



YOGAHAAR

A Brief Report on Few Successful Organic Farmers



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Pawan Kumar, Raghubir Singh Rawat, Dinesh Chandra, and Vinod Kumar Bhatt





Preface

During the lockdown in Covid 19 when people were struggling to keep themselves healthy, Patanjali Farmers Samriddhi Program (PFSP) team was making efforts to follow up with the farmers who were trained during the past few years. The team encouraged farmers to come forward and speak out about their problems, for that, not only online meetings were organised, and online forms were also developed which were filled in by the farmers with the help of the team. These forms were analysed properly and based on farmers' queries and problems, webinars were organised with the subject experts from PORI and PSFP to provide solutions.

One day in such webinar, one of the PFSP team members came forward with an idea that we should start daily morning online yoga classes to engage more and more people including farmers to encourage them to keep themselves fit and healthy by boosting their immunity. A demonstration on yoga was appreciated by the team and approved by the house. The next day morning, i.e. on the 2nd of May 2021, a new program of voluntary 'Yoga' classes of one hour from 6.00 - 7.00 am started, which was followed by interactive sessions on the day-to-day problems of farmers related to agriculture.

The program started with an objective that, at one hand farmers and other stakeholders should learn and practice Yoga for their health benefits and on other hand sensitize the Yoga practitioners about farming and the importance of chemical-free and organic food. Every day new Yoga teacher and new subject experts are invited. In the initial phase, more emphasis was given to Yoga demonstrations by Yoga teachers and Chief guests. However, within a few days, the discussion evolved towards building awareness for the promotion of Organic Farming and finding solutions to related various challenges. Responding to this trend of participants, the duration of the class was gradually increased from one hour of yoga class followed by another hour of technical question and answer session comprising of address by the chief guest, discussion, questioning, interaction, providing scientific information and solutions related to Yoga & Organic Farming. The name of the programme evolved from yoga classes to 'Yogahaar' after the Organic farming and Food related discussions became center-stage. The name Yogahaar was proposed by one

of the members of Yogahar and various staff members and finally unanimously approved by the house.

To date more than 300 Yoga teachers 300 Chief guests coming from various walks of life (including Padmashree Awardees, University Vice-Chancellors, retired IAS officers, Directors, Doctors, Scientists, PFSP staff, Trainers, Farmers, Women, Heads including activists from Voluntary Agencies & NGOs), belonging to different age groups (the youngest Yoga teacher was of 12 years) and located at different geographical locations across India, Nepal, Canada and USA, conducted and addressed the Yogahaar classes. A link on google meet is generated and shared with all interested persons through a WhatsApp group. Coordination for identifying and inviting the yoga teachers and chief guests is now handled by others apart from the PFSP team with the close involvement of various Patanjali Organizations i.e. Yoga, Kisan, Mahila, Yuwa and Swabhimana Trust established in every district.

The program not only promotes volunteerism but it is being run by the volunteers. Every day more and more people are coming forward and suggesting new Yog teachers as chief guests, as well as encouraging people to join and volunteer to moderate the program. Day by day new people are joining the program. The focus of the entire team is on quality and providing solutions to the problems of farmers, linking farmers with consumers and the market. An interesting thing about the program is everybody is equal, there is no bureaucracy involved in any step. Anybody and everybody are free to put their viewpoint in an open forum, which is discussed and action is taken according to the merit of the proposal.

The topics of discussion in 'Yogahaar' classes are mainly concerned with practicing Yoga, Health & hygiene, Ayurvedic preparations/medicines, Acupressure, Naturopathy, Women empowerment, Environmental issues, Land and Water pollution, Hazards caused by chemical foods, Benefits of eating organic foods. In addition, four primary aspects related to Organic Farming i.e., Production methodology of various crops; Organic especially PGS certification and its requirements; value addition; and Marketing of organic produce were also among the topics of day-to-day discussions.



