

MANAS RURAL DEVELOPMENT INSTITUTE

Activity Report



SUNFLOWER CULTIVATION IN ORGANIC FARMING

Year 2013-2014

Address

304, Sunflower Tower, Kharkar Lane, Thane 400601.
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MANAS RURAL DEVELOPMENT INSTITUTE

Annual Activity Report for the Year 2013-2014

Manas Rural Development Institute (MARDI) has pleasure to present this Ninth Activity Report for the year ended 2013-2014. The Company is registered under the provisions of Section 25 of Company Act, 1956. The provisions depict the Company as “Non Profit Company”.

Major Programmes implemented during the year 2013-14

1. Rice Seed Production Programme with market linkage of Mahabeej at the Villages

Rice seed production programme with the market linkage of Mahabeej, a pioneer seed production seed company in government sector of Maharashtra State is the prestigious programme being implemented by Manas more than a decade. The rice varieties like K-3, (Karjat 3) and K-5 (Karjat 5) are the major varieties best suited for select villages of Shahapur Taluka and K-5 (Karjat 5) and K-184 for the villages of Wada Taluka were distributed amongst the farmers for seed production. During this year around 10 tonnes of paddy seeds mainly of Karjat 3 and Karjat 5 variety was distributed to 300 farmers from 15 villages of these blocks. This year also Manas with the Mahabeej Officials has undertaken series of awareness programmes at the select villages on post harvest technology and preparation of farm for undertaking the seed production. The total production was more than 500 tonnes and on an average price received by the farmers was Rs. 1650 per quintal against Rs. 900 per quintal in open market. Thus the farmers could gain of Rs. 750 plus per quintal which is about 90 per cent excess than market prices. It is also heartening to note that average yield of Karjat-3 variety of paddy is 10 quintals per acre but due to adoption of improved technology our farmers could produce around 20 to 25 quintals per acre. The grain size of Karjat-3 is quite large while the grain size of K-184 is quite small which is very much in demand for human consumption. This variety was also raised by our farmers from Wada Taluka which fetched the price of Rs. 21.95 per kg for raw rice. Thus there is substantial increase in their farm income from the paddy seed production programme undertaken by Manas

with the help of Mahabeej. The empowering of farmers in seed production program was also ensured so that now these farmers groups can undertake such seed production programs independently to enhance their farm income.

2. Women Famers Meet at Manas Krushi Farm, Sajivali

In order to increase the income level of the rice growing farmers through organic farming Manas has arranged series of farmers' meet and farm visits at Manas Krushi Farm, Sajivali. The awareness regarding principles of organic farming and preparation of organic inputs through natural resources at the farm or at village level in groups was the main focus. Shri Ajay Patil, TAO Shahapur, Shri S.T.Patil MAO and their Team members extended requisite support for success of the programme. What is satisfying that these programmes were attended in large numbers by the members of women self help groups of the villages. To increase role of rural women in agriculture was also the main aim of such awareness programmes. The SHG members were apprised of the practical on preparation and application of organic inputs like Bijamrut, Jivamrut, LAMIT and Dashparni Ark. Dr S M Kshirsagar gave in brief about the promotion of SHGs in rural areas and agro-based income generating activities to be undertaken by the groups. Shri Vyankatesh Kulkarni, Chairman, Manas also addressed the gathering and appealed the women members to participate in growing vegetables and pulses organically so that Manas will help them to develop the marketing linkage most profitably.

3. Distribution of Bio-dynamic Agriculture Calendars to the farmers

Agricultural Calendars which are also known as Bio-dynamic Calendars are based on the principle that the life pattern of all living organisms are interwoven into cosmic rhythms. Human life, as well animal and plant life is strongly dependent on the rhythms of the earth and moon. On the basis of such influences, agricultural calendar was prepared for the year, 2013-14 and distributed to the trainee participants and farmers. Every page of the agriculture calendar has been the full of information by pictorial presentations on Organic farming, how to prepare bio-enhancers and bio-pesticides and

their application methods, Agnihotra and its impact on atmosphere and plants, package of practices for the important vegetables like Okra, Tomato and Brinjals etc. The farmers found these calendars very handy and useful to carry out their agricultural operations and reap the harvest. There was also demand from the other NGOs working in the field of organic agriculture from Thane District. This year also we distributed Biodynamic Calendars to our associate NGOs Durvankur from Vashind and Prasad Chikitsalaya from Ganeshpuri of Thane district for the use of farmers clubs and rice growing farmers. The basic principles of Crop Calendar are as follows:

Full Moon- moon is closest to the earth;

- Due to gravitational force of there is increase in moisture content in environment;
- Full moon period is connected with quick germination, fast growth of plants;
- It provides favourable conditions for fungus and pest, slugs, snails, parasites infection;
- Just reverse situation occurs on New moon day.

