

# 13.

## **Nayakrishi Andolon: A community-based system of organic farming**

### **1. GENERAL INFORMATION**

#### *1.1 Title & practice or experience*

Nayakrishi Andolon: A community-based system of organic farming in Bangladesh

#### *1.2 Category of practice/experience and brief description*

In Bangladesh, community-based organic farming started from the realisation of the harmful effects of so-called modern agriculture. Modern agriculture, introduced in the mid-sixties as a package of chemical fertilisers, pesticides, high yielding variety (HYV) seeds and irrigation water, started showing a tremendous decline in the yield of the crop and led to an enormous increase in the need for application of inputs, especially fertilisers and pesticides. Groundwater was no longer as available as it used to be. The livestock, fish and poultry populations were diminishing. Exotic varieties were being introduced gradually. Many poor farmers were forced to sell land and other productive assets, and to shift from farming to non-farming occupations.

It was amid such a background that some farmers gathered together to seek an alternative – not just an alternative method of farming, but community-based work which is organic in nature. They named it Nayakrishi Andolon. The rationale for such a name was to indicate that this method is not “old” in a backward sense; it is a newer method, which incorporates traditional knowledge and wisdom and appropriates newer ideas and “scientific” innovations if they are suitable for the farmers as well as for the environment. Through a great deal of interaction and sharing among the farmers, both men and women, they have developed a philosophical base to productively relate with Nature and seek happiness in life. The farmers also call it an Andolon – a movement – because they feel a change in the mindset of the people with regard to crop production and distribution is needed. The work must be done collectively,

for which they need to mobilise the farmers. It is, therefore, essentially an *andolon* or movement of the farmers to produce healthy food, a healthy environment and a happy life. In its simplest expression, it is an act of *ananda*, a happy way to relate with Nature and enjoy life.

In essence, Nayakrishi Andolon developed as a response against the overwhelming practice of chemical agriculture and the erosion of community power in the face of encroaching centralising forces beyond the control of the farmers. It is a practical response of the farmers against environmental destruction, the economic, social and political processes of dispossession and disempowerment, privatization and the consequent erosion of the common property, loss of seed and genetic resources, and, above all, the increasing perception of insecurity of food and productive resources.

More than 25,000 farmers so far have been organised in the four districts of Tangail, Pabna, Cox's Bazar and Noakhali. Farmers from other districts are contacting UBINIG (Policy Research for Development Alternatives, a non-governmental organisation (NGO) which, in the early nineties, carried out extensive research on the effects of modern agriculture and what could be done about it) as well as the farmers practising Nayakrishi for more information and training.

### *1.3 Name of person or institution responsible for the practice or experience*

The farmers of Nayakrishi Andolon and **UBINIG**

### *1.4 Name and position of key or relevant persons or officials involved*

Farhad Mazhar, Farida Akhter, Jahangir Alam Jony, Shamsun Nahar, Rafiqul Haque Titu, Parveen Akhter, Kazi Rakib Uddind, Mizanur Rahman, Ashraf Uddin, Golam Rabbi Badal

### *1.5 Details of institution*

UBINIG

- (a) Address: 5/3 Barabo Mahanpur, Ring Road, Shaymoli, Dhaka 1207, Bangladesh
- (b) Telephone: ++ (880) (2) 811 465, 816 420
- (c) Fax: ++ (880) (2) 813 065
- (d) E-Mail: ubinig@citechco.net

*1.6 Name of person and/or institution conducting the research*

UBINIG

*1.7 Details of research person/institution*

As in 1.5 above.

**2. THE PROBLEM OR SITUATION BEING ADDRESSED BY THE PRACTICE/INNOVATIVE EXPERIENCE**

Tangail is one of the flood-plain zones. Every year, there is overflow of river water to the paddy land, which the farmers consider a source of alluvium to the soil. However, the flood of 1988 was quite disastrous. It lasted for over two weeks and caused damage to houses, crops in the field, livestock, etc. The farmers were badly affected. They approached UBINIG for some support.

