



21.5 acres sloping site along a river

Organic farming has caught up with the new age health conscious city dwellers very quickly. However practicing organic farming alone is not often an economically sustainable model. Moreover if the site is in the Western ghats, an ecologically important area, it becomes morally and economically challenging. This project attempted to bridge the gap between ecology and farming, while trying to retain the ethos of the place.

The site lies in the Khopoli region of the Western ghats, adjacent to a river, in the quiet village of Parali. Parts of the land parcel were traditionally cultivated for rice and the clients purchased several bits and pieces from various land owners to form around 21.5 acres (8.7 hectares) for farming.

During the initial phase of the project, clients and I both had plenty of aspirations for the site, but were differently oriented. Clients are professionals in the software field from Mumbai, and had plans to make retirement/ holiday homes on the land along with hi-tech farming, equipped with remote cameras, solar power etc. I was then reading 'One straw revolution' by Masanobu Fukuoka and was convinced that the traditional farming methods cause harm to the ecosystem. On the first visit to the site I was thrilled to see huge, full grown native varieties of trees all over the site; naturally I thought the spaces to evolve around these trees. But clients were of the opinion that without the trees we could get a better view of the river. In short, I felt that whatever is best for the ecology of that region needs to be done on the site whereas clients, wished to employ the best modern technology based farming practices prevalent in the world. We agreed to do an ecological survey of the site, as some of the flora was difficult to identify. The survey revealed a healthy number of resident endemic fauna and a wide variety of flora.



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RESULTS OF THE ECOLOGICAL SURVEY
The survey revealed quite a few resident endemic fauna and a wide variety of flora which included 10 frog and toad varieties of which 3 are endemic and 1 in the IUCN redlist, 7 varieties of reptiles including 3 snake varieties, 2 geckos, skink variety and garden lizards, 37 varieties of birds of which 4 were endemic and 2 that are indicators of healthy eco-systems, 19 varieties of butterflies of which 1 was uncommon and 1 is a schedule II protected species, in addition to 110 varieties of plant species.

The master plan evolved after the overlaying of the slope analysis, ecological survey and the thought of generating extra income to compensate for doing organic farming and not cutting down trees to increase the farming area. We began with doing a live fence for the entire land. There was a patch of almost 7 acres, which had a dense dry deciduous type tree cover with nesting of rare bird species; this patch was retained as forest. We randomly planted more native trees in this area which have commercial value due to medicinal properties. Rice farming was earlier done in the natural stream which meets the river. This area was designed as a lake for fish breeding and for rain water storage. Native trees have been planted on the bank of the lake with the objective to attract water birds for nesting. A traditional well was also dug to supply water to the farms. With the help of an organic agriculture consultant, soil quality of the site was improved; no soil was brought from outside of the site. The rammed earth road was carved out to retain big trees and to maintain gradient.



Lake excavated over 1.5 acres and rain water collected. Soil being very fine, pond liner was not used. Stages of the lake over 3 years are shown in the pictures.



Organic vegetable farming and rice farming, with existing vegetation form a different ecosystem. This mix of plants gets plenty of pollinators for the farm.



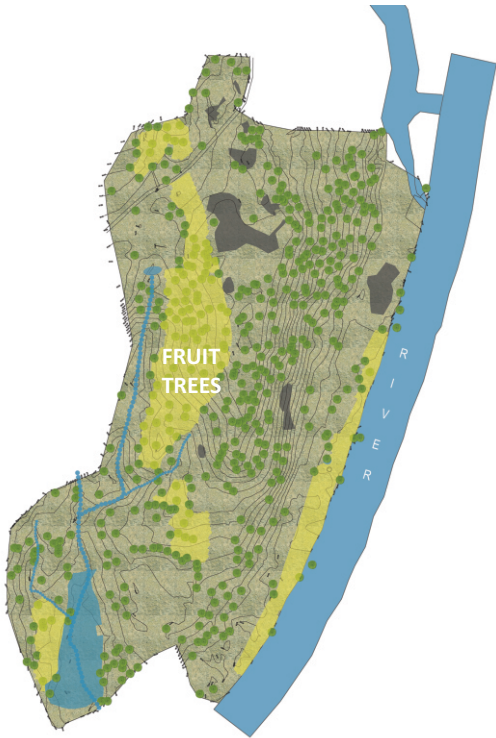
The area with plenty of big trees, dense undergrowth and nesting sites of birds was reserved as a forest. It was reinforced with random native tree planting. The dug out lake supports a healthy pisciculture.



