



Development of a Template for Model Village Development based on the SDGs

Action Research Training Programme at Ashankur
5th Feb to 8th Feb 2025

Application of Geo Spatial Tools in Bhokar Gaothan and Mandve to address issues
related to Sociological and Environmental Stewardship



Ashankur Rural Women's Centre, Bhokar, Srirampur Taluka, Ahmednagar

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¹ We are not giving designations here because we believe that in research such as this, the role that each person plays is both unique and dynamic. Apart from this there are many people contributing to this research in ways that we cannot immediately fathom. Seema Upadhyay was not present for the training but her perspective has been included in the plans developed, Sr Prisca too was present for the first two days, but her perspective and vision guided the deliberations.

Background:

The need for the development of the Template stems from the process of consolidation of the understanding gathered during the baseline survey process which started with Mandve village after the training programme held in August 2022. The training programme held in November 2022 and subsequent one in February 2023, where the use of Geo Spatial tools was taught highlighted the following.

a. That the community currently being worked with at that time were predominantly landless and accounting for only about 25% of the population. How could a Land/ Ecology based programme help such a community ?

b. Ecological issues examined at that time indicated the following

- The absence of food crop production and focus primarily on Sugarcane, Ginni gavat (a fodder) and cotton. This would inevitably relate to nutritional issues in the village as well not surveyed at that time.
- Issues related to water quality, waterlogging and related spread of water borne diseases.
- The presence of leopard in the sugarcane fields

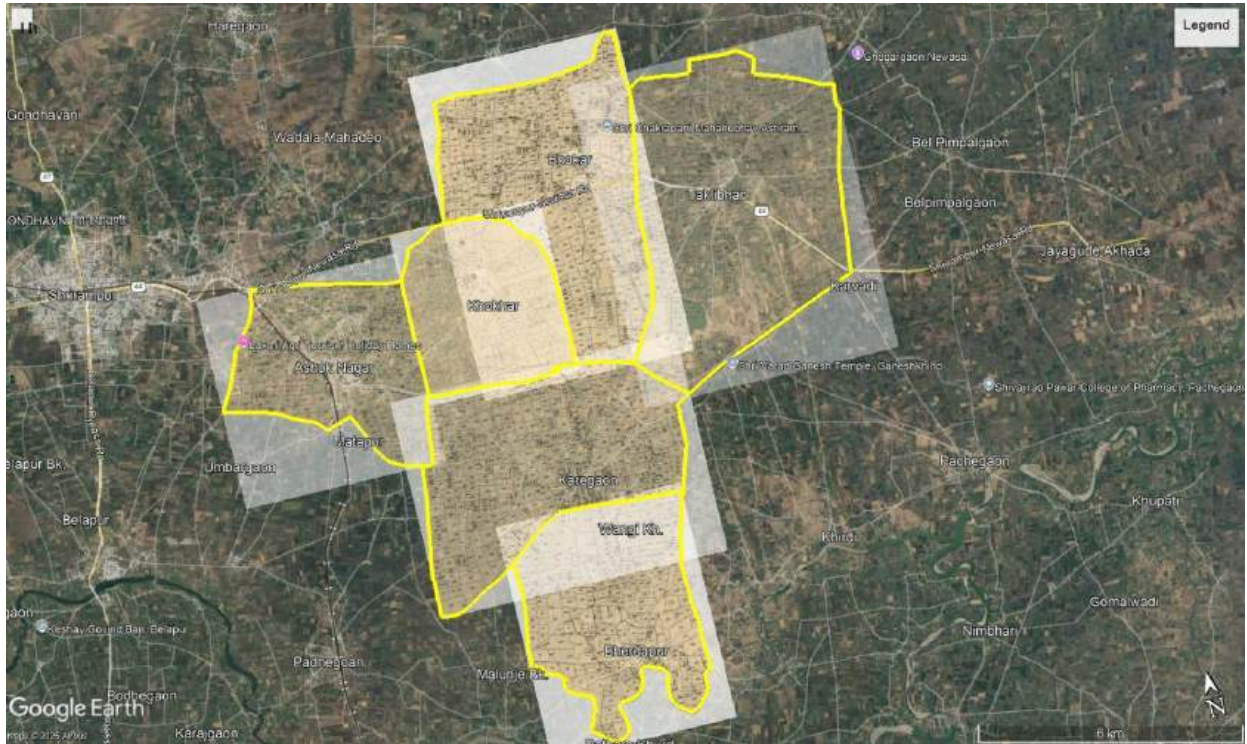
The need to examine the soil and water quality was taken up for which samples were taken and analysed at Social Centre (Ahmednagar).