Though UBINIG had been planning to start working with the farmers, the post-flood situation became an important reason to be directly involved with the farmers in Tangail. The farmers asked for help to be able to cultivate the next crop. The flood occurred in the month of September 1988. The standing crop of Aman was damaged. The seeds for the winter crops were lost. Farmers were not able to harvest the crop, and the cultivation of the new crop was uncertain. UBINIG's involvement with the farmers to solve an immediate problem led it deeper into the issue of the crisis of modern agriculture.

In working with the farmers, UBINIG came to know that it was not only the flood which posed a great problem for the farmers, but also the practice of so-called modern agriculture, which had created a crisis. To get a more comprehensive understanding of how farmers perceive chemical-based agriculture, UBINIG undertook a study in 1989-90. Through discussions with farmers individually and in groups, a wealth of information was collected. This comprised primarily the perceptions of the farmers through their experience with modern agriculture.

The first three important points raised by the farmers were the following:

- (a) The fertility of the soil was clearly declining.
- (b) The land was not as fertile as it used to be before. More and more fertilizer was required every year. It did not yield the same level of crop yield.
- (c) The health situation was worsening. The nutrition level was lower. There were many diseases, such as gastric, skin diseases and respiratory diseases, and many health problems faced by women in childbearing.

The strongest complaints against chemical-based agriculture came from women. Every peasant woman complained about her health and the health of her children. The greatest of the problems were the effects of pesticides, which caused ecological and health problems. Moreover, pesticides were seen as a killer of human beings, as they were used for committing suicide as well as to murder women.

The other issues which caused concern to the farmers were:

- (a) The fish populations in the bodies of water and ponds were declining in quantity and diversity. Most of the local varieties had disappeared. The frog population had also declined alarmingly. There were even, the farmers noticed, no leeches in the water anymore.
- (b) Pest attacks in the fields became more widespread and intense. Most of the pests were new varieties. Old farmers claimed they had never seen before many of the pests they now encountered in the fields.
- (c) There was a general decline in livestock and poultry populations. The reason was not economic poverty, but the lack of biomass production caused by HYV rice. The local varieties had been the main source of fodder. In the absence of the local variety, straw from the International Rice Research Institute (IRRI) variety of rice failed to meet the need for livestock feed in terms of quality and quantity.
- (d) There were fewer birds in the village as well as very few bees, butterflies and other insects. The fruit trees flowered in the season but the quantity of fruit farmers could eventually harvest was very low. In some seasons, the harvest was almost nil.
- (e) There was a general degradation in the sources of nutritionally important food. This was mainly because farmers were not producing pulses and oilseeds in the face of overwhelming HYV cultivation of rice and wheat.

The farmers realised that the total income of the family declined, both in value and in quantity. In the calculation of benefits from HYV varieties, farmers quickly realised that calculating productivity and income on the basis of a single crop is faulty and misleading.

These were the perceptions of the farmers that led them to search for new ways of food production. Initially, the peasant women took the lead in stopping the use of pesticides. This was mainly for health reasons. This experience was extremely important for UBINIG. Soon, a group of farmers organised themselves and started to experiment with green manure and compost. The compost, made of water hyacinth, as the main biomass source became quite popular. Water hyacinth is available in plenty. This was the first breakthrough in the sense that the initial group of farmers became convinced that

they did not need to depend on pesticides and chemical fertilisers. Soon, the practice of Nayakrishi Andolon spread among the farmers from village to village. It was not an individual act, it was a community-based programme.

Therefore, Nayakrishi Andolon emerged in response to the negative consequences generated by chemical agriculture and involved the men, women and children of the community in organising to produce healthy food, a healthy environment and a happy life. This happiness, or, as the farmers call it, *ananda*, is both material and cultural and must be grasped as the living experience of a social being within a community.