In addition, various small-small steps were taken by the house to create awareness of organic farming and marketing. Based on the experiences of the team members various important steps for farmer consumer linkages were documented and explained to the farmers from time to time. Various farmers were also linked directly to the marketing organizations for better livelihoods.

Coincidentally the International Yog day was falling on the 51st day of Yogahaar class, so it was decided by the house to celebrate it nicely by thanking all the people who contributed to making it possible including Yog teachers and Chief guests. It was so appreciated by the people, thereafter every 25th day is being celebrated as a Yogahaar Utsav (Festival). Now different themes are chosen for these special days by the house, as the theme of the 300th-day celebration was Traditional Seeds, wherein people working in different states of India on traditional seeds were invited. The program is gaining popularity from time to time many people from different walks of life are joining the program.

The current publication is a result of deliberations, discussions and interactions with various chief guests, especially farmer practitioners and entrepreneurs. After listening to the experiences and success stories of these practitioners, the idea of documentation of successful examples was thrown by Sri Pawan Kumar, so that other farmers can learn and take them as an inspiration and replicate such stories. The idea was appreciated by the house and immediately a team was formed for the cause. To bring this idea into reality a questionnaire

was developed for the interview. Selected chief guests were requested for an interview through telephonic or video conference using Google meet and WhatsApp. RS Rawat and Dinesh Semwal took the lead from seeking permission and fixing the time for an interview to writing the success story. Most of the interviews took around 1 to 2 hrs. but they were also called many times while writing the story by the team members. Farmers who were selected were very cooperative and showed their enthusiasm and also showed their farms during video calls. Despite the technical clutches and difficulties, farmers were kind enough to spare their valuable time talking and showing their farm sending their farm photographs and videos through WhatsApp.

The PFSP team asked farmers about their farm activities, the input used, source of farm inputs i.e, seed, manure, cultural practices including ploughing, sowing the seed, mulching, soil-health management, pest and disease management, post-harvest methods and marketing. Farm economics which includes total expenditure, gross as well as net income was calculated on the basis of information given by the farmers.

In the current document, we have included 12 interesting stories, 4 from Madhya Pradesh; 7 from Maharashtra and 1 from Uttarakhand with the smallest farm of 2.02 hectares and the biggest farm of about 32.37 hectares. Of these one is female and the rest are male. Except for Mr. Hemant Dube from MP, who is doing organic farming on 30% of his land, the rest of the farmers are 100% organic. The matrix of the participants of the current study is given below in table 1.

Table 1. – Matrix of the farmers who were interviewed during the current study:

State	SL	Farmers' Name	M/F	Age	Year of initiation	Farm size (ha)	Crops & varieties grown/ conserved	Net Profit/ Hectare (Rs.)
MP	1	Mr. Roop Singh Rajput	M	50	2008	2.02	21	287524
	2	Mr. Manoj Patel	M	54	2011	32.37	18	80052
	3	Mr. Man Singh Gurjar	M	52	2010	7.081	145	153918
	4	Mr. Hemant Dube	M	51	2010	9.712	22	52288
MH	5	Smt. Savita Jiwanrao Yelane	F	47	2008	3.34	17	203248
	6	Mr. Vijay Vishwakarma	M	63	2017	3.6	17	272797
	7	Mr. Baibhav Thakare	M	35	2017	6.070	7	34514
	8	Mr. Gajanan Tulsiram Baged	M	52	2014	3.64	6	130899
	9	Mr. Sagar Rawale.	M	52	2017	6.67	8	239162
	10	Mr. Pawan Mishra	M	51	2010	5.20	14	91538
	11	Deepak Bhimrao Ghuge	M	32	2010	6.07	14	1213100
UK	12	Mr. Anil Chamola	M	60	2018	2.428	3	720757

MP – Madhya Pradesh; MH- Maharashtra and UK - Uttarakhand



Although it is noticed that most small and marginal farmers adopt organic farming to reduce the cost of cultivation, it is interesting to see here that the big farmers of our country have also started adopting organic farming. This trend will definitely be helpful in improving the health of people as well as our environment vis-a-vis health, increasing the wealth and happiness index of the Indian farmers.