The need to assess the potential of the biodiversity for development of a women's centric nutrition and health programme given the nature of health issues and concerns that could be preminarily observed. It would also help circumvent the issue of lack of land by those participating actively in the Ashankur programme from the village.

For a number of reasons, primarily related to the need for developing an ecological profile and relate to the biodiversity and to link the programme more soundly in Ashankur approach to development centred around women's empowerment and focus on the marginalised, it was decided to do a biodiversity survey in six villages of Bhokar, Khokar, Ashoknagar/Nipani, Bherdapur, Talkibhan and Karegaon after consolidating the Ashankur approach to women and children through the training programmes held in June 2023 and October 2023. The task of completing the base line survey was completed in December 2024 after which a training programme was organised in Udaipur to train Ashankur staff on how to analyse the data collected.

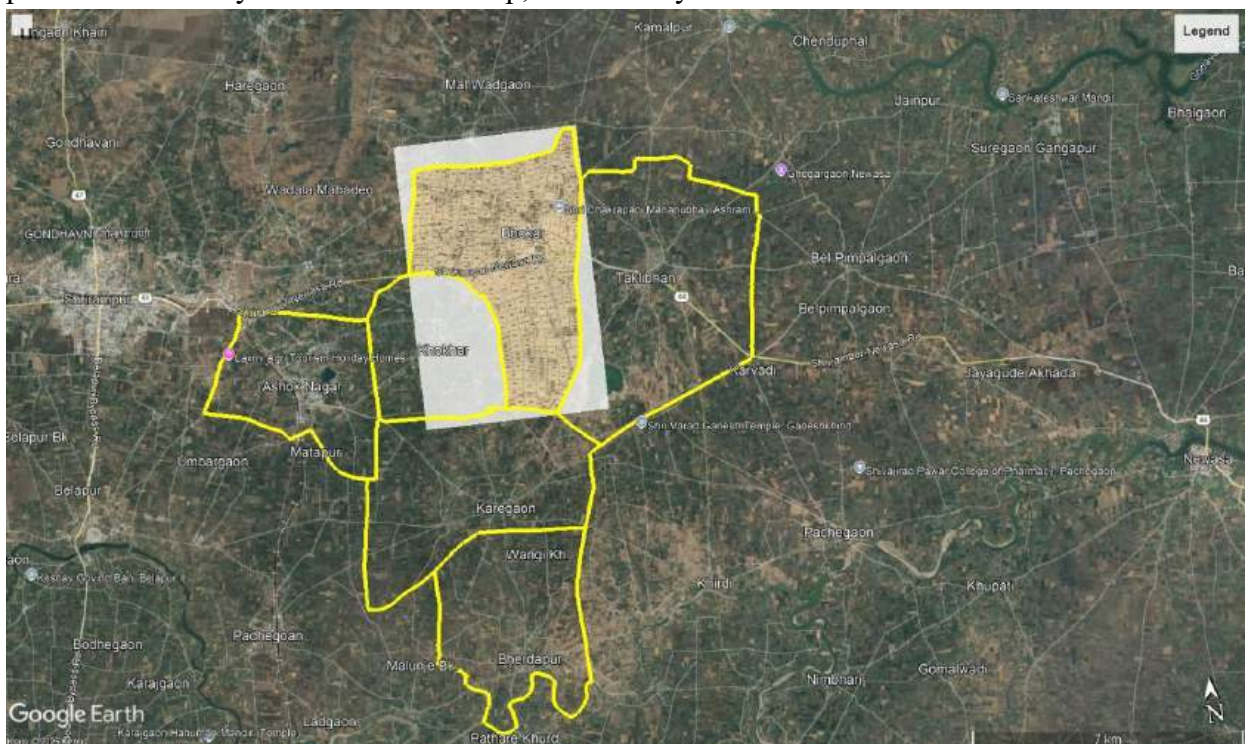
Part I

Understanding the potential of Geo Spatial Tools



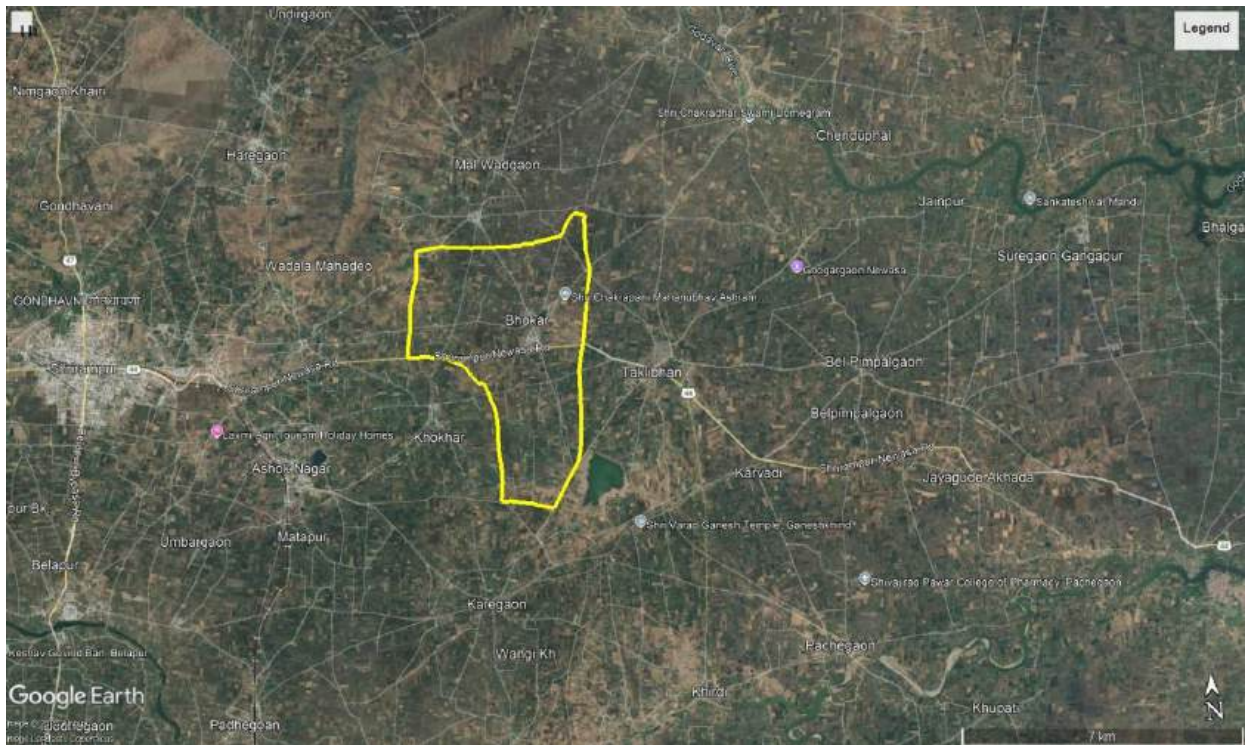
Superimposition of land ownership data on the six study villages in Ashankur region

The map above shows superimposition of land ownership records onto the six study villages of Bhokar, Khokhar, Taklibhan, Bherdapur, Ashoknagar/ Nipani Vadgaon and Karegaon. It makes it possible to identify the farmer with crop, biodiversity and other features studied.