### 3. DESCRIPTION OF THE PRACTICE/INNOVATIVE EXPERIENCE AND ITS MAIN FEATURES

As an agricultural practice, Nayakrishi Andolon is based on 10 simple principles. These principles are developed through the experiences and knowledge of farmers. As their experience and confidence grew, the farmers developed this set of general principles for the production of food and other crops.

**Nayakrishi Principle 1:** Absolutely no use of pesticides.

Nayakrishi farmers do not use any pesticides or poison, organic or inorganic. Pesticides do not only kill pests, they also kill other living organisms, including those which are necessary for the fertility of the land. Monoculture is one of the main reasons for pest attacks. Pest-control practices can be implemented without the use of poisons.

**Nayakrishi Principle 2:** No use or gradual decrease in the application of chemical fertilizers.

Nayakrishi farmers believe that the application of artificial and chemical fertilisers can be decreased. The land must be made healthy through crop mixing which gives natural nourishment to the soil and also to ensure the presence of living micro-organisms in the soil. Due to the prior excessive use of chemicals in the land, a gradual withdrawal is suggested so that farmers do not face a decline in crop output.

**Nayakrishi Principle 3:** Multicropping, inter-cropping, mixed cropping, agroforestry and other familiar methods are used to retain and enhance soil fertility.

More and more farmers are convinced that the best method for pest management is conservation and constant regeneration of biodiversity. The practice of *misrafashal* or multicropping has become popular mainly for pest management and to maintain the health of the soil. Farmers know that bringing fertilizers (organic or inorganic) from outside the farm field is not the only or the best way to remedy the fertility crisis of the soil. Nitrogen-fixing species of plants and trees are growing in popularity and farmers are eager to

experiment with new species. They are aware that “external” application of inputs is a hangover from the old habits of chemical agriculture. Farmers are constantly innovating new ways to increase the fertility of their soil, without “external” inputs. The ingenuity lies in recognising the fact that soil becomes “alive” if proper care is taken.

**Nayakrishi Principle 4:** Practice of agroforestry and integration of fuelwood, fruit and various multipurpose trees along with rice and vegetable fields.

Exotic or imported agroforestry species are generally rejected. Farmers are involved in various researches to seek out and identify appropriate local species.

**Nayakrishi Principle 5:** Calculate total yield of a farming household and the material gains of the community as a whole through maintenance and enhancement of biodiversity.

Farmers are relearning to calculate the total yield of the farm, not the quantitative productivity of a single crop. In this way, a more accurate view of the overall output and benefits of the farm is obtained.

**Nayakrishi Principle 6:** Livestock, poultry and semi-domesticated birds are part of the farming household.

**Nayakrishi Principle 7:** Local varieties of livestock, poultry and fish are given priority.

Local varieties are usually economically advantageous and ecologically suitable. Raising local species of livestock in a Nayakrishi household is easy and profitable. Nayakrishi farmers are critical of artificial insemination for moral and cultural reasons but they are not against natural cross-breeding. Artificial insemination is perceived by Nayakrishi women as a disgrace to the animals, an insult to the feminine principles of Nature. Giving birth is a natural and spiritual experience which cannot be demeaned. The concept of “pure breed” is criticised for the assumption that life is not an evolutionary process and never undergoes changes. Nayakrishi farmers reject the “pure-breed” concept. Similarly, there is no romanticising over a “pure” local variety of seed or plant.

**Nayakrishi Principle 8:** Seeds and genetic resources must be conserved at the household and community level.

Under the Nayakrishi practice, seeds and genetic resources must never get out of the hands of the farmers, particularly women. The privatisation of seeds and genetic resources and the patenting of life forms are resisted.

**Nayakrishi Principle 9:** Water resources must be conserved.

Water is the source of conserving the biodiversity of plants and fish resources.

**Nayakrishi Principle 10:** Use of deep tubewells for irrigation is not necessary.

A lot of harm has already been caused to the groundwater and to the cultivable land. Nayakrishi farmers, through their farming practices, ensure nourishment of the land and do not need irrigation.

