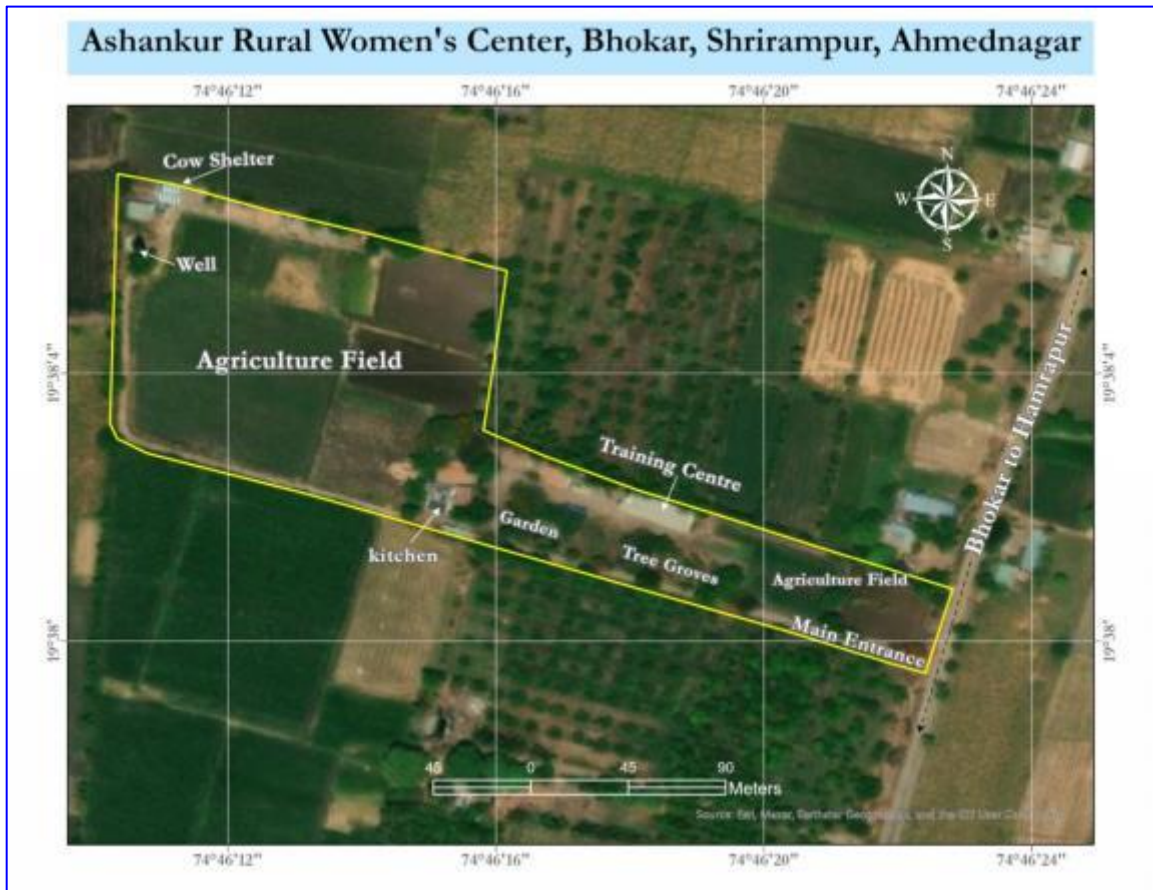


# Sustainable Development Goal 17

## Relevance of Technology in Real Time Research



Development of partnerships: Act locally - impact globally



## Action Research Training and Orientation Workshop

Ashankur 22<sup>nd</sup>-24<sup>th</sup> February 2023

**Goal:** Vision 2030 for Ashankur and IELA: A collective journey in four blocks of Ahmednagar District namely: Srirampur, Rahuri, Rahata and Nevasa



Sunil explaining to Rekha about the impact of invasive species. Local Bajri biscuit made by Savita Avare

**Overall Objective:** Relevance of GIS Technology for conducting real time action research and realisation of real time benefits of a collaborative approach to development, the mandate of SDG17.

**Objective 1:** Hands on training on how the quality of field observations relate to GIS based analysis (primacy of the research agenda and nature of observations made).

**Objective 2:** Mapping of Ashankur Campus and identification of issues emerging for further research on the campus.

**Objective 3:** Mapping of Mandve village, study of impact related to invasive species, soil and water quality issues, impact of monoculture cultivation in general and sugarcane in particular, relevance of the local biodiversity and relation to health, nutrition, livelihood and overall well being.

**Objective 4:** Application of lessons learnt during the three training sessions to train women and children and development of the base agenda for the same. Combining the lessons learnt at Ashankur and Mandve to develop initial programme related to study of land use, cropping patterns, impact on soil and water quality, impact of invasive species and development of alternative approach for eradication/ minimisation of damage caused to environment.