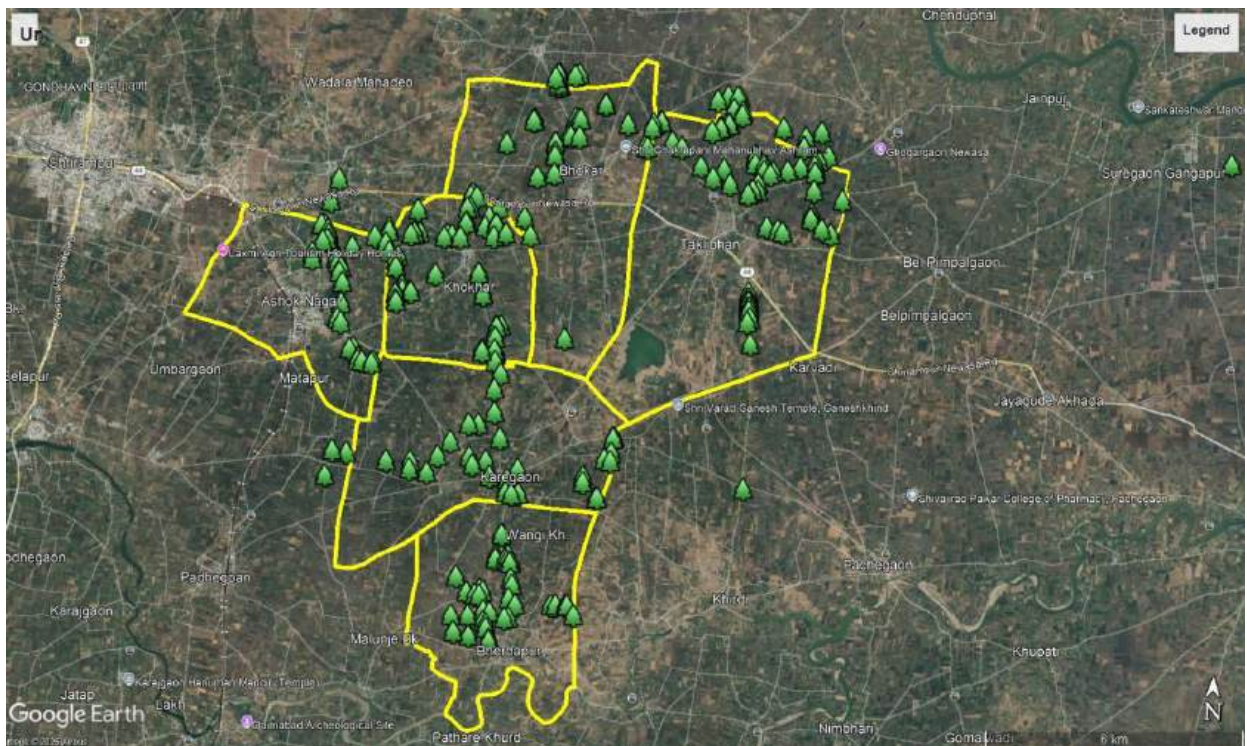


Superimposing land ownership records on one village Bhokar only

The same exercise can be done for one village too. The map above shows how only the details of Bhokar have been superimposed.