Most of the farmers interviewed feel that organic farming is a way of life and needs an hour. By adopting organic farming one can definitely reduce dependency on the market and reduce pollution and poisoning of air, soil and underground water. People also believe that Organic farming cannot be done without using and saving indigenous seeds, practicing diverse techniques using natural ingredients for soil health, and biological crop protection practices. Land size does not matter, but commitment and zeal to do something different do matter.

Key learnings

- From the current study it is emerging that more diversity is insurance against any kind of uncertainties and challenges faced in farming. As a result, about 90% of farmers are increasing their agricultural biodiversity, as they found it profitable. Farmers are also planting the trees, especially on the farm boundaries, one to utilize the empty space in the farm and second as a part of long-term farm planning for extra income for their old age. In addition, they also have developed an interest in conserving the multiple varieties of diverse crops. Most of them have either established their own clientele and market or are on the way to developing their own brands. Another interesting thing about the selected farmers is that all of them are big advocates of organic farming and are spreading awareness among the farmers and are making efforts in changing the consumers' mindset in a mission mode. Most of the farmers are involved in training and motivating farmers to go organic. Looking at the success of these farmers many farmers have already shifted to organic in their respective areas.

- The majority of the organic farmers say that organic farming is more cost-effective and even production is more than that of chemical farms. Mr. Sagar from Maharashtra says that 'by following organic farming practices he saves Rs. 2 lac which he used to

spend on chemical fertilizers and pesticides. So just adopting organic farming, the farmer saves the cost he used to spend on chemicals and that can be considered a profit in advance before the crop production. However, there are also farmers like Mr. Dube and Manoj Patel both from MP are of the view that chemical farming gives more gross output and the main aspect is there is no marketing problem for them. They sell their produce in Mandi and get money in the gross term. On the other hand, the organic farmer sells his produce mostly at retail and hence money is blocked for a long time. There is a need for an organised marketing system for organic farmers, which is missing currently.

- Almost all farmers confirm that after adopting organic farming, the soil on their farm has become very soft, as ploughing hours have reduced significantly. Earlier it was quite hard to plough without irrigation or before rains. Farmers also claim that the weed population in their farms is low and different in comparison to chemical farms, and types of weeds have changed, now mostly broad-leaved weeds are emerging which can be uprooted easily by hands. Some of the farmers also observed a change in weed diversity in their organic field that the weeds which were seen some 30 – 40 years back, especially leguminous weeds have also started appearing once again, which according to them is a good sign as they help in nitrogen fixation naturally.

- In organic farming, the farmer has to do manual weeding, thereby cost of a wedding is estimated to be two to three times in comparison of chemical farming. The cost of weeding also varies from Rs. 2000/- to 3500/- per acre. However, farmers also claim that despite using weedicides, the problem of repeated weed emergence is relatively more common in the fields of farmers using weedicides than on organic farms. On the other hand, manual weeding increases soil aeration and it can be used as fodder, which ultimately saves money on fodder.

- The presence of some new predator insects such as ladybird beetle, Trichogramma wasps, red ants, etc. has also become quite common in organic farmers' fields, which are helping in maintaining the natural pest predator balance.

- Almost all farmers prefer to grow traditional or common open-pollinated crop varieties. Some of



these include Bansi wheat Khapali wheat, Sarbati wheat, Basmati paddy, Black rice and millets, etc. In Maharashtra farmers mainly grow toor, soybean and wheat. Some farmers are also conserving diverse crop varieties. Mr. Man Singh Gurjar of Hoshangabad, M.P. conserves more than 100 varieties of wheat, paddy and vegetables. He has developed many new varieties of vegetables such as 3 feet long ridge gourd and 7 feet long gourd.