## **Agenda of the Workshop**

### **Day one**

a. Sharing of the complete report by participants incorporating section on the Biodiversity assessment and more detailed ecosystem assessment ( from earlier presentation) incorporating aspects related to soil and water quality and impact on health, nutrition and overall well being of the families/ community ( based on the socio economic profile developed till now and it's mapping as well - where they are located, what resources they depend upon.

b. Assessment of the potential for engaging with women and children in Mandve on above agenda based on experience of these three months and how this can be used to develop an agenda for women related to Health, Nutrition and Livelihood. Agenda for children relating to appreciation of the ecosystems of Mandve village.

### **Day two**

Relevance of GIS techniques for mapping land use and ecosystem services.

Field visit to develop methodology.

Participants to develop the understanding arrived at on day one so as to concretely articulate an agenda for next six months.

### **Day three**

Sharing of field visit and presentation by participants.

Application of GIS (practical session) at Mandve.

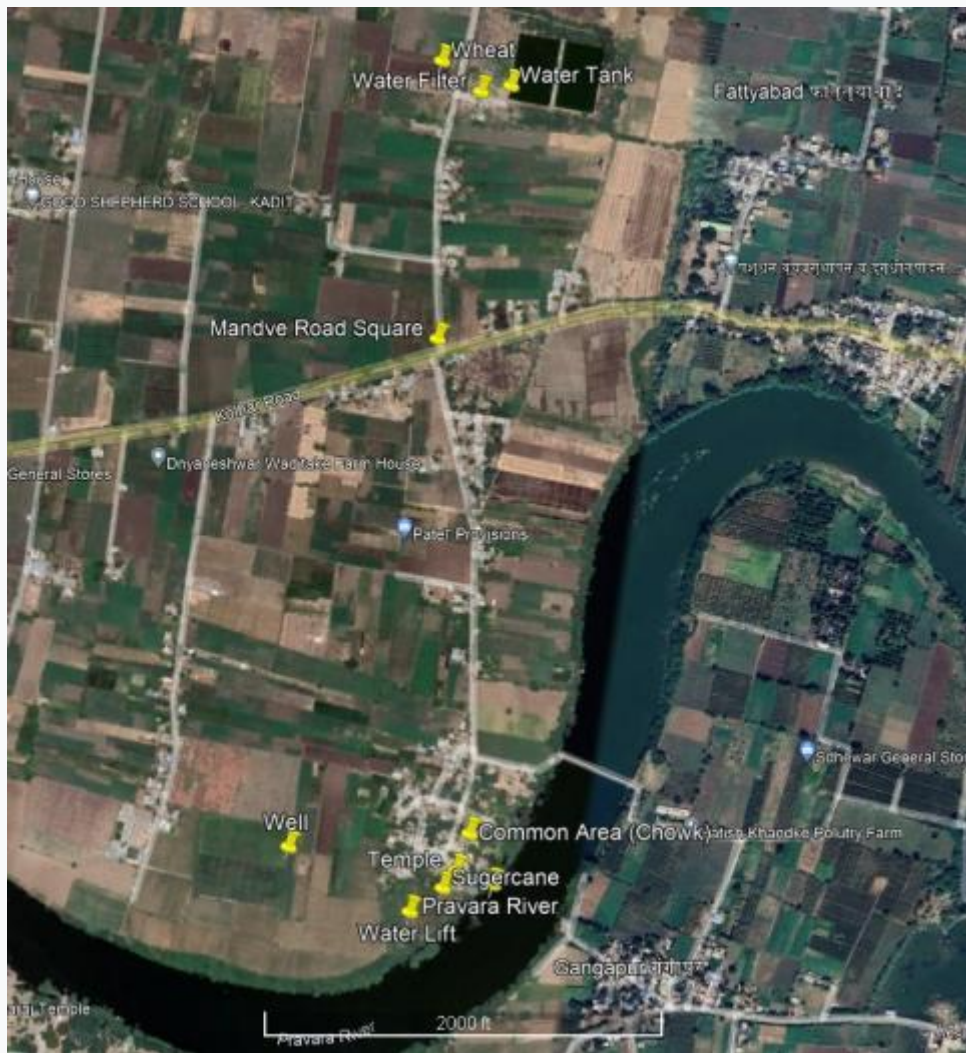
Way forward

Feedback

While the general outline of the workshop was maintained some modification took place in order to keep the discussions in line with the level of the participants and overall objective of the workshop in relation to development of agenda 2030 for Mandve and exploring its implications for perspective building of the future work of Ashankur in line with Agenda 2030.