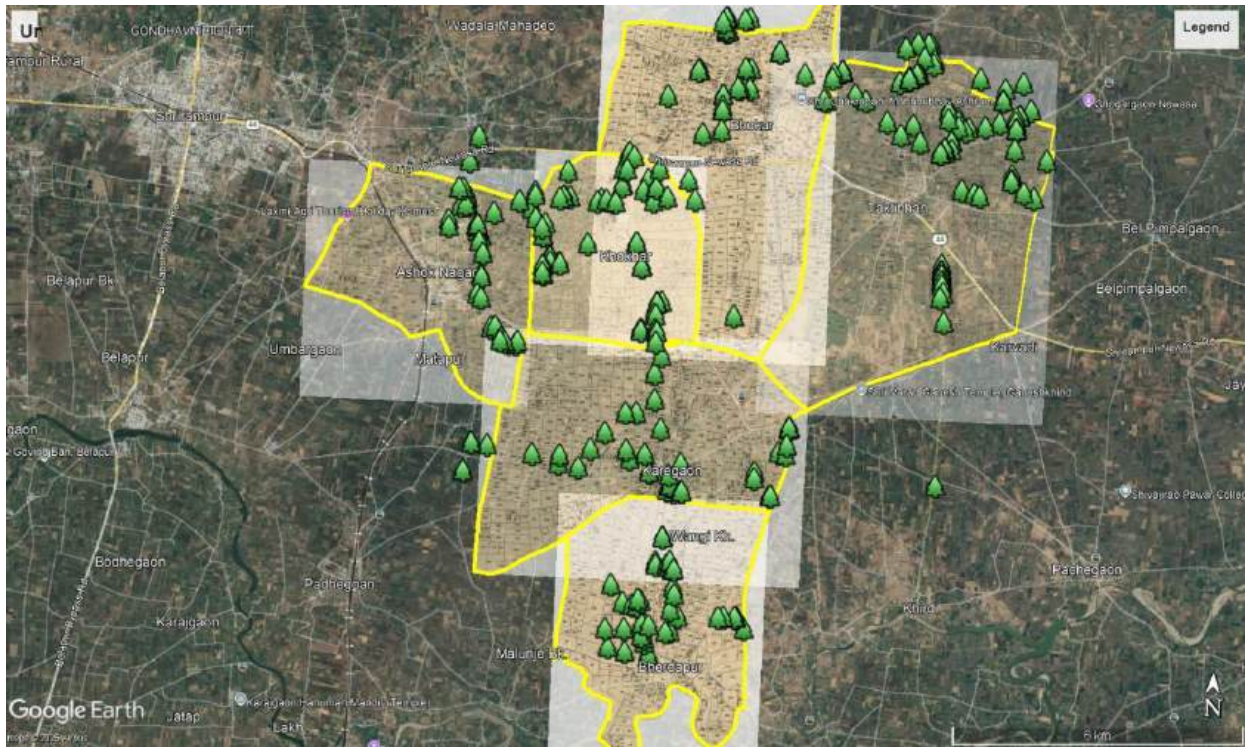


Outline of Bhokar village only



Superimposition of the study data on the six villages

Study data of the biodiversity and land use have been superimposed on the six villages. It was shown how to analyse this individually and collectively, however those details are not being shown here.



Readings being shown mapped on the land ownership data



Map showing how other features can be identified and related to the study data



Pin being used to mark the location of fishermen of Taklibhan

Part II

Linking Geo Spatial studies to an Action Research Agenda



PRELIMINARY TESTING:

Following the exercise undertaken in Ashankur in November 2022, IELA and Ashankur proceeded to test this preliminary hypotheses -

- a. The GPS readings taken during the second training programme were superimposed on Google MapEarth. This helped to confirm the preliminary understanding gathered by Ashankur staff and reflected in the two (hand drawn indicative) maps produced (one on Ashankur campus - see cover page - and the other on Mandve).



Mandve Village map with GPS readings taken during training's

It was clear that the map is only a tool to collectively understand what could already be gathered by field observations. At the next training held from 22nd to 24th February 2023, it was pointed out how digital mapping tools are helpful in indicating the locations of ecological features, plants, animals, important species, landmarks, places of particular reference etc on GoogleEarth and how mapping tools like Geographical Information System (GIS) and Satellite Imagery / Remote Sensing Imagery could help sharpen and speed up the process of research so that live questions could be examined in real time.

b. Issue related to the impact of sugarcane cultivation have been further explored. Of importance now are the following

- Mapping of sugarcane production and segregation of sugarcane production from water logged areas to understand where alternative crops can be suggested.
- Impact of irrigation on the soil (Over-irrigation, salinization / salt crust deposition, aridity, degradation of soil texture and soil quality etc)
- Economics of sugarcane cultivation in relation to the ecosystem impacts being observed.

c. Impact of invasive species on the ecosystem.

