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## Agriculture

This year's report on our work in agriculture is going to be different from the preceding years' in that we shall not give details and figures of individual activities. Our work is restricted to a small number and percentage of farmers even in the few villages where we work, and these figures will thus mean nothing to the reader who is used to thinking in macro terms, as most Indians are. The box item below sets out our basic ideas and suffice it to say we are proceeding slowly, but methodically and steadily, towards tackling all the problems raised in them and in it.

We continue to be part of a State-level sustainable agriculture network and our work is overseen by some of the best people in the field here. As a founder-member of the network we play an important part in the formulation of its strategies and in seeing that implementation is informed and intelligent. The network constantly reviews its strategies and working goals in the light of experience on the field while not losing sight of or altering the larger perspective. In the initial years, our emphasis was on spreading sustainable agriculture techniques and crops as widely as possible through various trainings and campaigns. This resulted in the introduction of some appropriate crops and in a large number of farmers using more and more bio inputs as soil nutrients and for pest and weed control. This was good, but not good enough. On review we found this approach had four principal drawbacks.

First, in the absence of thorough village-level agro-ecological surveys and analyses, the emphasis on various new ideas being introduced was getting too standardised, and not specific to the problem. We were losing sight of the trees in looking for the wood.

Second, farmers were adopting techniques, or at least a-number of them, but they were doing this piecemeal. Nobody was taking his total farm system towards sustainability through long-term involvement. Some grew one crop on a small plot, some used bio fertilisers for maybe one crop but not another, and we were not getting the total picture.

Third, interventions were not being viewed as trials. So neither the initial conditions of individual farms nor the results of the interventions were being either observed in detail or documented meticulously. This meant proper learning was not taking place.

Fourth, there was no organised sharing of experiences and skills directly between farmers. Everything passed through us and this was not what we wanted. So we organised farmers' clubs whose members would adopt, if only in part of their holding, our full systems trial for a full

year and not just a season and the experiments would be very carefully documented.

This has posed a few problems for many of our workers, for the change from being a model farmer to an effective communicator, a sort of technical consultant, cannot be easy, but most have adapted after an uncertain start. Monitoring the work of farmers, keeping detailed record of what precisely is done and exactly when, does not also come easily to people used to working with their hands and keeping data in their head. Our workers form these clubs in their own and neighbouring villages, provide farmers with detailed information on what has been experimented with elsewhere and with what results, and supply all relevant information to any innovative farmer who is willing to experiment and directly or indirectly spread information about sustainable agriculture systems. Interaction with these farmers, individually or through the forum of the clubs, is constant and these regular meetings are the focal points for innovation and dissemination.

The agricultural year in our area has three broad divisions: Rabi, pre-Kharif, and Kharif. One-to-one discussions, short sessions with a few, a half-day or a full-day study circle in the periods when the field does not need much looking after, meetings with outside resource persons, with innovative farmers from outside - these are routine for our workers. It is heartening that the Government has at long last woken up to the problems and the various agriculture officials in our area are glad to give us help. These meetings with farmers cover almost all the aspects of sustainable agriculture and results vary from village to village, from crop to crop from one year's drought to another's over-kind monsoon.

The following table gives details of our work in certain areas, randomly chosen here.

Subject	Techniques	No. of farmers	Total land used acres
Soil and nutrition	i) Manche	50	25
	ii) Compost	168	84
	iii) Azotabacter	64	19
	iv) Azolla	61	18
New crops	i) Sabita paddy	19	3
	ii) Deep water paddy	20	9
	iii) Arhar pulses	10	Shoulders of land
	iv) Aman long beans(barbati)	17	1 acre
Seed treatment	i) Saline water use	108	63 acres
	ii) Cow urine use	30	12.5

Seed propagation	i) Grafting kul trees	10	13 trees
	ii) Lime trees	10	28
	iii) Jamrul	4	7
Bio pesticides	i)Neem leaves and fruits	107	33 acres
	ii) Lime and mulberry	30	8
	iii) Integrated pest mngt	100	66 "
	iv) Neem oil cake	21	4 "
	v) Tobacco leaves	3	1 "
	vi) Garlic+ soap + kerosene	73	16 "

In the matter of irrigation we would like to see less wastage of ground water and less use of electricity and so have agreed to help an NGO making pedal pumps by demonstrating its use and capacity to draw surface water. Between August and February 76 demonstrations were given to over 2700 farmers and 12 pumps were sold.