The training programme was attended by Srs Prisca, and Anita, Atul, Kalpana, Agnes, Rita, Rekha and Ashwini from Ashankur and Viren, Sunil and Amit from Institute for Ecology and livelihood Action (IELA).

## First day first and second session



Google map of Mandve village with GPS readings

The immediate report from the Ashankur participants was that no further work could be done on the Action Research Study as the staff were too busy on other issues. The first level of clarification indicated that it was not because the staff were busy or that they did not understand the issues but had difficulty in understanding how it translated into action. A preliminary hypothesis was formed that this was due to the fact that the work did not integrate with the other work of Ashankur. It was pointed out that Mandve had only been selected as it was an entirely new activity and hence amenable for a new approach without disturbing the other work of Ashankur. However when faced with the question of giving separate time for this work, the question of existing functioning in Ashankur (in a way related to way time and resources were managed) came into play. The participants were asked to revisit the exercise done in the training programme with the groups divided into Ashankur and IELA. The two laterals namely women's empowerment and education were revisited in the context of the Mandve action research study. The presentations that followed in the afternoon, indicated that while the content developed by Ashankur was similar to the first training workshop, there was a different approach to problem identification and hence

problem solving itself. The IELA presentation while differently presented also highlighted similar issues. It was therefore made clear to the participants that content of research mattered, not the techniques of presentation. It was also clear that the last six months had indeed taught something to the participants that could now be applied to the existing work of Ashankur namely the perspective to looking at issues related women's empowerment and education, relevance of the landuse approach even though the current stakeholders ( Approximately 20% of the rural population, mainly marginalised communities and landless) who were being taught alternative trades as a means for livelihood, Additionally the scope of the education programme was considerably broadened.



Beginning with the relevance of local food in the diet



Invasive species and their impacts

## Second Day first session



Field with yellow flowers to attract honey bee. Mango tree with hive nearby

The first part of the first session on the second day was devoted to understanding the reasons for taking the picture before the use of note cam app to take the actual picture. It was explained in detail the kind of field investigation being done before one actually used technology to document it. For example, a field had been prepared which had yellow flowers to attract the bees. Also care had been taken to provide water in pots for the bees to drink. The need for the trees to host the bees was also stressed. In this case, there was a mango tree close by which acted as a host for the honey bee. Similarly it was explained how the photo of the same tree taken over different seasons could monitor, leaf fall, flowering and fruiting. In relation to water, source (surface or ground water), storage point, use. Depending on the issue being studied, whether water quality needed to be tested, what issues were there could need to be identified before testing is undertaken.



Sunil explaining to the participants about the need for defining the objective of the research being taken up before technology is used

This was followed by a presentation on how GIS was relevant to for research and how it could speed up analysis so that research could be done in real time instead of waiting for years to understand an issue. To start with how the readings taken by the participants was put on the GIS map was explained. After that it was shown how readings could be taken to locate a particular crop, tree species, grass in the field and on this basis understand land use, biomass production and other issues related to the cropping pattern. How well readings could help track the flow of underground water, soil and water samples could identify pollutants was also explained. However it was highlighted that it was only proper photography and accurate note cam readings that would help produce the desired outputs. The computer is only able to analyse what it is being given. Participatory research can only take place in the real sense when the field observer understands the issues being studied, identifies the

photographs to be taken with proper Lat, Long readings and does the regular follow up needed. As an example it was pointed out, how tribal youth were mapping their fields in relation to Forest Right Claims they had filed.

### Second Day second session



Water treatment and filtration plant at Mandve



Fruiting trees at Ashankur

The participants were divided into two groups. One mapped the Ashankur campus while the other mapped issues they observed at Mandve. While mapping the water source at Ashankur, it was pointed out that the drinking water source for Manve and Ashankur was the same, namely Bhandardara Dam. Why was the quality at Ashankur good and that at Mandve bad ? It was suggested that this issue could be resolved by testing water quality at Bhandardara Dam. If this was good, then issue was in the region where water was supplied to Mandve which would need investigation. If bad, then it would mean that there were better treatment facilities at Bhokar (where the water treatment plant for Ashankur was located than at Mandve, Issue of invasion of Tilapia fish and reduction of fish catch of the more productive fish like Rohu, Katla, Bam was also identified during field visit. How such issues could be tracked was explained.

### **Third Day first session**

The first session was devoted to how to record the readings in the Excel sheet so as to facilitate easy identification of the photo and location on the map.



Well study which can help understand groundwater flows

### **Third Day Second Session**

Having gained the confidence to do real time action research the participants were then told that the same approach was to be applied to the local community (women and children) with a difference as the need to understand why they would participate in such an exercise exists. In relation to women it was explained In relation to children how games could help understand what children knew about the ecosystem was explained. Games like a modified version of snakes and ladders to explain environmental issues, food web, identification of leaves and the use of the plant through biodiversity games were some of the suggestions given.

