

# The Ecological Base Line Mapping Process Revisited

Bringing the Nature-Human interface in line with SDG 3



## The creative use of AI and Geo Spatial tools for Empowerment of Women and Society

(Report of Training Programme from 10<sup>th</sup> - 14<sup>th</sup> July 2024)



## CONTENTS

<b>S. No.</b>	<b>Content</b>	<b>Page No.</b>
1	<b>Goal and Objectives</b>	3
2	<b>Report of the Four Day Proceedings</b>	
2.1	Day One (10 <sup>th</sup> July) Preparation and finalisation of agenda	5
2.2	Day Two (11 <sup>th</sup> July) Field Work at Bhokar	7
2.3	Day Three (12 <sup>th</sup> July) Field Work at Ashoknagar/Nipani Wadgaon	11
2.4	Day Four ( 13 <sup>th</sup> July) FieldWork at Bherdapur	17
3	<b>Review and Documentation (14<sup>th</sup> July)</b>	21
4	<b>A New Way Forward for Ashankur</b>	22

## **Action Research: Participatory Baseline Data Collection Process**

**Step One in the development of village pilots facilitated by Ashankur**

**10<sup>th</sup> July - 14<sup>th</sup> July 2024**

**Goal:** To operationalise the process of streamlining base line data collection and processing for facilitation of Nutrition, Health, Livelihood and Overall well being



**Active participation of Team-Ashankur at the training programme**

Day 1: Review of the progress of preparation of the Biodiversity Table and other activities outlined in the programme in February and identification of gaps that need to be completed first.

Day 2-4: Follow up of the process in the selected villages (finalised on first day).

Day 5: Documentation, processing and review of data collected during the field visits.

**Overall Objective:** Completion of the baseline data collection exercise in selected villages so that Ashankur staff can get an idea of its importance and relevance for further planning and decision making.

**Objective 1:** Development of a twin methodology for understanding ecological issues by examination of the biodiversity prevalent in different ecological niches at the village level and completion of the process of field verification of the land use mapping process in the selected villages.

**Objective 2:** Relevance of the above for completion of the Biodiversity inventory and understanding the methodology for preparation of land use maps of the region.

**Objective 3:** Staff of Ashankur to gain confidence in collection of base data needed by them for the education and awareness programme of women in the relevance of the ecological process to development planning for sustainable livelihoods.

**Objective 4:** Exploring the relevance for Ashankur's existing programmes.

### **Linking modern tools with Existing Knowledge: Transformative processes for Sustainable Development**

The exposure to local value addition possibilities provided in the previous program provided an insight to the alternative vision being talked of namely sustainability minus exploitation of human beings and natural resources. One where the overall well being of the family was the core that powered engagement with the environment and society. The women also got an insight as to way modern outlooks and technology could provide a fresh look at traditional practises to figure out what was relevant and what was outdated. Examining the relevance of Geo Spatial tools in the light of this appreciation led Ashankur to provide full time attention to the mapping and documentation process so that the full picture of the alternative development process could be seen and planning made accordingly.

The training program design module was therefore aimed at first completing unfinished tasks before embarking on anything new. Accordingly it was decided to complete the biodiversity and mapping exercise at Bhokar, Ashok Nagar/ Nipani and Bhokar so that clarity could be achieved on how base line information on biodiversity and land use actually looked.

## **Underlying Hypothesis:**

### **Relationship between the part and the whole:**

While progressive understanding was being shared and imparted to the local community, the process of proper assessment of the biodiversity, land use and ecological issues was still not taking place in the manner desired. It was found that Ashnakur staff were tending to segregate technology from social processes relying on simply collecting raw data and providing it to the designated person for entry and follow up. It was therefore felt necessary that the staff be equipped to assess their own understanding and hence motivated to do their own data collection and documentation. This was the essential precondition for team building on a qualitatively different basis.

## **REPORT OF THE FIVE DAYS PROCEEDINGS**

### **Daily Program Highlights and Knowledge Sharing:**

- **Day 1:** Update on the progress made so far on the question of baseline mapping, remedial classes documentation and programme with fishers
- **Day 2:** Field visit to Bhokar to complete the mapping of the biodiversity and land use of the village. Appreciation of the ecological niches in Bhokar village.
- **Day 3:** Field visit to Ashok Nagar/ Niapni to complete the mapping of the biodiversity and land use of the village. Appreciation of the ecological niches in Ashok Nagar/ Nipani.
- **Day 4:** Field visit to Bherdapur to complete the mapping of the biodiversity and land use of the village. Appreciation of the ecological niches in Bherdapur.
- **Day 5:** Documentation and report writing. Individual preparation of the biodiversity table on the basis of photos taken/ geo tagged locations. Review and outline of the way forward.