To enable them to perform effectively our agriculture workers have to be trained thoroughly and kept up to date. Apart from the regular monthly meetings and monthly workshops, trainings on various subjects and of various durations were arranged at various places for them. Some also visited other districts to see work there. On their part they carried the message of sustainable agriculture to the general people through stalls at village fairs, through talking at schools, and used our theatre and puppetry troupes extensively.

Without an exact idea of our resources we can never plan for development. So extensive surveys were made of all sorts of things. In 15 villages we collected detailed and house-to-house information on the following: use of fertilizer; use of pesticide; fruit trees; trees for timber or other use, not food; agriculture costs and income; crop pattern; general status of the village; crop rotation; land use. In the case of those villagers who belong to our farmers' groups we recorded more detailed information about their personal land holdings. At Punra, every household was surveyed for all kinds of trees and we discussed with every family what they could do with what they had and what changes they would like.

All this close interaction with producers on the land and the means of production and the produce raises many questions as we go on. What will happen if use of chemical inputs is totally stopped right now? Should we make their total elimination our goal? Are we convinced that in such an event land can, with time, be equally productive through non-chemical means?

If we are, then what time-frame should we have in mind?- Can more food be grown by using present water resources more efficiently? Should we lean towards crops that are more efficient in respect of water usage? Can we ever hope to gain much if we do not address the problem of changing the people's food habits? How can we press for bio-regional decentralized planning? Low input does not necessarily have to mean a decline in production but cash income may fall, and would a change of human culture make it more responsive to eco-farming? Even if we do not wish to or are unable to get rid of the market, must we so easily succumb to its pressures, and allow the overwhelming majority of our vast population to be manipulated by its impersonal biddings?

#### KITCHEN GARDEN

No matter what its inadequacies are, the name kitchen garden has stuck and so we use this to describe the plots of vegetable to provide year-round non-toxic nutrition to the poorest of households, with a few herbs grown there for the commonest of diseases. This programme is run by women and through women as they are the ones to cater to the family's needs for food and we try to show them how the tiniest of vacant land near or next to the homestead, if not a part of it, can be used to provide some vegetable throughout the year. This will be grown without the slightest use of chemicals. Along with this we encourage women to learn about medicinal herbs so that minor illnesses can be managed at home without expensive and often unnecessary medical intervention.

This year we have helped set up 312 kitchen gardens in 10 villages, not all of equal productivity but none that does not meet some need of the household that runs it. This is more or less a routine continuation of our last year's work, but this year we also decided to have one or two model gardens in every village where we have a worker. This is a place for experiments and we want also to see if more women do not come forward to join the programme on seeing the continuous utility of such a garden. Our worker also gets a place of her own where she can use and test her skills and ideas before passing them on to others. There were 12 such gardens this year.

There is constant interaction between our workers and women in the village and the agenda in such meetings is not always restricted to kitchen gardens or herbs, though they are obviously always discussed. We would like these meetings to encourage the participants to understand more of the problems that keep them in so poor a condition of body and mind and to search, along with us and in ways we think might help, for better options. This explains the variety of

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subjects on which we conducted surveys in some villages. The table shows how many households were covered in each village.

Village	Fruit trees	Garden calendar	Resources	Illnesses
Kolsur	36	25	2	25
Rudrapur	10	10	2	15
Andharmanik	20	20	2	18
Beliyakhali	16	16	3	18
Gokulpur	20	20	1	21
Bajitpur	34	24	2	25
Punra	41	9	1	x
Uttar Media	40	10	2	10
Fatullyapur	22	x	x	x

These data give us a better idea of which vegetable or herb to plant when for a particular household.

Apart from our monthly meetings of workers, and the monthly workshops for them this year we arranged a 3-day training camp. Our workers in their turn ran 10 awareness camps in various villages and altogether 234 women attended these. There were 131 study circles with 1508 participants. The following techniques of sustainable agriculture were followed in the number of gardens noted against them after the woman of the household had been trained in the technique and convinced of its need in one of these camps or meetings.

