

Organic farming in Southern India

K.S. Krishna and M. Shivamurthy

How to promote sustainable agriculture in overpopulated South East Asia was the focus of a three nation study in the Philippines, Bangladesh and India undertaken by the University of Reading, England. In ILEIA Newsletter 13/1, Anna Lawrence reported on the diversity of views on sustainability generated by this study (p. 17). The University of Agricultural Sciences in Bangalore, South India, cooperated with the research project during 1994 and 1995. Data were collected from scientists, extension workers, NGOs, and male and female farmers. One of these farmers, Mr. Purushotham Rao, was discovered to be already a strong supporter of organic farming. This article deals with a few of the techniques he applies.

Mr. Purushotham Rao, an innovative and creative farmer, has been practising organic farming for ten years at Kuruvalli, Thirtha Hally taluk in Shimoga (district) of Karnataka, South India. He holds a bachelors degree in chemistry and is involved in the exchange and dissemination of information, extension and training to scientists and fellow farmers. To this end he started a research station under the name of Organic Farming Foundation. Interaction with like-minded scientists and the study of ancient texts encouraged him to develop solutions for all kinds of practical problems.

Mr. Rao has four hectares of farming land, two under plantation crops and two under paddy cultivation. As his farm is located on the bank of the river 'Thunga' in the hilly region of the Western Ghats, he has permanent access to water. Plantation crops grown include coconut, coffee, cocoa, cardamom, pepper, banana, mulberry, arecanut and vanilla. Mr. Rao has planned his four-hectare farm in such a way that he is harvesting one crop each month thus securing him a monthly income. His seven cows supply the manure, milk and other products needed to sustain the farm.

Becoming an organic farmer

Mr. Rao started farming using external chemical inputs. Over the years, however, he found himself having to use more fertilisers and spraying chemicals to get good yields. He began to feel that investment was increasing simply to assure the same or sometimes even lower yields. The application of chemical fertilisers and pesticides also had to be on time and precise. As a result, Mr. Rao decided to switch over to organic farming.

Initially crop yields were lower due to the sudden reduction in the quantity of inorganic fertilisers. It has taken 3 to 4 years to achieve the original yield level. Mr. Rao also experienced acute difficulty in choosing appropriate alternatives to various farm practices. Finally by consulting the literature and discussing with other practising organic farmers, he found the crops and crop combinations he preferred and perfected them through slight adaptations.

Some organic farming practices

Mr. Rao started to prepare sufficient good quality compost to fertilise his farm. The methods he followed in preparing compost, he called 'Krishinivas' methods I, II, and III.

Method I:

Dump 250 baskets of forest or farm mud, 250 baskets of cow dung slurry, 250 baskets of raw dust, 250 baskets of poultry manure (external input), and 250 baskets of ash in layers in a pit and mix it well. Allow to decompose for 15 days. After one week add sufficient water and turn it upside down. Now make a heap four feet wide and four feet height. Stir one litre of honey into 100 litres of water. Allow this to stand for eight days and add it to the compost. A rich manure with micro-organisms develops. Add one basket of this compost to the base of each plant.

Method II:

Dump 250 baskets of forest or farm mud, 250 baskets of poultry manure, and 100 baskets of cow dung slurry mixed with 150 buckets of water in a pit, in layers. Mix well and cover. After one week, mix 100 buckets of cow's urine with 150 buckets of water and stir well. Later make a heap four feet by four. Then mix one litre of bitter milk in 100 litres of water. Leave it for 15 days and mix it with the compost.

Method III:

Fill one third of a long drum with compost prepared from methods I and II. Add the amniotic liquid from a cow collected at the time of parturition, mix it with one litre of water. Add sufficient water. Collect the mixed water at the top. Repeat, stirring and collecting the water three times. When sprayed on vegetables good yields are obtained. It can also be applied to soil.

Plant growth promoter

Mr. Rao uses a decoction of four kinds of plant leaves as liquid manure for promoting plant growth, namely, the leaves of the Eupatorium weed, the stinging nettle, Glyricidia and 'Khaki' fruit. About a kilo of leaves are collected in a wooden or plastic bucket and crushed with about ten litres of boiling water. The leaf material is allowed to decay for a day or two and is then decanted and the liquid manure is ready for spraying. Based on the area or number of plants to spray, it can be diluted with water and spread on the crop using a sprayer. In terms of the yields produced, a stinging nettle decoction sprayed on paddy crop has been found to be a better growth promoter.

Plant protection measures

Stem Borer in Coconut:

About one kilo of Ekka (*Calotropis gigantea*) leaves are collected in a wooden or plastic bucket (not iron). About 10 litres of boiling water are added and left for 24 hours before decanting. Depending on the incidence of pests, water is mixed in the ratio of 1:10. When plants are drenched with the above decoction mixed with 50 grams of lime, stem borers are controlled.

'Kole roga' of Arecanut (Phytophthora of Areca):

<N> About ten litres of boiling water are added to one kilo of Suvarna gadde (*Elephant foot corn*) cut into small pieces in a wooden or plastic bucket (not iron) and left for 24 hours (if possible in the sun). The tuber pieces must not be boiled, just added to boiling water. The solution is decanted and depending on the incidence of attack, mixed with water in a 1:10 ratio. Drenching Areca plants with this solution has been successful in checking "kole roga" or fruit rot.

Viral disease of Banana, wilt of Pepper:

About one kilo of bougainvillea leaf is collected in a plastic or wooden basket and 10 litres of boiling water is added, left for 24 hours and decanted. Afterwards the solution is mixed with one litre of boiled milk. Sprayed on the infected plants of Banana and pepper, this decoction controls viral diseases.

Boost, leaf curl, and leaf spot in coffee:

Ten litres of boiling water are added to one kilo of Neem leaves, Seethaphal (Custard Apple), Beetle leaves, and Marigold flowers and left for 24 hours. The decanted decoction is sprayed against boost, leaf curl, and leaf spot of coffee.

The principles behind the practices

The principles and vision behind Mr. Rao's alternative system of farming are summarised in three basic questions: Have you touched every plant in your farm? Have you walked all over the farm with barefoot? In a year, on any day, have you written on a white paper what you have not done to the plant? He has developed his own teaching aids to highlight organic farming practices. These aids are carried along to meet fellow farmers during discussion meetings and training programmes. He has trained a couple of youths to carry his message of eco-friendly agriculture to the nooks and corners of India.

K.S. Krishna and M. Shivamurthy, Department of Agricultural Extension, UAS, Bangalore 560 024, India.

References

– Lawrence A, Garforth C, Dagoy SC, Go A, Hossain A, Kashem MA, Krishna KS, Naika V. and Vasanthakumar J. 1996. ***Agricultural extension, the environment and sustainability: research in Bangladesh, India and the Philippines***. In: *ODI Agricultural Research and Extension Newsletter 33*, pp 15–22.

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