- Out of the 12 farmers, 6 farmers are selling their products mostly organic wheat, rice, toor daal, moong daal, turmeric and vegetables at about 20% to 50 % higher rates than those of chemical farmers. They are selling their products either locally to the known or regular customers or in the nearby cities to middle-upper class consumers. Mr. Man Singh Gurjar of Hoshangabad, M.P. is selling his organic jaggery, wheat and rice not only to local consumers but also to consumers from other states through Facebook. He has now permanent consumers from Gujrat, Telangana and Maharashtra. Mr. Vijay Vishwakarma of Maharashtra sells about 40% of his turmeric through an online platform. The other 5 farmers are selling their farm produces at normal rates in local mandi and claim that they are getting more profit than chemical farmers in their respective areas.

- Soil plays an important role in crop productivity. Crop productivity is higher in the black cotton soil of Maharashtra. While soil in other states is not so rich and hence productivity is lower when compared to Maharashtra. It was observed that farmers are applying decomposed manure and liquid manure for optimum productivity. But there are the farmers who are cultivating crops only on liquid manure and other microbial preparations like Gokripamrut, rock extract and waste decomposer. For optimum productivity, farmers give Jeevamrit, waste decomposer, Panchgavya, or Gokripamrit through irrigation. In addition, they also spray the crops with the same preparations 2-3 times during one season. Farmers who are using liquid manure with irrigation and are also spraying the same at least three to four times on standing crops are getting a very good yield, even better than chemical farming. The spray of rock extract with waste decomposer seems to be working nicely in supplying micronutrients and silica to the

crop. For crop protection, almost all farmers are using dashparni (extract of 10 leaves), milk-buttermilk-turmeric solution, neem extract, etc. The insurgence of harmful insects and pests has become quite low in all the farmers' fields.

Organic farming and farm productivity

Generally, arguments are given that, because organic farming is less productive so it cannot feed the increasing global human population, but the majority of the current case studies are giving a ray of hope that shows that organic farming takes about 2-3 year to stabilize, and once the system is developed it is more profitable than chemical farming as it requires fewer inputs.

Through the current study, efforts were made to get answer for the question which is asked to every organic farmer that if organic farming increases the farm productivity? It is interesting to note that answer of about 75% of respondents was yes, of these most of the farmers were from Maharashtra. According to the farmers from Maharashtra, in organic farming patience and confidence plays a very important role. It takes a while in organic farming, but it is sustainable in long run. For example, Smt. Savita of Maharashtra who started organic farming on 1-acre land after attending training in 2008, converted her 6-acre land to organic in the year 2012. After some time, she also converted her remaining 3 acres of land to organic farming. Today looking at her success story, more than 30 farmers in her area have started growing organic food for their own consumption.

Pest and disease management through creating Pest predator balance

Farmers were found confident in using some innovative as well as traditional cultural practices for pest and disease management like crop rotation, intercropping, sticky trap with plant-based as well as with the help of ingredients of the biological origin like cow urine, buttermilk, milk and so on. In addition, few farmers were found using innovations by spraying decomposer, soil as well as rock extract on their crops for pest and disease management.



Mr, Sagar Rawale of Maharashtra is using Neem seed extract, and 10 different leaves extract in order to control insects, pests, and fungal diseases. For the fungal problem, he uses copper-treated whey. He also uses Bajra flour and alum (Fitkari) to control fungal diseases.

Mr. Roop Singh Rajput of MP sprays farm-made Dashparni extract for plant protection at an interval of every 15 to 20 days. Neem oil and neem seed extract is also used when Dashparni is not available. He also uses Pheromone traps and sticky paper to control the pest population.

Mr. Anil Chamola, an organic apple grower from Uttarakhand sprays soil extract on the plant after adding 2 kg. of Castor oil. In addition, he also sprays rock extract after leaves start appearing, then in mid-May and later in the month of June. Mr. Anil says that *“there is a huge problem of canker, which is one of the known fungal diseases in this region, but my plants are free from this disease as I’m using organic techniques of nutrient management and plant protection”*.

