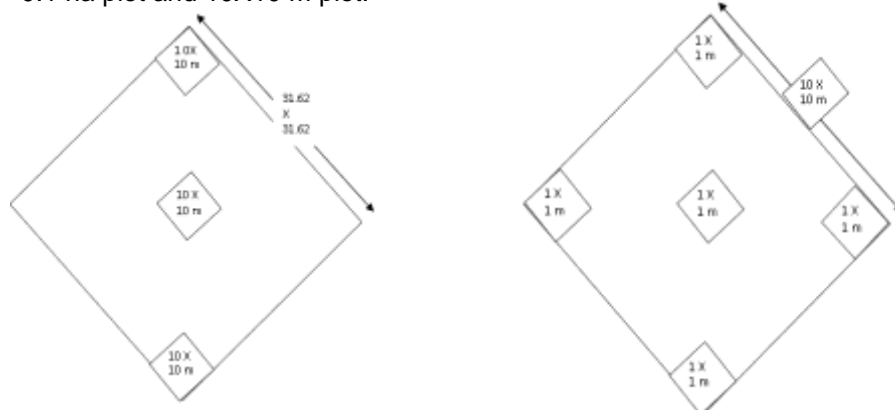
Size	0.1 ha	10X10m	1X1m
Total plots laid	101	303	1515

Besides these, other species which were not covered in the quadrate study were also observed and added in the list.

Vegetation composition evaluated by analyzing frequency, density, abundance and IVI (Important Value Index).

- b. **Survey of faunal diversity (Faunal study):** During the vegetation survey checklist of birds, butterfly etc. was also prepared by ocular observations.

Study Design:- 0.1 ha plot and 10X10 m plot.



1X1 m plots.

Objectives of Research:-

1. To assess the floral composition of the forest area of Madan Mahal Hills.
2. To assess the established plant varieties available in the encroached areas and develop appropriate techniques for their conservation.
3. To suggest the appropriate plantation technique to funding agency for plantation in encroachment cleaned area.

Activities Undertaken:-

- Field surveys for Sample and data collection for herbarium, collection of photographic evidence. Data analyzed for biodiversity assessment. Report prepared and submitted.

Cost of the project: Rs.13.00 Lakhs and GST

Outcome of the project:-

Technical bulletin on nursery technique printed. Training provided to forest field staff of social forestry.

- Total 57 tree species, 50 shrub and climber and 121 herbaceous species were recorded.
- Medicinal plant species –130
- Insectivores plants – 04
- Birds – 157 species
- Lepidoptera – 57
- Odonate – 28
- Spiders – 24
- Amphibians and reptiles – 18 species were observed in the study area.

This work will assist in biodiversity conservation of the hills of Madan Mahal. Selection of local plant species will help in the development of the area according to the surrounding ecosystem. Field guide will help the students, nature enthusiasts to study the diversity of the area.