- Occurrence, extent and distribution of non-native / invasive species in the region and their invasive pathways (i.e. introduction by human beings / migration and establishment / invasion from other areas through natural/human means)
- The impact of land use changes and intrusion of invasive species that has resulted into negative impacts on production of palatable species, availability of local fodder species, and consequently negative health impacts on livestock and human beings.
- Impact of highly invasive alien fish 'Tilapia' on local water bodies, their fish diversity and other aquatic biodiversity, production of water bodies; associated impacts on livelihoods of local fishermen. The impact has also to be seen on the food plate of fish eating people who are left with no choice of buying any local fish of their delicacy.

d. Issues related to drinking water, study of water supplied from Bhandardara Dam and differential impact on water uses in Ashankur and Mandve.

The Mandve Base line Survey revisited



Village map of Mandve two perspectives

The Socio Economic Survey (Survey format household survey for 256 families was done. Forty four families could not be interviewed as the hamlet was suffering from chickengunia indicating that there were 300 families in the village. The 44 families are located in the bottom right hand corner on the left side of the road running through the centre of the village. The details provided by the participants indicated that this region had a problem with the water quality.

Some details of the village

Population Demographics

Males: 751 Females: 661

Those who have studied beyond class 4 1,175

Uneducated 237

Those who studied beyond class 10 437

Salaried Employment : 75

Castes

NT 135

Open 57

ST 38

SC 11

OBC 16

Occupations

Dairying 161

Labour 58

Other occupations: 37

Total agricultural land of 256 families	578 acres
Average land per household	2.23acres
Irrigated area	99%

Source of water: Well, Borewell, River, canal

Main crops

Sugarcane (families):	81
Cotton	41
Fodder	160
Cattle	
Cow	920
Goat	306
Chickens	4704

Health Care

Private Hospitals (PMT Loni, Kolhar)	99%
Government Hospitals	1%

Drinking Water

Supply every 8 days

Housing

Kaccha	40
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Gas connection	99%
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Disabled	17
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Widows	47
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The Nomadic tribes (NT) are relatively better off living on the bottom right side of the road. The kaccha houses are mostly located in the top right side of the road².

As a result of the presentation of the socioeconomic data, the Ashankur team were divided into two groups and asked to present the information on a map. The two maps shown above highlight different characteristics. While the first has resorted to colour coding to highlight details related to caste and the crops grown, the second tried to highlight the ‘soft’ information elicited during the study, namely where the greenery was located, the pacca and kaccha houses, health issues and its relation to water sources. The first relates more to the current development

² From the survey it can be seen that hitherto Nomadic tribes are now practising settled agriculture with their animals dependant on irrigated crops instead of grazing as earlier

paradigm (schemes available) and ownership patterns which has a patriarchal tint. The second related more to status of communities and the health issues.

Details of a kaccha house of the NT (upper caste) where the children were educated were observed and through them indicated more the internal inquiry based on the house to house survey from a women's perspective. The two put together provided a very good ecological and livelihood perspective on which to develop issues further learning from each other. Of note was the issue related to lack of quality water supply. The better off could afford RO treated drinking water but for the rest, the poor quality of the water was an issue. The water treatment plant in the village supplies eight villages and hence each village gets water once in eight days. The impact of water salinity on the soil and crops is also an area of investigation as also the eating habits considering that very little is grown locally.