### **Action plan**

A twofold action plan has been proposed to give shape to the concrete action research agenda emerging above. The first being to consolidate the preliminary understanding gathered to make it understandable to local communities in general and women in particular. As a start it will be reflected in the format for Commemoration of Women's day, planned for 14<sup>th</sup> March 2023. The second, will be to evolve play tools for children where these preliminary findings can be easily grasped by them and their observations elicited. Responsibility centres for collection and tabulation of the information are in the process of



being identified. How this process that unfolds over the next three months will be the basis for organising the next action research training in June, where two separate training programmes for women and children will be organised.

### **Concluding Session**

The feedback indicated the following

- a. Different stages of growth of participant understanding over three sessions and development of a team, both at Ashankur and with IELA.
- b. Relevance of health, nutrition, livelihood and education to development core competence of women in biodiversity assessment and consequently empower them to engage meaningfully in land use decisions and its relevance for overall well being.
- c. Appreciation of ecosystems services and its relevance for an alternative planning process. Where the interests of marginalised lie, how critical alliances could be made with a view to long term sustainability and improved local livelihood potential.

## Annexure 1

Note cam photos, description and Lat, Long readings

SN	Place	Character	Latitude (N)	Longitude (E)	Remark
1	Water Tank in Field		19 38.0220	74 46.3220	Water
2	Solar Water Heater		19 38.0430	74 46.2910	Water
3	Panchayat DW Tank	Drinking Water	19 38.0360	74 46.2820	Water
4	Lotous Pond		19 38.0370	74 46.2790	Water
5	RO DW	Drinking Water	19 38.0480	74 46.2790	Water
6	Borewell		19 38.0740	74 46.2670	Water
7	Cow shed WT	Water Tank	19 38.1080	74 46.2120	Water
8	Well		19 38.1000	74 46.1770	Water
9	Borewell_2		19 38.0500	74 46.1970	Water
10	Kitchen Tank		19 38.0400	74 46.2550	Water
11	WT_2	Near Lotous Pond	19 38.0380	74 46.2770	Water
12	Ginni Grass	Sugercan	19 38.0290	74 46.3320	Biodiversity
13	Rajka	Hurb	19 38.0210	74 46.3350	Biodiversity
14	Tree Grove		19 38.0200	74 46.3180	Biodiversity
15	Orchard	Fruit	19 38.0330	74 46.2760	Biodiversity
16	Anwla		19 38.0310	74 46.2860	Biodiversity
17	Office Garden		19 38.0390	74 46.2650	Biodiversity
18	Water Melon	Field	19 38.0620	74 46.2420	Biodiversity
19	Wheat	Field	19 38.0840	74 46.0550	Biodiversity
20	Dramstrik	Field	19 38.0890	74 46.2690	Biodiversity
21	Neem tree	Cow Shed	19 38.1010	74 46.2360	Biodiversity

22	Sugercane	field	19 38.0870	74 46.2000	Biodiversity
23	Weda Babool	field	19 38.0780	74 46.1720	Biodiversity
24	Neem tree	Sugercan feeld	19 38.0670	74 46.1730	Biodiversity
25	Weda Babool	Sugercan feeld	19 38.0540	74 46.1690	Biodiversity
26	Neem tree 3	near Jagtap	19 38.0470	74 46.1900	Biodiversity
27	Jambul tree	Dining Hall	19 38.0360	74 46.2460	Biodiversity
28	Karineem	Hostel Kitchen	19 38.0400	74 46.2490	Biodiversity
29	Parijatak Tree	Hostel Kitchen	19 38.0410	74 46.2480	Biodiversity
30	Bee Hive	Mango Tree	19 38.0460	74 46.2500	Biodiversity
31	Leman Grass	Office	19 38.0430	74 46.2680	Biodiversity
32	Leman tree	Office	19 38.0430	74 46.2750	Biodiversity
33	Square	Manve Road	19 32'31.30"	74 33'48.20"	Mandve
34	Well	Near River	19 32'5.20"	74 33'44.50"	Mandve
35	River	Pravara river	19 32'5.20"	74 33'44.50"	Mandve
36	Temple	Near River	19 32'5.30"	74 33'53.40"	Mandve
37	water lift	Near River	19 32'2.90"	74 33'51.30"	Mandve
38	Temple ,School	Near Grampanchayat	19 32'7.20"	74 33'53.80"	Mandve
39	Water Filter	Government	19 32'44.40"	74 33'49.80"	Mandve
40	Soil Salinity	Near River	19 32'2.80"	74 33'52.50"	Mandve
41					