



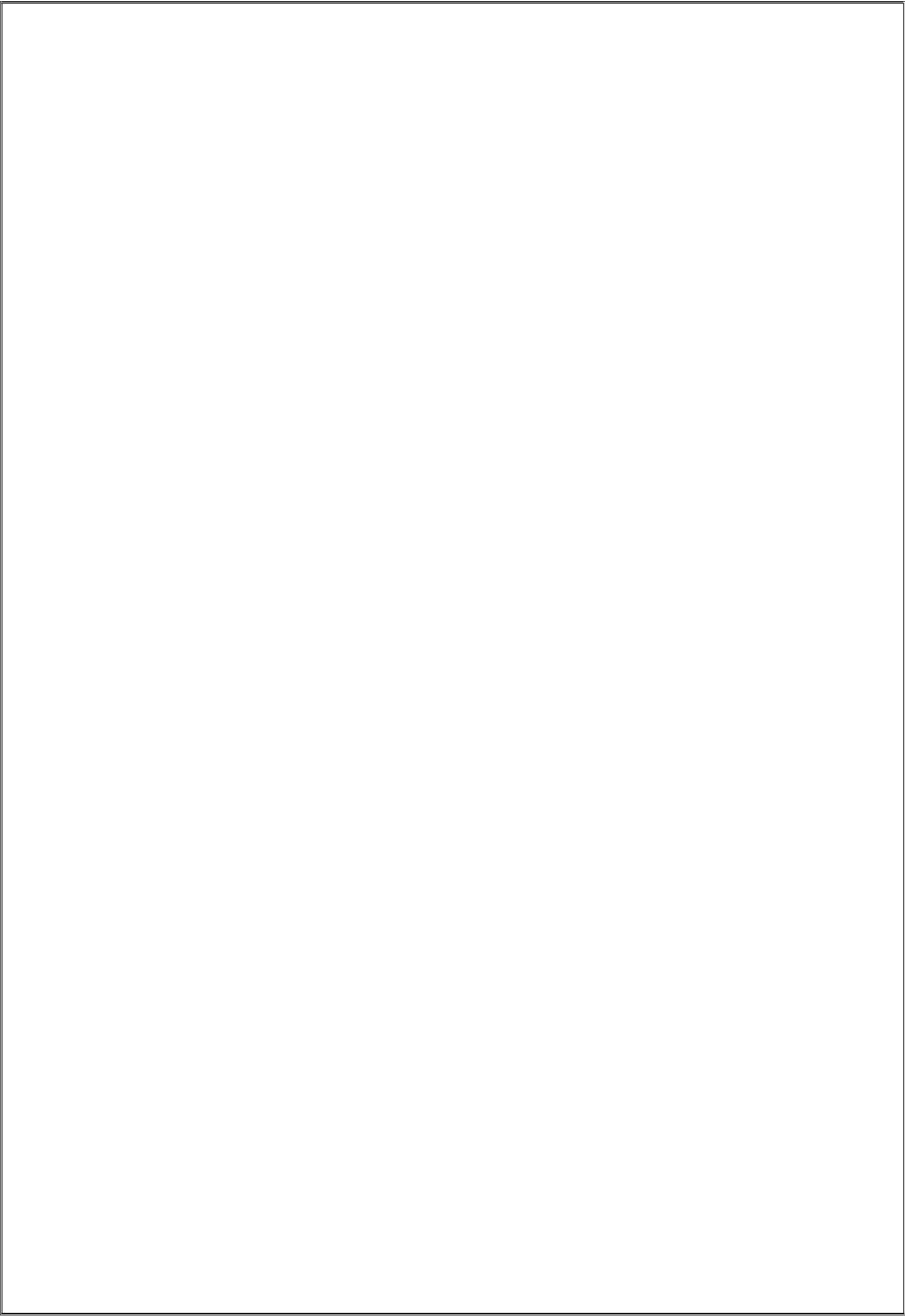
Government of Maharashtra
GOVERNMENT INSTITUTE OF FORENSIC SCIENCE, NAGPUR



Institutional Best Practice II

Natural Farming

NAAC 2020 – 2021



BEST PRACTICE II

1.TITLE OF THE PRACTICE: Natural Farming methods as a Tool to address the Agrarian Crisis of Vidarbh Region.

2.OBJECTIVES OF THE PRACTICE: Government Institute of Forensic Science has a pan India approach. Therefore we have decided to work on the problems faced by agrarian community through the involvement of future citizens of the country. The following objectives were set

- 1) To inculcate the work culture among student fraternity.
- 2) To acquaint pupils with various natural farming practices exercised throughout the world.
- 3) To study the effectiveness of various farming techniques under conditions prevalent in Vidarbh Region.
- 4) To propagate the natural farming as an alternative to traditional modern farming through involvement of students.
- 5) To attract young generation towards agriculture to enable feeding of expanding Indian population.

3.THE CONTEXT: Vidarbh region is infamous for farmer's suicides due to low yield, high production cost, insufficient irrigation facilities etc. Natural farming is low cost, requires less resources in the form water, fertilisers etc. So we have tried to address the issue of farmer's suicides by teaching their pupils various methods of natural farming. The practice was initiated on the space meant for botanical garden. Since the space is present inside the building, agricultural machinery cannot be brought to perform the tasks like ploughing, cultivation, harvesting etc. and done manually by the staff and students.