1. Special types of compost - 30
2. Usual compost - almost every garden
3. Liquid tea(a home made fertiliser) - 50
4. Neem leaf powder - 130
5. Organic pesticide - 75
6. Use of water hyacinth - 55
7. Use of mud from a pond bed - 55
8. Vegetable beds - 70

Our efforts to revive the use of medicinal herbs have been welcomed widely. It is a pity that some herbs have totally disappeared from our area of work, where they must once have been common. Along with the herbs themselves, knowledge of which to use for and in what and of their methods of application has also disappeared but this can be brought back and we are trying hard to persuade people to use home remedies for ordinary problems. Many are using herbs on their own, often grown in their kitchen gardens, and so an exact figure is impossible to

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give of how many used herbs for what, but 434 persons consulted our workers - 23 of whom were specially trained in this in 6 villages - for help and most found relief. In our schools, we are checking the medical history of the children and asking them to take herbs as preventives. Mainly these are Neem- tablets, Kalmegh, Tulsi, and Thankuni.

Village of school	Children treated	No. of doses
Andharmanik	50	393
Rudrapur	50	243
Bajitpur	38	175
Bhojpara	50	225
Fatullyapur	90	450
Uttar Media	50	600
Beliyakhali	60	782

The herbs we have managed to grow in the villages and the expertise of our herbal "practitioners" have been most effective in curing the common cold, dysentery, indigestion, skin diseases, headache, burns, leucorrhoea, liver problems, insect bites, tooth ache, and diabetes. This year 77 households in 6 villages grew mushrooms but production was not too good because the winter was far too mild and we also had problems with the spawn.

The main work of this section is to provide opportunities for cultural development to students in our schools and also to other children of the area and to involve youth in our activities. This latter is now taking roots in our Kishore Kishori Bahini and will be dealt with separately. In the matter of culture, and for us this is an all-embracing term for all extra-curricular activities that we hope will develop a healthy sense of values in the mind of the child. The children in our three primary and 15 pre-primary schools are those with whom we work the closest but our efforts generally are to involve all other children too, as and when possible. Time and money are the two main reasons why we cannot cover all children in a village, and not because we wish to give any special priority to our students. We are gratified to see that in quite a few villages other schools are learning some of the things we do with our children and then following these. This year we taught Bratachari, song and dance, games and sports, yoga etc. to more than 1500 children. They learnt 20 Bratachari items, 21 asanas, 25 short games, 25 songs, 29 action recitations, 11 folk dances from other areas of India, 10 short plays, and two puppetry items.

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Spontaneous participation is our main goal, not artistic excellence, but of course we are happy when there is recognition of the crowd-pulling and -pleasing quality of our performances. In the four blocks where we work - Baduria, Swarupnagar, Deganga, and Basirhat II - different organisations, schools, Government offices, etc. have invited us to perform and on altogether 42 Such occasions between 32000 and 36000 persons must have watched our children give of their best. We usually perform free but some time the organisers insist on paying some token honorarium, and often they pay for our travel expenses from which we manage to save something. The money thus collected we spent this year in buying some costumes for our folk dance numbers. This has added more colour to our shows, and in any case borrowed plumes, as we previously had to give to the children, are best avoided.

Every village trains and usually performs separately but there are central teams also which draw on participants from more than one village and so some track has to be kept of what is happening where. Thus the trainers made four group visits to individual villages and met 11 times in the year for a day's refresher training for themselves. A team from Sreema Mahila Samity in Nadia spent five days with us to teach us folk dance items from other parts of India. One of our workers attended a 10-day training camp organised by Vikramshila on various educative games for children.

Our adult theatre troupe this year incorporated certain changes in the play on sustainable agriculture following suggestions from the audience after some performances. A particularly happy moment was when, after a performance of this play at a function organised by the Government's agriculture department, a senior official told the invited audience of farmers that they had now learnt more effectively about the agenda of the conference than all the speakers could hope to tell them.

Nine special days were observed in all 15 villages through various programmes. The birth anniversaries of Rabindranath and Nazrul are celebrated together and putting bleaching powder into tube wells was part of this day's programme, in addition to the cultural components. Gandhi's I birthday was remembered with cleaning campaigns. Independence Day saw distribution and planting of plants and saplings, and Jagadish Chandra Bose's birthday was observed by checking how the previously planted trees were doing. Among the other special days were Children's Day and Raksha Bandhan. We recorded 16436 children as participating in these days.

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Until last year we held our annual sports in 4 separate zones. This year we divided our 15 villages into 5 areas and held a sports meet in each on a different date. Participation, not competition, was our goal and so all the children who came and took part went home with some prize. The fun was not restricted to the children; their parents, particularly mothers, women from the self-help groups and the kitchen gardeners - all came, raced and laughed. Altogether 2006 children took part in the sports, but there were a great many left behind in the more distant villages. Our resources just did not permit us to bring them all and/or to give them prizes.