All the farmers have found a way to control the pest and diseases in their respective fields, irrespective of crop and season. Almost all the farmers are of opinion that once the pest predator balance is created in the farm, there is no need of spraying anything. If your soil and seed are healthy, the crop grown will definitely be healthy. Healthy crops have a better immune system, so they don’t get any diseases normally. The pest problem is tackled by the predators in a good organic farm. Also spraying of any biological preparation needs to be done only if the loss is estimated beyond the threshold level. Diversification and crop rotations are very important factors in keeping pest-predator balance. Due to the use of herbicides, pesticides, with synthetic and poisonous fertilizers we disturb the natural balance, which is otherwise maintained in organic farming through crop diversification, companion cropping and crop rotations.

Marketing

Marketing plays a big role in any kind of farming, as every farmer at the end of the season looks for an easy market for their surplus produce. Nothing will be better for any farmer if they can sell their produce close to their

farms. Most of the organic farmers expect a premium price for their organic products, despite the low cost of production, but there are farmers who believe that it is fine with them even if they are able to sell their produce at market price.

On one hand, where marketing is a big problem for farmers, the majority of interviewed farmers have no problem selling their crops. They found and innovated their own methods for selling their farm produce or processed items. Some of the farmers are selling their products at market rate, on their farm shop as well as in their friend circle minimizes the transport cost. Most of the people who buy our products become our regular customers and buy food commodities direct from our farm. Farmers selling their produce in nearby mandi at the market rate were also found happy as they say *“our input cost and cost of production is less, so whatever we get is our profit. More than that our customers know us very well and they prefer to buy our products first. We don’t have to wait in mandi to sell our products, it is sold within no time”*.

Mrs. Savita Yelane of Maharashtra in the beginning sold her papaya and vegetables in baskets sitting by the side of the road. But after 2012 she opened a shop on Nagpur –Wardha Road, outside her farmland. She opens the shop at 2 pm every day and closes at 6 pm. Now people from Nagpur and Wardha are coming regularly to purchase her chemical-free vegetables.

Mr. Vijay who registered himself on Amazon sells 40% of his organic turmeric online. He also processes toor and chana dal which are sold locally at premium prices. He is also selling fruits directly from his farm.

Mr. Manoj Patel sells his processed or whole pulses and wheat mostly from his farm. He also participates in various exhibitions, seminars, and workshops. This helps him to sell his organic products as well as widen his consumer base. According to him *“marketing of organic products is still a big problem. I can’t sell my produce in bulk like chemical farmers who sell their produce at Mandi because there is no such place for organic farm produces in our state. The only way to sell organic products is retail marketing which is a time taking process”*.



Organic farming helps in Minimizing the Risks

One of the major reasons for farmers to shift to organic was minimizing the risks from farm to health. Shifting to organic not only helps in reducing the expenditure on chemical fertilizer and poisonous pesticide and herbicide those are responsible for rapid and chronic diseases i.e., cancer, diabetes, obesity, etc. So, shifting to organic farming minimizes this risk of eating poisonous foods. Organic farming has really changed the farming style.

Mr. Sagar a farmer from Maharashtra is a very confident and committed organic farmer according to him, *“many farmers have also adopted the organic technique and benefited. I want to see more farmers leaving chemical farming and adopting organic farming practices, especially stone juice and decomposer. It is miracle, in reality, others should follow organic farming. It is definitely more economical and low-risk farming”*.

All the farmers who participated in the current study also believe that when we don't want to eat poisonous foods, why should we feed poisonous foods to our customers. After shifting to organic, they can't even think of buying and selling chemically grown food crops which can harm our or our customer's family. Organic farming helps in minimizing the risks not only related to climate uncertainties as crops grown using organic farming are capable of surviving in climate-related stresses like drought. In addition, organically grown food is healthier, so it also minimizes the possible health-related risks.

Farm Planning

It was quite interesting to note that farmers have also started thinking of how to increase farm productivity through short, medium, and long-term planning, especially for their post-retirement life. Besides maintaining organic food crop diversity farmers have also planted teak on their farm boundary and some fruit plants within their farm. Mr. Roop Singh, who planted Teak plants on his farm boundary in 2010 confidently said that *“in 2030 I will earn at least Rs. 75 lacs from selling 150 teak trees, planted on my farm boundary”*.