### **DAY ONE (11<sup>th</sup> July): Preparation and finalisation of the agenda:**

The update report indicated that a seed bank and powders of 35 species had been made. These were displayed during the meeting indicating the kind of work put in so far. It also indicated how this programme had been used to prepare a nursery for promotion of the local species. Among the species grown were Arjun, Baheda, Moringa, Giloi and Charoli. A total of 9 species and 600 saplings were grown. Various types of preparations from the seed, fruit

and leaf were made from Lemon, Orange and Seet Lime (peels), Banana (fruit), Rose (petals), Palash, Karanj and Neem leaves (powders). Chikoo chips, Awla candy, supari and juice



**Ashankur display of seed and powder collection of 35 species**

Jeev amrut and vermi compost were prepared on the campus to improve the fertility of the soil. Separately 66 saplings of Behada, Amaltas, Jamphal, Shevga were distributed to 30 families. 18 women were trained in organic farming and its application in crops like Jowar, Bajri, Moong and Jou.

In terms of the biodiversity list, a total of 38 plants were tabulated in the table inclusive of their geotagged locations. The report indicated that the Ashankur staff were relying more on the technical person assigned to do the task and the data supplied was incomplete. Given the other commitments of the technical person, the effort of examining the data, verifying the uses and then entering it was very time consuming. It was therefore decided that the training would attempt to correct his gap before proceeding to the other issues being followed up.

In relation to the remedial class programme, it was reported that the Happiness syllabus of the Government of Delhi was being used to train the students. The programme was new and the staff was still being oriented before training could be provided to the teachers conducting the remedial classes. After looking at the syllabus which was quite huge, it was suggested that the focus should be on the essence and the development of tools with locally available materials. Some of the important features.

<https://scert.delhi.gov.in/scert/happiness-curriculum-chvtl>

Happiness Class is a program developed by the Government of NCT, Delhi for students from Nursery to Grade 8. The curriculum was introduced in 2018 by His Holiness Dalai Lama.

The Curriculum is a path-breaking initiative that questions and challenges the traditional pedagogy and practice. The curriculum believes that the purpose of education is to create confident, mindful, responsible, and happy individuals who collectively build a happy and harmonious society. The Happiness Curriculum is an endeavor to guide the attention of students towards exploring, experiencing, and expressing happiness in not just the momentary but deeper and sustainable forms as well. This will enable the learner to comprehend happiness within self, relationships and society. This enables a paradigm shift where a learner moves from searching happiness externally through senses to, be able to ensure it within oneself through Learning & Awareness and ensure continuity of values.

### **Objectives of the Curriculum-**

The objectives of the happiness curriculum are as follows:

- To develop self-awareness and mindfulness amongst learners.
- To inculcate skill of critical thinking & inquiry in the learners.
- To enable learners to communicate effectively and express themselves freely and creatively
- To enable learners to understand their expectations in relationships, develop empathy, and ensure healthy relationships with family, peers & teachers
- To enable learners to apply life skills to deal with stressful & conflicting situations around them
- To develop social awareness & human values in learners to engage in meaningful contribution in society
- To develop holistic approach to education in a universal context

While engaging with this curriculum, Ashankur staff were encouraged to have faith in their own methods of teaching, focus on the essence of what is to be imparted so that local tools and methods could be evolved to suit the conditions in which this training was to be imparted first to the teachers of the remedial classes and through them to the students.

### **DAY 2 (11<sup>th</sup> July): Field visit to Bhokar village**

The field visit to Bhokar was undertaken to complete the tasks related to mapping of the Biodiversity, ecological niches and land use of Bhokar left over from the previous programme in February. Since the mapping process expected to happen on its own did not take place, it was clear that until Ashankur staff got a complete picture of what was expected

in this task, it would not be done automatically, even less would be possible to train the local community on how to do this task in other villages. Since there was two parralel task taking place the last time around with tow resource persons, it was felt the entirety of the task was needed to be completed under the guidance of one person only. Accordingly the field visit was organised, focussing on the areas not covered during the first round.



**Landscape being infested with invasive species**



This photo captures the destruction of a drainage line due to invasive species. Here it can be seen how the invasive species like *Prosopis juliflora* and *Parthenium* are spreading. The idea behind studying these niches was to understand the conditions which give rise to invasive species and where local species flourish. It would provide Ashankur staff and the local community with an idea of where to locate a particular species and what locations need to be tackled to remove invasive species



#### **Atibala still surviving and thriving in the landscape**

Atibala acts as a demulcent, aphrodisiac, laxative, diuretic, and sedative. It has been used to treat inflammation, piles, gonorrhoea, and boost immunity. Aphrodisiac, anti-diabetic, antipyretic, anthelmintic, nerve tonic, and diuretic are properties of the root and bark.