From this flashback to the present :

The collaboration between Ashankur and IELA initiated in August 2022, entered a new phase during the latest Participatory action research training programme conducted between 30th November 2024 and 4th December 2024. Based on the feedback on the work done so far it was decided to complete the remaining work related to Biodiversity and Land use mapping in the six villages of Bhokar, Khokar, Berdapur, Nipani Vadgaon/Ashoknagar, Karegaon and Talki Bhan. This would provide the comprehensive approach to base line mapping which had been initiated in Mandve village to start with and extended to capture the approach of Ashankur to ecology and livelihood and its relevance to the women groups they were working with. While the land use mapping covered the main crops grown in the region namely Sugar Cane, Jowar, Bajra, Cotton, Onion, Ginger, Haldi, Ginni grass and vegetables like Brinjal, the biodiversity mapping tried to understand the distribution, spread and ecosystem specifics of medicinal and nutritional plants on the field boundaries along with the threat from invasive species. This time special focus was given to the grass biodiversity of the region and how this was being affected by invasive plants. In addition the need to observe the development and destruction of multi storied ecosystems was also highlighted. During the field work in the six villages, reports of leopards hiding in the sugar cane fields and attacking the dogs indicated their widespread presence in the region. Following the field work, Ashankur began putting down the details of the biodiversity and land use mapped with the help of Note Cam in an excel sheet for easy reference and transfer onto the google map for further analysis. Ashankur staff were also exposed to how to use the Census data to get secondary information on the village which will be useful to develop programmes related to Health, Nutrition, Education and livelihoods when combined with the baseline data on land use and biodiversity. The relevance of this programme for the drylands of the Deccan and how this could be developed into an ecosystem approach by placing it with the river system and wetlands in the region. Ashankur has also been actively working with the fisher communities and celebrated World Wetland Day with these communities earlier during the year.

Part III

Bhokar Gaothan Plan



Bhokar Gaothan Plan

To understand what it takes to develop a model plan, it was decided to start with Bhokar Gaothan where Ashankur had its base for the following reasons.

- a. The woman sarpanch influenced by Ashankur had already initiated a programme in the school and an attempt at promoting ecological development in the village. A concerted initiative by Ashankur would help to keep up the momentum.
- b. The children of the school had taken a keen interest in the ecological exposure they got at Bhokar campus, their attendance at the programme was greatly facilitated by the women of the SHGs who saw the significance of environment/ science education for their children.
- c. Some of the Ashankur staff were from the village and understood the psyche of the community well, so would be able to steer the programme in the appropriate direction due to their exposure.

To start with the team prepared a model template on the information to be collected for the base line. When this was discussed, it was suggested that they focus on the following

- Ashankur perspective to model village development centred around, women, marginalised communities and children. This would help to initiate a programme in the short run as it would be based on the preparations/ discussions that had already been taken up.
- Given that Ashankur celebrates Women's day every year, the plan prepared could be unfolded as part of the preparations for women's day.

The following components have been incorporated into the plan to start with

- a. The need to uproot invasive species from Bhokar tank and plant medicinal and other useful species on the river banks. This would make the tank a healthier place and also aid in beautification of the region. There are some migratory birds that come to the tank in winter season. This in addition to local birds of the region. The resultant interface of wetland and terrestrial habitats would help create other interlinkages as well. This would require involvement of the Panchayat and women from the SHGs of Bhokar.
- b. Promotion of medicinal and other useful species in the Gaothan along with the uprooting of invasive species from the road sides and other locations. Involvement of the school children in this programme is expected. The programme would address health issues, environment aesthetics and facilitate greater involvement and interest of the community in the programme.
- c. Ecological planning for the tank which would include improvement of fish quality and diversity, possibility of cultivation of lotus plants which would help control mosquitoes and provide limited employment as well. Since the pond is small it has been recommended not to go for commercial exploitation of fish, rather use them to attract birds to the region.

d. Development of nursery of 4000 plants at Ashankur for income generation and plantation of medicinal and nutritional plants. Promotion of honey collection based on the fact that plantation of host plants of the honey bee have restored their presence in Ashankur Campus.

e. Creation of awareness among the children of the remedial classes in Bhokar about the biodiversity in their region and in particular about medicinal and other useful plants and the impact of invasive species as well.

f. Since the initial planning involves the Gaathan (village habitation), it will provide a road map to engage with urban habitats as well. A suggested programme is to involve college students and urban communities in the plan that unfolds in Bhokar in some way. Ashankur has links with communities in Srirampur town and womens groups and children in other regions as well so the sharing process during women's day may unfold other possibilities as well.