Farmers have not only started planting trees on their farm

boundaries, but they have started increasing their crop diversity simultaneously. Most of the farmers are now shifting from monoculture farming to mixed farming. This multiple cropping in organic farming is boosting the confidence of the farmers to produce more diverse crops to increase nutrition, health and wealth from their farms. Organic farmers also believe that without cattle, especially cows, organic farming is not possible, so farmers are also increasing their livestock holdings, to make them self-sufficient in terms of inputs, especially to fulfill the requirement of cow dung and cow urine, which in turn helping farmers in improving the soil health. Farmers have also observed that the diversity of pollinators and other farmers' friendly insects is increasing in their farm which is helping in improving the farm diversity.

The soil in the organic farms is becoming healthier and is also able to hold more water. As soil is now biologically active with increased life in the soil which is expressed through healthy and abundant crop production. With no chemical used in farming soil-water-air pollution is also going down improving the local ecosystem. According to the farmers *“the demand for organic grains, fruits, and vegetables is increasing day by day due to increased awareness about their better nutrition and taste”*. Increasing demand for organic food is definitely an indication of reducing market risk for organic products.

Farm Labs

Farmers have also started producing biofertilizers and bio-pesticides at the farm level through the setting up of small - small farm labs. These biopesticides and biofertilizers are seen as an alternative to the expensive and poisonous chemical pesticides and fertilizers. The experiment has already started in Maharashtra, where farmers have already started their own farm labs, where they have started production of biopesticides and biofertilizers at a commercial scale to fulfill the local requirements after attending simple 2-day training and thereafter practicing the same at home for about 3-4 months.

Farmers are also doing innovations to find better, easier and less expensive techniques and alternatives to the expensive farm inputs to reduce the cost of cultivation. Production of bio-fertilizers and bio-pesticides at the village level is another step towards decreasing the



cost of cultivation and getting maximum output. Such innovations will not only help farmers enhance their income but also in bringing down the use of hazardous pesticides in agriculture.

With such interesting stories and short steps taken by farmers, especially in the most impacted states like Maharashtra, the future of organic farming in India looks quite bright. There is a need for making efforts for replication of such success stories so that more and more farmers not only become aware but also take advantage and learn from such experiences.

Way Forward

Organic farming for India is not new, but it was a tradition and part of the culture, which was being practiced since ancient times. But unfortunately, in the last 7 decades or so due to the introduction and unprecedented use of agrochemicals with High Yielding Seeds vis-à-vis loss of traditional farming techniques and interest of farmers, organic farming was slowly replaced by chemical farming in most parts of the country.

With the current study, the team made efforts to find the people from different states who are not only practicing organic farming but are also successful. Most of these case studies are replicable as these practitioners are confident enough in their way of organic farming. All of them have either learned or evolved the techniques that are best for their region. This publication is also seen as an icebreaker for the farmers who are interested in organic farming but somehow keeping distance due to fear of loss and failure.

It is also evident from the current study that a solution to any problem is either available locally or could be found locally. For e.g. most of the farmer's suicides were related to the debts associated with farm inputs, especially seeds and agro-chemicals. Maharashtra, especially its Vidarbha region which was once known for farmer's suicides have come out with the solution for the root cause of the problem in the form of organic farming. Organic farming is capable of bringing down not only the cost of cultivation but can also increase the income of the farmer significantly.