Impact of Crop Calendar

Extensive study on use of Calendar in agriculture has been done at HPKVV, Palampur, Himachal Pradesh.

- Sowing as per calendar significantly increased yield attributes and yield of maize, soybean in *kharif* and wheat & lentil in *rabi*;
- In soya, and pea it influenced positively yield attributing factors i.e. NR activity, chlorophyll content in leaves and protein in seed;
- Calendar transplanting date gave significantly higher yield in onion;
- As an impact, now most of the activities are now being performed accordingly.

Conclusion

- Use of Krushi Panchang is non monetary input,

Hence need to be experienced and adopted;

- In ancient India it was a routine practice;
- Even today in remote villages and Tribals are adopting it;
- Systematic research, sharing of experiences, and timely availability for the year need to be assured.

4. Organic Agriculture its relevance to India

- In India, 70 % of arable land is mainly rain fed and negligible amount of fertilizers are used;
- Farmers in these areas often use organic manure as source of nutrients;
- Plenty of leaf litter are also available in nearby forest or can be produced locally;
- With the sizeable acreage under naturally organic, India has tremendous potential to become world leader in organic production & marketing;
- The above view has been supported by Task Force Committee on Organic Farming;
- It is high time to change our mind set and help in assertive adoption of Organic Farming.

In order to spread the above message of organic farming and its relevance to our country, the village level meets of Farmers Interest Groups and Women Self Help Groups were arranged with the association Department of Agriculture for implementation of Organic Farming in the select villages of Shahapur Taluka. This programme included creating awareness on soil health, soil and water conservation for preserving soil bio-diversity, organic farming systems, income generating activities to be undertaken through women self help groups etc. Dr Kshirsagar gave brief idea about the organic farming systems and importance of self help groups in rural development. Shri Ajay Patil highlighted the importance of organic farming systems and government support in boosting the concept. The various organic inputs like vermiculture, glyricidia stumps and literature on organic farming etc were distributed amongst the farmers. The villagers and especially members of the women self help groups have shown tremendous interest in the Manas activities and shown their willingness for active participation in the implementation of organic farming and these rural development programmes.

5. Training programme on SHGs for the Motivators of other NGOs of Thane District:

MARDI has created good infrastructure like Organic Farming Training Institute which includes spacious Training Hall, Demonstrations Huts for practicals on preparation of Bio-enhancers and Bio-pesticides by using natural resources and class rooms with requisite audio-video aids. We extended our wholehearted support to other NGOs working in the Thane District in Rural Development to train their key personnel and trainers. The main objectives to conduct such programs were

- To convince participants of the concept and need of SHGs
- To familiarizes them with the functioning of SHGs and their linkage with banks.
- To equip the staff members of NGO for identifying suitable Income Generating Activities for SHGs.
- To enable them to design and conduct such training programmes in their area

Dr Kshirsagar, Director, Training and Development briefed the participants regarding concept of people's participation in SHGs, thrift and rural livelihood. The NGO officials expressed their satisfaction over the conduct of the programme and desired to have similar programme for their staff engaged in spreading the message of organic farming.

6. Educational Tour of the students of Sterling School, Nerul of National Council for Rural Development

The students from Sterling School, Nerul, Mumbai visited our Farm and Institute the details of which are as under:

Date of visit to Manas Krushi Farm Sajivali: 5th Octo, 2013

Name of the School: Sterling School, Nerul, Navi Mumbai

Name of the Organization/Trust: National Council for Rural Development (NCRD)

Number of Students: 73

Teachers Team: Mrs. Vidya Sonawane and three others

Adventure High Team: Shri Amol Deshpande and other five members

Manas Team: Dr S M Kshirsagar, Rajiv Anikhindi, Daulat Shirose, Datta Bhoir and four supervisors and entire Manas Team.