One strong possibility is the potential to study Man animal conflict and its specific manifestation in the presence of leopards in the sugar cane fields. The comprehensive study of the biodiversity of the six villages indicate that the habitat includes ginny grass and maize fields as well, basically the presence of tall grass and dense vegetation that can hide its presence. Given awareness it is possible to mark spots where recent attacks by the leopard have been made. There was one attack on a human being driving a motor cycle. The leopard ran off due to this vehicle being followed by another close by. Other attacks have mainly been on dogs. Ashankur does not tie its cows as this would make the calves easy prey for the leopard.

The analysis of the biodiversity data is still continuing. This will indicate the following

a. Mapping the spread of invasive species and immediate action points. At the local level this is generally known so some activity can be initiated without the map as well.

b. Providing a perspective of the spread of medicinal and other useful plants and what needs to be done to ensure their conservation spread and survival.

c. The Biodiversity list includes rare, endangered and threatened species as well. Their locations are in the process of being highlighted so that a road map for their conservation and preservation can take place.

The above also indicates the potential to create a biodiversity register for the six villages and facilitate them to create Village Biodiversity Protection Committees.

How the programme will unfold will depend on the nature of participatory interaction with the village communities in the seven villages (including Mandve) over the next six months.

Monitoring indicators for each activity/ thematic area will be defined as the base line data and engagement with the communities are consolidated.

Part IV

Mandve



Sunset at Mandve

Following the survey outlined above, the following activities have been done in Mandve

- a. Creation of three SHG groups in the village.
- b. Opening of a remedial class for 20 children.
- c. Health camps

Action plan for 2025

Training For Self Help Group on

- ◆ Ayurvedic Nursery Training
- ◆ Camps on harmful effects on invasive plants and trees
- ◆ Encouragement for planting ayurvedic plants
- ◆ Entrepreneurship Training Such As Onion, Tomato, Ginger Haldi, Mirch Powder On Government Subsidy
- ◆ Involving the gram panchayat for awareness program harmful effects on invasive plants and trees
- ◆ Trainings for kitchen garden
- ◆ Camps on Healthy support food – drum stick power, Giloy, kurry leaves, Amla powder, trifala etc.

Action plan for the remedial classes

CREATE MORE REMEDIAL CLASSES TO SUPPORT THE WEAK CHILDREN

- ◆ Make them aware of harmful effects on invasive plants and trees
- ◆ Encouragement for planting the ayurvedic plants more
- ◆ Make flexes of harmful invasive plants and healthy & beneficial plants and keep them in the classrooms
- ◆ Educational trip
- ◆ Arrange Competitions on the above topics
- ◆ Include the above subjects for exhibitions.

Action plan for youth

First of all , Survey for youth literacy rate.

- ◆ Camp for Career Guidance
- ◆ Link with other institute like Loyola technical School, Pratham etc.
- ◆ Encouragements for Short term training for girls in Ashankur tailoring, beauty Parlour computer etc.
- ◆ Camps on Healthy support food – drum stick power, Giloy, kurry leaves, Amla powder, trifala etc.
- ◆ Make them aware of harmful effects on invasive plants and trees
- ◆ Encouragement for planting the ayurvedic plants more

On the points 2 & 3 it has been suggested that the programme programme for conservation, promotion and in situ value addition of the biodiversity would help to design machines that could be used locally by the community for the purpose. Village communities can be exposed to such initiatives elsewhere after they have a grip on the potential that their own resources (natural resources, manpower and other local resources and government programme) so that exposure helps them translate their observations into doable programmes in the village.

Chapter V

**Open: Based on what emerges by the time of
Women's day**