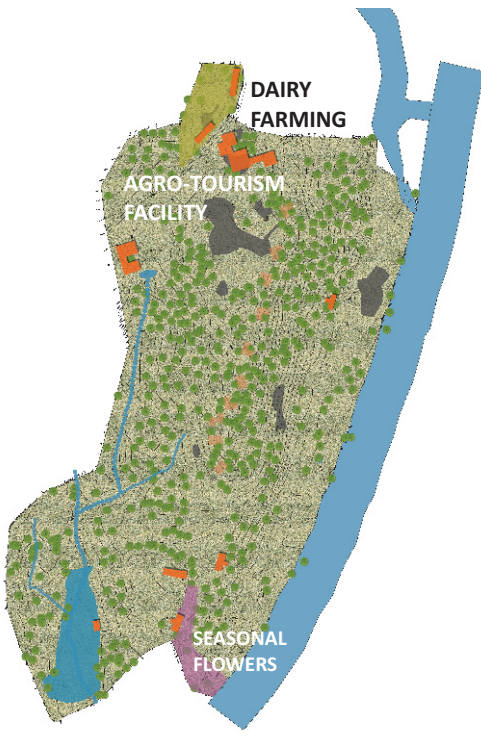
Additional farming areas were carved out after finding suitable flat areas from the slope analysis.



Native plants like Soap nut, Soap pod, Indian gooseberry, Beheda, Hirda having economical value in 'ayurveda' planted in between existing trees



Fruit trees like banana, papaya, coconut, areca nuts plants on moderate slopes



Seasonal flowers like marigold, spider lily grown for the local market. Milk produce from dairy farm supporting local cow breeds, is supplied to Mumbai daily. Farm stay activity for urban dwellers from Mumbai



Field trips for school children, designed for experiencing farm life. Various trails have been designed for them to understand different ecosystems and habitats.

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In the second monsoon, during the project, there was an incident which was an eye opener for all of us. Rain water had collected in the lake for 2 seasons and clients had introduced fish hatchlings in the lake from the local government commercial fish breeding institute. Being close to the river, several streams join the river. The season is also the breeding season of the checkered keel back snakes, very common in that region. Several new born snakes were seen around the lake. From the fear that these snakes would eat the fish, a villager was employed by the local overseer to kill these snakes. When the misunderstood snake and its importance to the ecosystem were explained to everyone, there was plenty of remorse and the activity was stopped immediately. The same day we saw a nearly 3m long python, a very rare sighting, barely 50m away from the lake. This reinforced the need to conserve and then enhance what we had. Clients themselves took courses in organic farming and during a site visit showed me what good earth smells like. It has been a learning curve for all of us involved.



Activities during the school trips

Organic farming yields less than traditional farming and hence is not very profitable. To support this deficit and unreliability, other avenues have been explored. Plantation of coconut, areca nut, banana, mango etc has been done. In addition to organic rice farming, vegetable farming is done based on seasons. Medicinal plants used in *ayurvedic* medicines have been planted. Honey bee farming activity got introduced for natural pollination and for honey. Cattle shed, is helping make manure other than the dairy farming. All the farm remains are turned to vermi-compost. Commercial fishing, star gazing and adventure sports have been fairly lucrative yet different activities. Trails were designed for tourists/ school children from Mumbai as educational tours to introduce various ecosystems to them. Hands on activities for visitors like basket weaving, planting paddy, have added to the charm of the place.

TEAM

Client: FORGANICS,

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Architecture: GABHA Architects,

Landscape Architecture: SPARROW

Landscape initiative

Agriculture consultant: Mr Sujit Chakraborty

Photo credits: Mr. Sanjay Agarwal