The two buses along with the students and their teachers arrived at Manas farm on 5th October, 2013, Saturday, by 10.00 am. After the morning breakfast, the students were divided into three groups by Mr. Amol Deshpande, Director of Adventure High and they were asked to assemble in the Training Hall. Dr Kshirsagar, Director of Training and Shri Rajiv Anikhindi, Director MARDI, welcomed the participants and explained in brief about the purpose of the visit. They stressed that this is the educational visit and not a picnic therefore the focus should be on learning the various concepts while enjoying the nature. The program was then inaugurated at the hands of the Teachers and Director of Adventure High by lighting the lamps. Dr Kshirsagar explained in brief about the various organic agriculture activities and allied activities to agriculture being carried out most successfully at Manas Farm. The presentation was done with the help of PPTs on various activities in order to create curiosity amongst the participants to see and practically experience these activities.

The students were then asked to assemble in their respective Groups. Group no I was led by Dr Kshirsagar to see the various plant and animal related activities by taking a farm tour with the help of open pickup. Group II was led by our farm supervisors for explaining the oil extraction from the sunflower seeds, preparation of bio enhancers and bio pesticides and their applications. Group III was led by Amol Deshpande for doing the various adventure activities. All these three groups enjoyed all the activities in rotation as under:

Farm Activities: The students were explained in brief about the importance of trees and forest structure like herbs, shrubs, climbers, small and tall trees. The plant parts like stem, roots, Tap and Fibrous roots, leaves veins and venations, reticulate and parallel venations, trunk, carbon credit in the trunk, photosynthesis in the presence of light, water and CO₂. The parts of flowers like sepals, petals, stamens and pistil, anther and filament, ovary, ovules and seeds. Self pollination and cross pollinations. Various

implements used in organic agriculture and tractor drawn implements. Practicals were shown on tiller work by the tractor, kutti machines and Vermi-composting. Dairy animals, importance of local breeds of Gir Cows, milking of cow, importance of fresh organic milk for human health etc. Enjoying the Bhatsa river side view and importance of clean drinking water and keeping away the rivers from pollutions. Importance of plant produced foods like food grains fruits and vegetables. The rice fields were visited and entire field trip of the farm was undertaken with the help of pick-up.

Adventure Activities:

Mr. Amol Deshpande and his Team engaged the students in the following activities.

Low Rope Course

Lessons learnt: Balance. Flexibility, focus, taking challenge, helping each other

Rifle shooting

Lessons learnt: Steady mind, mental focus

Archery

Lessons learnt: Use of potential energy and stretching it maximum to gain the higher speed with accuracy

The participants of an Educational Tour enjoyed the food served in the lunch between 2 to 3 pm. After lunch the students were given the Skits. Rhyme to perform small dramas on different aspects as mentioned below:

- Honest is the best policy
- Comedy lecture in school
- Day at organic farm

The students performed these acts very nicely. After thorough interactions, questions and answers the program was concluded with the vote of thanks. All the teachers and organizers were presented a small kit containing the Manas Food samples. The two buses left the farm along with all the participants with a promise to visit again.

7. Educational Trip of Students of Yusuf Govt. College, Jogeshwari

Our Manas Krushi Farm and Manas Rural Development Institute are now most preferred places to have the educational trips for the school and college students from Mumbai and adjoining Taluka places of Thane district. The students from Yusuf Govt. College Jogeshwari had an educational visit to our Institute the details of which are as under:

- Date of Visit: 18.01.2014
- No of students: 60
- Leader: Dr Archana Rangari

The entire day trip was full of educational sessions with PPTs and film shows accompanied by field visits.

Lecture sessions:

- Organic Farming
- Bio-diversity and Environmental Impacts

PPTs:

- Manas Rural Development
- Manas Presentations

Video:

- Jagar Nav Ankuranacha

Field visits:

- Demonstration Huts
- Manas Farm
- Dairy Unit

The students and organizers of the educational trip expressed their satisfaction over the contents and conduct of the educational trip.

8. Educational and Environmental Awareness Visits

Plantations at Manas Krushi farm...

We are successfully growing crops organically as under:

Cereal crops like Paddy, Maize, Oilseeds crops like Sunflower and Groundnut, Floriculture like Sonchafa on large scale, Horticultural plantations like Mangoes, Cashew nuts, Guava, Chiku, Coconuts, Jamum etc and vegetables like chilli, Bhendi, Brinjal and other leafy vegetables so also fodder for dairy animals. The total area under such plantations is more than 100 acres.

Dairy Farm:

Recognizing the need for upgrading the local breeds of cows we are successfully rearing the dairy animals of local breed "GIR". At present total animals are 102 and more than 35 cows are in milking. Adequate green fodder is raised organically on Manas farm. Up gradation of local breed Gir is being undertaken. In addition to this we also propose to have high yielding cross bred cows for running dairy business on professional line. A regular visit of Veterinary Doctor for health checkup of animals is ensured.