The activities of Nayakrishi Andolon are coordinated through centres run by UBINIG in all the project areas. In Tangail, there are two centres in Bishnupur and Rupshi villages. In the coastal district of Cox's Bazar, the centre is located in the Badarkhali union, and a centre is located in Sonapur in Noakhali district. In north Bengal, UBINIG has a centre in Ishwardi thana of Pabna district, and in Kumarkhali thana of Kushtia district.

Through the centres, training programmes, workshops and meetings are organised. UBINIG coordinates the task where experienced Nayakrishi farmers train the new farmers. The farmers use the centres as their meeting places and for mutual sharing of information.

The backbone of the Nayakrishi farmers' network is the *gram karmi* or the extension workers. These are the marginal farmers, mostly women, who are prepared to work to impart the knowledge and to mobilise the farmers in their neighbouring villages to work for Nayakrishi.

In order to disseminate the knowledge on a broader level, every year, a farmers and weavers' fair is organised in Tangail. Thousands of farmers participate in this fair. The conventional farmers also take part. It becomes an excellent event for debates, discussions and sharing of information between and among farmers of different areas. The cultural functions are an integral part of the fair and also Nayakrishi activities.

The main activities of Nayakrishi are conducted in the farmers' villages in their own land. Farmers cultivate their land and share knowledge with their fellow members. They also hold meetings in their villages and create an atmosphere for mutual friendship. They gradually declare a village as a Nayakrishi village if pesticide use can be stopped totally. The use of deep tubewells is also stopped once the majority of the farmers in the village follow Nayakrishi farming practices.

## NAYAKRISHI AND BIODIVERSITY

In addition to poison- and chemical-free agricultural practice, the production of biodiversity is in-built in the Nayakrishi method of food production. As a fundamental principle of agricultural practice, Nayakrishi farmers reject monoculture and ground their practices on mixed cropping and crop rotation. It has an immediate effect in overcoming the present narrow genetic base. It is

also a highly effective method for pest management and contributes to the nutritional health of the soil.

In the Nayakrishi villages, the farmers get more varieties of fish, and a wide range of uncultivated crops which either come as partner crops from the multicropping fields or are grown on the common land because there are no more poisons used in the villages. The livestock, poultry, etc. also develop more rapidly, thereby enriching the biodiversity and food security of the people. Similarly, the planting of local-variety trees is an integral part of the practice in Nayakrishi villages. This, in turn, attracts birds, butterflies, etc.

The local species and varieties are always preferred to those that are introduced. Hybrid varieties are avoided simply because farmers cannot use the seed for the following season. Hybrid seeds disempower farmers and make them dependent on the seed companies. Farmers are not against the new varieties introduced by the formal system, but they do not accept the category “high-yielding” as an adjective which applies to the laboratory seed.

The strategy of Nayakrishi Andolon in the maintenance and regeneration of biodiversity and genetic resources is based on some simple rules and obligations between members. The strategic importance is in the conservation and regeneration of species and the genetic variability of the cultivated crops and homestead forestry. But there are a large number of species and varieties that are not cultivated. The conservation and regeneration of biodiversity for these species and varieties are mainly maintained by the overall structure of Nayakrishi Andolon. Every village where Nayakrishi is actively adopted has its *gram karmi* (extension workers). Apart from networking and campaigning for Nayakrishi, *gram kurmi* maintain audits of the natural resources of the village. The information is maintained collectively. It is a vital practice in maintaining and managing the local biodiversity. The Nayakrishi farmers can easily be put on alert if any “land race” or “wild” species or variety is noticed as getting eroded or lost.

### **PRESERVATION AND USE OF MEDICINAL PLANTS**

The medicinal species and varieties are maintained and managed in the wild, although a few are domesticated. Nayakrishi argues that the medicinal value of a plant can best be ensured if the plant is collected from its own wild habitat. According to this principle, the maintenance and management of medicinal plants is done at two levels: through the structure of traditional birth attendants, i.e. the midwives, and through farmer women specialising in medicinal plants.