<https://pharomeasy.in/blog/ayurvedia-benefits-side-effects-precautions-of-atibala/>



**Looking for crabs**



### **The catch**

This was an unintended outcome of the field visit. While the crabs were caught and taken to Ashankur, they were later released in the lotus pond at Asahnkur as they were female.

**DAY 3 (2<sup>nd</sup> May): Field visit to Ashok Nagar/ Nipani Wadgaon**



**Ashankur team with Shabana Shaikh and her Mother in law: She helped save this tree**

The tree saved above Lisoda ( *Chordia dichotoma* is super food). Shabana Shaikh who helped save the tree was given a quick lesson on the kind of products that could be made from the fruit.



#### **Talking to the fisherwomen at Ashoknagar/Nipani Wadgaon**

The field visit to Ashoknagar/ Nipani Wadgaon had a different flavour as it was possible to interact with the fisherwomen at the pond. While explaining the impact of invasive species around the pond, it also became clear that the fish catch was also being affected due to invasion of Tilapia. The fisherwomen were encouraged to form a group and register themselves as fisherwomen on the labour portal of the Government of India.



#### **Waste dumping at the pond and Eutrophication due to use of soap**



**Pheromone trap for insects**



**Giloi**



**Gorakh mundi a soil binder**



**Collecting Gokhru fruits and Haldi and Adrak from field channel**





**Collecting wild karela**



**Dangar Community tending their flock**

#### **Day 4 (13<sup>th</sup> July) Field visit to Bherdapur**

The field visit to Bherdapur also followed up on the tasks left unfinished from the training programme held in February. The first part of the visit comprised of examining the tank bed, what could be understood about issues in relation to percolation and retention of water, how silt was collecting in the tank and soil profiling. The exercise resulted in a side benefit as some of the biodiversity found in the tank bed like water snakes, crabs could also be observed. While the snake moved too fast for a picture to be taken, crab hunting provided some exciting moments captured below.





**Hingot**



**Jungle Boondhi**



**Miswak**

## **Day 5 (14<sup>th</sup> July) Review and Documentation**

The day was devoted to putting down the observations in a systematic manner in line with the format for preparing the biodiversity table given earlier. Each individual was asked to prepare a handwritten table first so that they gained confidence in noting down their own observations. Following this they were also asked to note down the previous observations made by them.

In the discussions that followed, the feedback encouraged Ashnakur staff to look closely at the links between good baseline data (assessment on the basis of the data) and its impact on discussions with the women's group and development of the education curricula for children. The process of evaluating the resources within was a way of showing the importance of teamwork in development of a cohesive programme and its relevance for making task more creative and less burdensome.

### **A new way forward for Ashankur**

#### **From Self help group to Ecosystem Stewardship:**

Over the next six months with the completion of the base line survey related to biodiversity and land use in six villages, it is expected that the SHGs will transition from better handling of their own cash resources to a comprehensive outlook towards Ecosystem Stewardship due to its intricate relationship with livelihoods, nutrition, health, education and overall well being. Women empowered with this outlook will be able to engage meaningfully at the gram sabha the lowest unit of governance and as a federation on issues related to natural resource governance at the Taluka and District level as well. Concretely this will involve the following

- Engagement on issues related to Primary health care and nutrition and alignment of the government programme with the communities own understanding on the best way to deal with these issues based primarily on appreciation of the value of local medicinal and nutritional plants in the local health care and nutritional supplement system.
- Appreciation of the ecological issues of the region and the necessity to deal with issues emerging out of invasive plant species, enhancement of the potential of local species and potential for local value addition through use of biodiversity for recycling of nutrients, pest control, nutrition, health, education and livelihoods.

#### **Science community interface and its impact on women:**

The use of the note cam app for geotagging biodiversity has enhanced the skill of Ashankur staff in the appreciation of ecological issues and its relevance for ecosystem stewardship. It is expected that with the completion of the base mapping exercise in six villages, Ashankur staff will be equipped with the wherewithal to train the local women on these issues as well. How this understanding can be incorporated in the development of the livelihood, nutrition, health and education programme for overall well being will enhance their analytical and cognitive skills as well this will help women to contribute meaningfully to the development of the education curriculum to transfer this knowledge and skill to children in general and the girl child in particular.

#### **Active participation in the Global sustainable development agenda:**

Ashankur's relation with the Sustainable development Goals (SDGs) keeps the centrality of Biodiversity and Conservation in mind. How women and children relate to the overall agenda of the SDGs was spelt out in an exercise done in October 2023. As the agenda of Biodiversity and conservation take centre stage in ashankur, how this drives the entire programme will unfold over the next three years. Keeping issues related to pollution and waste management in mind, the development of a circular economy (recycling model) would considerably reduce the cost of production as external inputs in production get minimised. Ashankur will be exposed to experiences of communities and in particular women who have used renewable energy for value addition and livelihood enhancement.