Agriculture and Allied Activities

In this sector of our activities, our emphasis is three-fold. First, we have to carry out experiments-and since we do not have land of our own, we shall have to persuade farmers to use part of their land to show ways of farming without using chemicals, diesel etc., as these are pollutants, non-renewable, and ecologically harmful. Second, we have to search for new crops which can benefit the poorest or lead to processing industries. Third, we have to exploit all unutilised resources.

We sent a person to Pondicherry for attend a short training course in bio-agriculture and on return he took the lead with alternative methods for growing food as detailed in the following table

Crop	Village of experiment	Total No.of plots	Results
Potato	Andharmanik, Bargharia; Jangalput	Three	Uneven
Wheat	Bargharia	One	Good
Coriander	Bargharia, Fatullyapur	Two	Did not work
Pea	Andharmanik	One	Good

The principal departures from conventional farming were as follows.

i) No chemical fertilizers or pesticides were used at all
ii) The plot: were divided into areas of 10 x 10 ft. (3 metres square)
iii) A drain roughly 8-inch wide and 3-inch deep was dug around each such division
iv) There was no ploughing or tilling
v) The seeds were kept above the soil, instead of being inserted under it
vi) The plots were covered with decomposed hay (mulch) 6 inch thick
vii) Irrigation was via the drain
viii) In the case of wheat, peas were planted next to the drains

We learnt a great deal from these first experiments and would suitably modify our methods the next time.

In our area subsoil water is found at a depth of 20-40 feet and so, expect in areas where water is lifted from ponds or rivers, the fields are with 3-5 H.P. diesel pumps, each costing about Rs. 6000. The operating costs are currently Rs. 12 an hour, though this varies widely place-to-place depending on various factors. Following the oil crunch that came with the Gulf War, supply of diesel was erratic and sold at.a big premium, sharply escalating the costs of

irrigation.

It is now clear that total dependence on anything that involves the use of fossil fuel is no longer feasible and there must be alternative method of mechanical irrigation. We have obtained two pumps, one operated by feet and the other manually. Each costs about Rs. 1000/- and works at about half the rate of efficiency of the diesel pumps. With our usual surplus labour that may not be a major handicap when we consider that the initial investment is 1/6th that of a diesel pump and that no fossil fuel is required. We took the pumps from village to village to show farmers these alternatives to the “shallow”. The treadle pump was much more effective and popular than the rower pump though the latter was easier to operate.

Villages where demonstrations were carried out	**No. of users**
Bargharia	Seven
Tipi	Five
Durgapur	Six
Gopalpur	Two

There are are small ponds in every village which are not used for fish breeding or for any other productive purpose. We brought over experts from the Central Government’s fishery research institute at Barrackpore to demonstrate how “magur” (sheatfish) and “shingi” can be-grown in these ponds. We tried it outrin 11 such ponds in two villages.

Village	**No. of ponds**	**Size of pond**	**Entrepreneurs**
Durgapur	Five	Each of 3 to 4 cotahs	Four individuals and one women’s cooperative
Bargharia	Six	From one to 12 cottahs	All individuals

The results however were disappointing as hardly any fish was finally obtained. There were two main reasons for this; first, the spawn was released rather late, almost at the onset of winter while fish grow best, in the hot weather, and, second, the ponds dried up a little too early this year. Over the second we cannot have total control but, funds permitting and if an early session with the Barrackpore experts is possible, we should prepare the ponds and release the spawn by the end of July.

Mushrooms can be grown by village women from landless families as a supplement to their

income. There is a growing market for mushrooms in the urban areas and although it is a new food, the villagers have also liked its taste, so widespread consumption could mean an addition to their low protein intake. We sent a person to receive training in mushroom cultivation and he worked in two villages -Andharmanik and Bargharia. The spores, bought on all occasions from the same source, proved to be of uneven quality, and thus the crops, too, were not uniformly good. As we find a better supply of spores this will be rectified.

With population pressure, (1050 per sq. km: according to-the 1991 census) four times the national average and intensive cultivation because of good soil and easy availability of water, there is no fallow land in our area. The roadsides in most places are used up.But the more land gets divided, the more we have of raised boundaries cum paths, called-"Aal". At some places there are date palm trees on these Aals but there is an immense possibility of covering them with leguminous trees which are nitrogen fixing, and, apart from that, whose leaves will be regularly added to the flelds as green mulch. The timber obtained will be a bonus. With this in view we have prepared a nusery at Bagharia, the products of which we hope to plant next year in that village. The nursery has 5000 "Subabul" and 2300 "Supari" saplings. The teak seed, did not germinate.

The "Kul", a kind of berry tree, can be upgraded so that its fruit is no longer usually sour but generally sweet, by the technique of budding. We tried out the exercise in four villages.

Name of villages	Fatullyapur	Sarfarayjpur	Durgapur	Punra
No. of upgraded trees	32	10	5	3

Ecological Awareness Action

Many of our villages have the Ichhamati flowing by them and naturally the livelihood of people there is intimately linked with the quality and quantity of the river water. Both are causing great concern. Rapid deforestation has led to widespread erosion of the riverbanks leading, among other things, to siltation. The excessive use of pesticides on cropland on its banks has meant pollution and fish has dwindled to a level where the fisherman's families cannot survive on- the catch. Our work is two-fold here. First, we have carried out an awareness campaign among the villagers about the threatened ecology, and we are in regular touch with the fishermen. Second, we have met scientists at both Calcutta University and Bidhan Chandra Agricultural University on this issue. This year we propose to take some appropriate remedial measures, like planting some special types of grass and mangrove species on the banks which will stabilize the soil and provide fuel, too.