There are always one or two households in the village which take the responsibility to ensure that all the common species and varieties are replanted,

regenerated and conserved by the farmers. It often happens that two to three varieties are not replanted. It becomes the responsibility of the household to replant those varieties. Such households are capable of handling such a situation.

To enhance the capacity of the community, the Specialised Women Seed Network has been formed. This comprises the women who specialise in certain species or certain varieties. Their task is to collect local varieties from different parts of Bangladesh and to monitor and document the introduction of a variety in a village or locality. They keep the information about the variability of species for which they are assigned up to date. Responsibilities are assigned according to the interest and the knowledge of the individual persons.

The specialisation encourages individual persons to be more focused on a few species and as a result, they develop valuable knowledge in a particular area. Since this knowledge is highly valued by the group, the person gets immense respect and recognition that contribute in the process of building up a collective spirit and knowledge-sharing.

### **SEED PRESERVATION IN THE FARMING HOUSEHOLD**

The farming household is the nodal interactive point for *ex situ* and *in situ* conservation of seeds. Farmers maintain diversity in the field, and at the same time conserve germplasm within the household to be replanted in the coming seasons. This is the basis upon which the Nayakrishi Seed Network is built.

Farmers keep the seed in the household. As a practice, Nayakrishi strongly encourages farmers to keep seeds in their own household seed storage place. Control over seed is the lifeline of the farming community. In many cases, some seeds are kept for a longer period, for three to five years. These seeds generally have a lower germination rate. The technology to preserve these seeds is varied and highly sophisticated. Sophistication is required mainly in drying and experiential understanding of the moisture content of the various seeds. The germination depends on the indigenous knowledge of the specific farming household.

### **VEEZ SAMPAD: SEED WEALTH OF THE COMMUNITY**

The peasant women of Nayakrishi have started to build their own *veez sampad* or “seed wealth”. The concept strongly contrasts with concepts like “seed banks” or “gene banks”. The peasant women are against any centralisation of seed wealth in the form of a “bank”. The principles of seed collection, conservation, preservation and regeneration are the following:

- (a) Women must regain control over seeds and the associated art. Seeds should be preserved at the household level. This should be maintained strictly for the common seeds that are generally used in the village.
- (b) For specialised seeds, or seeds that are not considered economically valuable to the villagers in immediate terms, a specialised women's network is being organised. Village women should know who is expert in what, and who is preserving special seeds. This network works as breeders and conducts investigations to know more about a particular variety. There is interaction within and between villages among the seed-network members. Men can also be members of such a network. Information on seeds and their collections cannot be shared with any "unknown" persons or agencies without the consent of the group.
- (c) As an initial experiment, a community seed wealth centre enables Nayakrishi farmers to exchange seeds without incurring any costs.
- (d) The community seed wealth centre is based on the experience of the women in seed preservation and germination. It uses earthen pots for the preservation of seeds. The seeds are kept in a place not different from a farmer's house. The impact of the weather is observed closely and standardisation of an appropriate drying method for long-term preservation is studied.
- (e) **All** *gram karmi* or village workers must maintain a nursery. In every village, nursery activities are conducted on a regular basis. Nayakrishi *gram karmi* sell their seeds and the saplings from which a part of their income comes.
- (f) More research is necessary to evaluate different indigenous varieties. Alongside this, the experiences in conserving HYV seed also continue and form a basis for comparison.

The Nayakrishi farmers are not against "high-yielding" varieties offered by the formal sector as long as they can collect and preserve the seed. They are willing to try new seeds from the laboratory as long as they do not need pesticides, chemicals and water. They are strongly against hybrids. The HYV seeds that can be cultivated the Nayakrishi way play a key role in the transition from the *adhunik* (modern) to the Nayakrishi system of cultivation. The trend is in the direction of a pattern that is best suited for a "farm" in its totality, with livestock, birds and fish, as well as in accordance with the advantages with regard to seed preservation. A farmer in need of more biomass as fodder and fuel prefers the local variety and shows a keen interest in reinforcing the old variety that had previously disappeared from the area. The main objection of the experienced Nayakrishi farmers to the HYV seeds relates to the difficulty in preservation. The women's seed network is against

HYV seeds mainly because they feel that these seeds cannot be kept for long in normal household conditions.