Agro-Eco Tourism:

Our farm site is of unique presentation by Nature for its beauty by forest, mountains, lakes and perennial rivers with plenty of water which is also paradise of wild animals and birds. Number of visitors enjoy educational trip to our farm especially school children and college students. We also conduct consumer awareness programs by arranging their visits to our farm with serving organic food to them.

Organic Farming Training Centre:

We have beautifully established Manas Rural Development Institute to facilitate the training on organic farming. The training establishment includes one spacious Training Hall which can accommodate more than 300 audiences at a time, Two Class rooms with the sitting capacity of 30 each with the high quality benches and one spacious

office and Directors chamber for Resource Faculties. All audio-video requirements for professional learning such as Slide projector, Mike system, CDs, DVDs, Laptops etc, are effectively fulfilled. Residential quarters for stay of Resource Faculties and Dormitory for the participants have been constructed.

The visitors get essential knowledge about the floriculture, horticulture, Dairy, Composting methods, Organic bio-enhancers and bio-pesticides, Homa i.e. performance of Agnihotra for purification and natural blend of scenic beauty surrounded by beautiful mountain ranges beneath the Bhatsa Dam offers an unique opportunity and climate of learning. Many organizations bring their students, farmers, Women members of SHGs etc to visit our farm for happy learning.

Demonstration Huts and Display of Posters on Organic Farming in Training Hall:

In order to have hands on practical experience we have beautifully displayed the posters and preparation methods of various Bio-enhancers like Bijamrut, Jivamrut and Panchagavya. Similarly the various Bio-pesticides like Lamit, Dashparni Ark, Nimbark etc. We have also established a centralized spray system for the entire farm to overcome the labour problem. The system is run through the two ASPEE pumps and two 3 HP Electric Motors.

Homa Therapy and Agnihotra Kutir

- It is the process of purification of atmosphere through agency of fire prepared in copper Pyramid tuned to the biorhythm of sunrise/sunset
- It can neutralize the effects of pollution on plants, animals and human beings
- Homa helps to keep the energy of the planet in harmony
- It can be integrated with organic farming systems *to improve its efficacy*
- **Dr IRMA GARCIA**, volunteer of Five Fold Path Mission has established the necessary Resonance Points and Agnihotra Kutir for performing Agnihotra daily. She is residing at our farm.

Composting Units:

Use of compost in organic farming is the basic requirement to improve the soil fertility and make it live by increasing micro flora and fauna. Our farm has established two units for the compost making. One Vermi-composting in Tetra Beds and another one is fully fledged wood kutti compost methods to increase the organic matter to maintain proper C:N ratio. This novel idea has been appreciated by many visitors including Agriculture Scientists.

Organic Agriculture: Promotional Publications

The following Books Published in Marathi forms the study material to be supplied to the farmers and trainee participants.

1. Sendriya Sheti : Shaswat Sheti Ani Pramanikaran (Organic farming and Certification)
2. Mazi Gir Gai (Gir Cow)

Bee Keeping:

We got regular flora at our farm through horticulture and floriculture plantations. In addition to this flora and lot of pollen grains are made available through plantation of oilseeds crops like sunflower and cereals like maize. This year we have put up more than 50 Bee Hive Boxes at our farm through the Bee Expert.

In view of the above we firmly believe that Manas Krushi Farm is and will be fully integrated farm with the all requisite training facilities on different aspects of various systems of farming in general and Organic Farming in particular. The various facets of organic farming like, use of compost, bio-enhancers, bio-diversity, soil fertility, vermi-composting, green manuring, inter crops, various cropping systems, post harvest and value additions and developing market linkage etc. are being taken care of.

Dr S M Kshirsagar is at present looking after the Organic Farming Training activities as a Director of Manas Rural Development Institute. He has vast experience in organic training activities and conducted many programs for the farmers and students. We also

have good number of Resource Faculties and Organic Agriculture Experts on our Board, whose services can be made available as and when required.

We have so far successfully conducted Training Workshops for other Institutions like ATMA, Agriculture and Forest Departments of Maharashtra State and for other NGOs like Prasad Chikitsalaya, Sukhbhumi and Durvankur where the participation was around 50-60. In addition to this regular educational trips and visits of the school children and college students are being regularly arranged. Farmer's educational trips from adjoining districts are also successfully arranged.