Mr. Hemant Dube

farmer and a passionate social worker

Mr. Hemant Dube is not only a farmer but he is also a social worker and a successful business-man from Jamani village Itarsi. He inherits about 80-acre land, of which he is doing organic farming in 24 acres which includes an organic orchard. In the rest of the 60 acres, he is practicing low-external input chemical farming. For the last couple of years, he started promoting organic farming, as well as marketing organic farm products of organic farmers of the region. He also played a pivotal role in establishing Weekly Organic Haat at Itarsi, where every Sunday organic farmers from far of places gather together to sell their organic produce. According to Mr. Hemant Dube, he got the inspiration of doing organic farming from his cousin brother Mr. Aswani Dube who is a horticulture officer in the M.P. state government. Mr. Hemant is also associated with Maharshi Dayanand Asharam, Gram Seva Samiti and various other social organizations in the Itarsi region. He visited many organizations before finally starting organic farming. He also run a plantation mission since 2012 and plants a minimum of 365 trees per year. He is successfully achieving the target of planting and raising at least 365 tree plants for the last 10 years.

Land use and cropping pattern:

Out of 80-acre land 14 acres is under organic fruit orchard. In his orchard, he has a total of 260 mangoes, 50 amla and 178 citrus plants. Guava, jackfruit, cheeku, sitafal, etc. are also planted in

the orchard but are used for home consumption and the excess amount is given to friends and relatives. As a long-term income plan, he has planted about 2400 teak plants in the empty space as well as along the farm boundary, these plants are now 6 years old. The whole orchard is equipped with a drip irrigation system. In addition, in around 10-acres, he is growing organic wheat, lentil, chana, basmati paddy, green gram, mustard, alsi and seasonal vegetables. In the remaining 60-acres, he grows basmati paddy 1121 and wheat, wherein he uses the minimum amount of chemical fertilizers. According to Mr. Dube “I use only half of the recommended fertilizer doses if you compare with local farmers. Also I follow organic methods for pests and disease control”.

Irrigation:

Mr. Hemant has one bore well located in his fruit orchard and a large pond spread over about 2 acres of land in his non-organic farm. Water level drawdown in bore well during the summer season. Therefore, in order to conserve water, he established a drip irrigation system on his farm. Water ponds in the farm fulfill the irrigation requirements of all the crops throughout the year.

Seed Conservation:

Mr. Hemant Dube also conserves traditional varieties of wheat and paddy. Vishnubogh and Ramjeera are two old paddy varieties, whereas



Bansi, Sona Moti, Sarbati 306, Bala, Khapali are amongst the major wheat varieties.

Cowshed and Animals:

Mr. Hemant has a total of 10 cows and calves. Milk from the cows is used by the family only, excess is converted into ghee, mostly for the family consumption only.

Employment:

Mr. Hemant is giving employment to 5 people who look after the cowshed as well as the whole agricultural land. His monthly expenditure on permanent labour is about Rs.38000. nth in total. In addition, extra labour is hired during sowing and harvesting operations. Mango orchard is normally sold on a contract basis after fruit set.

Land Fertility Management and Crop Protection:

Mr. Hemant has two drum of 1000 litres for making liquid compost jeevamrita. Jeevamrita is given with each irrigation to all crops including non-organic. Well-decomposed compost is also used in all the fields. Ghanjeevamrita is used in organic plots at the time of land preparation. Mr. Hemant also uses bio-fertilizers like Rhizobium, Azotobacter and Mycorrhiza @ 4 kg per acre in all organic and non-organic plots.

For insect pest control, he uses Dashparni solution, whereas, for controlling fungus, he is using well rotten whey treated with copper metal.

Processing:

Mr. Hemant has also started processing of food crops and fruits for value addition. He is making daal by splitting green gram, lentil and chana after and making pickles and murabba from amla and citrus fruits mainly for home consumption and gift to his friends.

Marketing:

Mr. Hemant sells most of his organic products in his

friend circle and known people. He also tries to sell organic products from other farmers. One of the major efforts of Mr. Dube is in establishing Organic Haat at Itarsi during the Covid pandemic in the year 2020. In the initial stage, he took the help of Gram Seva Samiti and then Excise Commissionaire Mr. R.K. Paliwal. First of all, they finalised a place for Haat in the city in one of the halls of the restaurant called 'Ishwar' for which the owner charged Rs. 4000 for one day. Owner Mr. Rakesh Gaur was kind enough to feed the farmers who were bringing their farm produce for selling. For farmers it was free. They raised money through donations and contributions from the core group.