### **HAT AND BAZAAR: NAYAKRISHI MARKETING**

The Nayakrishi farmers are able to meet their subsistence needs from their own production of food crops. The surplus production of vegetables, rice, pulses and oilseeds is sold first in their own villages, in the local *hut* — the weekly market, and bazaar — the daily market. People are very interested in buying vegetables and other food items that are produced without the use of chemical fertilisers and pesticides. The question of the taste of the vegetable is very crucial; therefore, they are willing to pay a slightly higher price for these products. But generally, the farmers do not want Nayakrishi products to be considered as exotic or luxury items. They must be for the common people. So the farmers do not charge higher prices if they do not have to.

In one area, the Nayakrishi farmers from several villages have formed their own market. They gather in this village twice a week and sell all their products collectively. They have put up a Nayakrishi banner to attract people to this market, which is gaining popularity.

In Dhaka, there is demand for local-variety rice husked in the traditional *dheki* — the husking wood. The farmers, in a limited way, are supplying this rice in Dhaka.

## **4. DESCRIPTION OF THE INSTITUTION RESPONSIBLE AND ITS ORGANISATIONAL ASPECTS**

UBINIG is a research and policy advocacy organisation established in 1984. Its major areas of activity include the environment, sustainable agriculture, genetic resources policy, food security, handloom and rural industrialisation, health and population. It has played a major role in networking South Asian NGOs in the issues of food security and genetic resources.

## **5. PROBLEMS OR OBSTACLES ENCOUNTERED AND HOW THEY WERE OVERCOME**

The influence of modern agriculture lay in the new-generation farmers not believing that crops can be produced without the use of chemical fertilisers and pesticides. They also believed that they need to extract groundwater for irrigation. The dependence on external inputs was so great that many of the farmers became indebted. Amid such a backdrop, Nayakrishi Andolon was advocating no use of chemicals, including fertilisers and pesticides, and

no use of groundwater. However, the poorer farmers were desperate for an alternative, so they adopted Nayakrishi. But they worried whether the output would be lower.

These initial worries were overcome by farmer-to-farmer exchange and actual demonstrations in the fields of the farmers. UBINIG avoided showing model farms; instead, the farmers' own fields in the villages were the main source of mobilisation of farmers.

The collection of local-variety seeds was difficult as many of them are on the verge of extinction. *So*, a lot of effort is being expended in the collection of seeds.

## 6. EFFECTS OF THE PRACTICE/INNOVATIVE EXPERIENCE

Adoption of the Nayakrishi practice is now becoming more widespread among the farmers. Around 25,000 families follow the principles of Nayakrishi Andalon. At the local level, the impact is among the farmers and also among the non-farming communities. The most important impact, apart from the ecological gains, is in engendering general confidence among the farming communities in and around the Nayakrishi villages that Nayakrishi is "economically viable". This is the breakthrough which was the most difficult to achieve.

Farmers' livestock populations have increased by between 100-200%. Their cash income has increased by around 50-200%.

Mixed cropping is three times more productive than monocultures. It also provides revenue from cash crops. Not only does it meet the food security needs of the Nayakrishi farmers, it also is an extremely good risk-management strategy.

The community seed wealth centres have also been extremely effective. After the harvest, the farmers are obliged to return two times the amount of seed they took. If the harvest was unsuccessful, this condition is waived. Most farmers, however, return more than is required of them because the seeds and the seed wealth centres are 'theirs' and they benefit directly from them. The farmers can also sell their seeds in the market. In one community seed wealth centre in Bishnupur, which comprises seven to eight villages, there are 70 varieties of jackfruit. This would have cost scientists US\$1m to accomplish.