4.THE PRACTICE: The practice involved natural farming in about 2000 square feet of land reserved for botanical garden. Work like digging, cultivation and harvesting was done without any machinery. Students have enthusiastically done all this activity along with Dr. Malojirao Bhosale, Assistant Professor and Program Officer, NSS and Mr. Pradeep Boriwar, Laboratory Assistant.

The biodegradable waste generated in the campus was allowed to decompose in the troughs made in the farm so that the soil gets enriched with humus. The mixed, alternate as well as intercropping was practiced to maintain the soil fertility. Sprinklers were used to minimise the water use. The weeds were removed manually. No chemical pesticides or fertilisers were used throughout the farming practice. About six green leafy vegetables, brinjal, capsicum and tomato were cultivated. The yield obtained is about twice as compared to production cost. The produce was sold to the staff members of Institute of science and parent institute. The activity was sustained through the selling of produce.

Due to hectic schedule of students, even though they have learnt farming techniques at institute, they are unable to implement these techniques in their farms. Due to urban setup and easy access to market, we are running farming profitably. But we cannot guaranty the same in rural setting with large farms where yield will be higher. The farmers are not willing to change their mindset when it comes to adopt new agricultural techniques.

5.EVIDENCE OF SUCCESS: as time passed, students get involved in learning new farming techniques. Higher yields were obtained per square feet as compared to initial phase. We earned on an average 4000-5000 rupees per month except during summer months and when water logging was observed during high rainfall. People from outside campus also visited and appreciated the farming practice.

6. PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED: the problems encountered includes;

- 1) Nagpur has very high temperature especially during the months of April and May. So even though we have employed strategies like use of green net, certain vegetables like spinach, fenugreek are unable to grow.
- 2) Due to lack of awareness, some faculty members believed that the produce is expensive as compared to market.
- 3) Due to lack of adequate space, we are unable to provide desired goods in sufficient quantity.

- 4) Certain pests as well as weeds are difficult to manage through natural methods. So we felt need of integrated pest management (IPM).
- 5) Due to crunch in staff, smooth running of the farm got difficult when students were not available.

BEST PRACTICE II

NATURAL FARMING

Human population is growing at an alarming rate. The population is near to touching 8 billion mark by March 2020. India is home to about 1.35 billion humans and stands next to China with reference to human population. India ranks 102 out of 117 countries in terms of severity of hunger (Global Hunger Index, 2019).

Green Revolution of 1967-68 aimed at increasing the food production through use of high yielding varieties of rice and wheat, extensive use of inorganic fertilisers and pesticides, heavy reliance on machines etc. However due to use of pesticides and fertilisers, there is a huge loss to the biodiversity of agri-ecosystem, degradation of soil quality, pollution of the natural resources and the deteriorating health of the people.

To address this issue, people started switching towards natural farming in mid 1990s'. Natural farming methods involve use of locally available natural resources to increase the soil fertility as well as agricultural produce.

Vidarbha region is known for the farmer's suicides. There are multiple factors involved in this concern. Most important of them is high production cost due to hybrid varieties of major crops like cotton and soybean, rising prices of pesticides and fertilisers, lack of irrigation facilities etc. To acquaint the students with natural farming methods, Government Institute of Forensic Science, Nagpur in collaboration with Institute of Science, Nagpur started natural farming in the campus since 2018.

The official inauguration of the activity was done with the auspicious hands of Mr. R. D. Chavan, Registrar, Panjabrao Deshmukh Krishi Mahavidyalaya, Nagpur and Prof. Vinod Raut, Panjabrao Deshmukh Krishi Mahavidyalaya, Nagpur. Dr. R. G. Atram, Director, Institute of Science, Nagpur and Dr. J. M. Khobragade, Director, Government Institute of Forensic Science, Nagpur.

The natural farming was initiated since 2018. The students more particularly NSS volunteers were involved throughout the farming practices right from digging the soil till harvesting. Six different types of green leafy vegetables, tomato, brinjal, capsicum etc was grown throughout the season.

Sprinklers were used to save the water. The activity is sustained by selling the produce to staff of both the Institutes.





Farm Yield Photos







Latitude: 21.147186

Longitude: 79.075454

Elevation: 323.19m

Accuracy: 9.6m

Time: 31-08-2020 14:57

Note: Institute of Science Nagpur campus



Latitude: 21.147186

Longitude: 79.075455

Elevation: 323.19m

Accuracy: 9.6m

Time: 31-08-2020 14:57

Note: Institute of Science Noida campus



Latitude: 21.147185

Longitude: 79.075496

Elevation: 320.54m

Accuracy: 10.7m

Time: 31-08-2020 14:57

Note: Institute of Science Nagpur campus



Latitude: 21.147183

Longitude: 79.075489

Elevation: 318.16m

Accuracy: 4.3m

Time: 31-08-2020 14:58

Note: Institute of Science Nagpur campus