The major visits during the year as follows:

Sr.No.	Name of Organization	No of Visitors
1	Visit of the farmer's Clubs, Kalyan under ATMA	40
2	Visit of the Lady Officers, Dena Bank	25
3	Members of Industry Owners, Vapi	23
4	Visit of the Students, Neral Mumbai	73
5	Visit of the students of Yusuf Govt College, Jogeshwari	60
6	Visit of the farmer's Clubs, Murbad under ATMA	40

9. Free Eye Check-up Camp and Cataract Surgeries at Tulsi Hospital Nashik

We are happy to state here that we are continuing the free eye check up and cataract surgeries at Tulsi Eye Hospital Nashik. The eye checking is being done in the well equipped mobile van of the Tulsi Eye Hospital. This year also we sponsored two farmers for cataract operations. So far total 12 cataract operations have been successfully performed free of cost till date.

10. Drinking Water Facility to villages

The villages from Shahapur face acute shortage of water in summer. Manas have taken an initiative for supplying fresh water to the village Sajivali through Tap system. Special overhead tank was constructed at Manas Krushi farm Sajivali and from this Water Tank the drinking water has been supplied daily through taps to the villagers. Thus the entire village including tribals started getting good amount of fresh drinking water which has

diminished incidence of water borne diseases due to contamination. Manas has plans to provide such drinking water facility to other adjoining villages also in near future with participatory community involvement and management.

11. Support to Marketing of Organic Produce

We had already made inroads for organic movement in five districts of three states with the farmers' participation. This year we also added one centre at Dharmabad from Nanded district from Marathwada. Group certification is in progress. Now in order to fetch good prices for the organic produce we are going to start own marketing organization to meet the consumers demand for the organic produce and also to benefit the farmers for providing them a common platform for the marketing and fetching good remunerative returns. We are planning to launch our organic products in the market through our associate companies very soon. Special website has already been launched for this purpose i.e. www.manasorganicfood.com.

Dr Kshirsagar, our Chief Coordinator, Rural Development actively participated as an Guest Speaker in the workshops, seminars and training programmes arranged by Agriculture Finance Corporation Ltd, Mumbai on the subjects of Joint Forest Management, Promotion of Self Help Groups for development of forests, Global Warming, Climate Change and Eco-tourism in the States of Maharashtra, Gujarat and Goa. He has been visiting Professor at YCMOU, Nasik for the subject of Agro-journalism

. He has developed the following Training Material essential for Organic Certification

- A Booklet on Organic Certification
- A Training Manual on Internal Control System (ICS) for Group Certification

Books to be published in Marathi:

- Why Organic Agriculture and its Certification
- Organic cultivation of Cereal, Pulses and other Cash Crops
- Organic Cultivation of Vegetables
- Organic Fruits Plantations

- Bio-dynamic farming and Homa Jaivik Krushi
- Organic Manures and Bio-pesticides

The drafts of the books have been finalized and the printing of these booklets is in progress.

12. Manas on Nav Sahyadri, Jagar Nav Ankuranacha: 21st May, 2013

Nav Sahyadri, Marathi channel has carried out extensive shooting on various organic activities being carried out at our Manas Krushi Farm including training of farmers on organic farming. The show named as Jagar Nav Ankuranacha was relayed on 21st May, 2013. We have received very good responses from the viewers especially farming community who wanted to visit our farm to see and implement organic farming practices being developed by us.

Acknowledgement

MARDI is very happy to place on record its heartfelt thanks and appreciation to everybody and every organization which have helped us in organizing various programmes and activities throughout the year most successfully. We really owe a lot to them for this act of kindness and sure to receive same help and patronage in our future endeavors too.



Rice Seed Production Programme in Shahapur Taluka



Organic Rice Production at Manas Krushi Farm



Vermi composting in Tetra Beds at Manas Krushi Farm



Demonstration on preparation of Bio-enhancers



Centralized system of spraying of Bio-pesticides



Our local Gir Cows at Manas Krushi Farm



Sonchafa floriculture plantation, golden flowers



Organic Keshar Mango in full bloom



Training on Agro-Forestry for Forest Officers



Adventure sports at Manas Krushi Farm



Visit of consumers of Organic Food Products



Visit of Dena Bank Lady Officers to our Institute



Visit of Goshala Owners to Manas Krushi Farm



Visit of students from Govt. Yusuf College, Mumbai



High value production of sunflower oil by filter method



Right Age to be with the Nature at Manas Krushi Farm



Organic Honey Production at Sunflower Plots



Use of Hi-Tech Machinery in Farm Mechanization