The farming community is more confident than before in their capacity to change their life situation. Nayakrishi also has the potential to become a model for health and nutrition care. The health impact is clearly visible. Without pesticides and chemicals, the farmers and their families are a lot healthier and have less skin problems. The healthier food also provides better nutrition. There are also cultural impacts such as reduced incidence of violence against

women. Similarly, the empowerment of women is achieved by the very nature of the relationship Nayakrishi brings into the life activities of the village. Even activities like trafficking in women and children can be prevented since Nayakrishi promises food security within the household as well as within the village.

There is a very positive overall impact on the farmers. The farmers are happy because they have food security and nutrition, and enjoy good health. They are also happy that the land is regaining fertility and biodiversity is enhanced in their locality. Moreover, they are economically better off because they do not have to incur the costs of inputs, while the crop output is almost the same as that of **HYVs**. They are declaring villages as Nayakrishi villages, which are pesticide-free. The farmers are organised and they take collective decisions about crops and marketing the products in the local *huts* and *baazaars*.

## 7. SUITABILITY AND POSSIBILITY FOR UPSCALING

Poor farmers constitute the majority of the Nayakrishi farmers. Poor farmers, those having land of less than one acre, make up 75% of the total number of farmers involved. Among them, women form the majority of those who are taking the lead in mobilising other farmers. It is mostly the poor farmers who are joining the Nayakrishi project, mainly for economic reasons. The prices of chemical fertilisers and pesticides have increased significantly, and they have to use more fertilizers than before. There is information which shows that many poor farmers are forced to sell land because they are not able to cultivate anymore for lack of cash. These sections of the poor farmers are the ones attracted to Nayakrishi.

Over time, Nayakrishi is gaining acceptance from the middle farmers having land up to 1-3 acres and surplus farmers having land up to 3-5 acres. The representation is 20% (middle farmers) and 5% (surplus farmers). While the poor farmers are joining for subsistence reasons, the middle and surplus farmers have acknowledged the economic viability of the organic-farming system as a whole. They have also realised the environmental hazards and the loss of biodiversity due to the use of chemicals and the overwhelming practice of monoculture.

The surplus farmers are integrally linked to the system of modern agriculture. For example, it is the members of the surplus farmers' families who are involved in the fertiliser and pesticide trade. More importantly, the irrigation water is distributed through deep tubewells which are controlled by the surplus farmers.

## **8. SIGNIFICANCE FOR (AND IMPACT ON) POLICY-MAKING**

The policy-makers in the Ministry of Agriculture are quite aware of the Nayakrishi movement. UBINIG is now trying to influence them around the issues of pesticides, seeds and irrigation.

The Nayakrishi movement received very little support at the national level even though the practice is one that is suitable for flood-plain ecosystems. Against all odds, it has proven that an alternative is viable.

## **9. POSSIBILITY AND SCOPE OF TRANSFERRING TO OTHER COMMUNITIES OR COUNTRIES**

Adoption of the Nayakrishi practice is spreading among the farmers. Nayakrishi is not a project. It is a farmers' movement. Therefore, farmers take the initiative to motivate other farmers. At present, farmers in four districts are directly involved. More areas are covered through interaction among farmers.

A South Asian network was formed in August 1997. This network is called SANFEC (South Asian Network on Food, Ecology and Culture). Through this network, interactions are occurring with farmers in Nepal, India and Pakistan. UBINIG is also going to have interactions with organisations working with farmers in Sri Lanka.

At the national level, Nayakrishi is increasingly being taken up by smaller NGOs in their rural activities. A significant achievement is in the links that have been forged with agricultural scientists. The Nayakrishi practice has been able to provoke critical reflection in mainstream agricultural thought. There exists a very co-operative and supportive relationship between Nayakrishi and the main agricultural institutions of the country.

Regionally, through SANFEC, it is opening up farmer-to-farmer exchange and sharing within different countries of the region. Farmers' visits must be encouraged. At the same time, the number of environmental activists, agricultural scientists and organisations practising ecological agriculture is already increasing. Activities like Nayakrishi will create conditions for stronger networking between the people of the region.