In the initial stage, Jaivik Haat was organized on the monthly basis and slowly its frequency was increased by organizing it fortnightly, whereas at present it is being organised every week. Currently, Jaivik Haat is running free of cost at Pandit Bhawani Prasad Mishra Auditorium. At present around 8 organic farmers come every Sunday to sell their organic products which include seasonal fruits and vegetables, pulses, rice, wheat, wheat flour, jaggery, pickles and milk products like ghee, curd, whey (Mattha) and paneer. Farmers are getting a good return for organic products. Slowly more and more people from the city are visiting Jaivik Haat to buy organic products. Pandemic also played a big role in the promotion of organic food products and more and more people have become health conscious and are looking for healthy organic products.

Farm Economics:

Mr. Hemant in his 24 acres of organic land grows Basmati paddy, Moong, wheat, lentil, peas, alsu, mustard and fruits. He is doing farming for fun as a social venture to give people employment as well as fulfill his family requirements. From the organic field, he is earning about Rs. 507200 without making any extra effort. Although he believes that organic is not very profitable that is the reason why he is still doing low chemical input farming. Summary of annual income and expenditure of both organic and chemical farms is given below in table-2.



Table 2. Summary of annual income and expenditure:

Crops/ product	Cost of cultivation (Rs.)	Gross Profit (Rs.)	Net Profit
Organic			
Basmati Paddy + Moong + Fruit orchard (6+ 14 acres)	189100	483300	294200
Wheat +lentil+ peas+ alsin+ mustard etc. (8 acre)	121000	334000	213000
	310100	817300	507200
Non-Organic with Partially organic practices.			
Paddy 1121+ Moong (60 acre)	888000	2816000	1920000
Wheat +Mustard (60 acre)	855000	1792000	905000
	1743000	4608000	2825000
2400 Teak trees were planted at farm boundary in 2016. Currently, all the plants are healthy and straight. Teak is generally harvested after 20 years. The current average returns per tree is between Rs.50000-60000. Therefore, the farmer is supposed to earn Rs. 1.2 crore by selling teak wood in the year 2036-2037.			

From his nonorganic farm where he is using the minimum amount of chemical fertilizer. In about 60 acres of land, he grows mostly Basmati paddy 1121 and moong in Kharif season and wheat and mustard in rabi season. From 60 acres of land, he is earning about 2825000 per annum, which is not much keeping in view the size of the land. Mr. Hemant has also done long-term planning by growing about 2400 teak plants along his farm boundary, which is going to give him about Rs. 1.2 crore by the year 2036. Using more organic techniques like seed treatment, liquid and other organic manures Mr. Hemant can triple his income within 2 to 3 years of time.

Mr. Hemant is doing organic farming on a significant piece of land and uses comparatively less amount of chemicals but still believes in chemical farming. According to him *“I get more production in my non-organic field as High yielding varieties are not successful in organic cultivation. Right now, most of the organic farmers are earning only because they are getting very high prices for their organic products”*. He further adds that *“Organic farming is good for health, one must do organic farming, but I would suggest not to convert entire land to organic. It may reduce your income drastically, instead, start organic farming with a small plot and convert the entire land when you are confident”*.



Man Singh Gurjar

A passionate Organic Farmer and Seed Breeder of Village Gardha, M.P.

Mr. Man Singh Gurjar is a 52-year-old farmer of village Gardha, Vankhedi, district Hoshangabad in Madhya Pradesh requires no introduction. Starting organic farming in the year 2010 in his 7.08 ha of land, today he is not only successful but is one of the most revered organic farmers in the region. He is also famous for his unique self-developed varieties of organic vegetables, like 7 feet long deshi bottle guard, a 3 feet long ridge guard and so on. He is conserving a total of 133 traditional varieties of vegetables and food grains on his farm. His farm was certified by Faircert a few years back, but due to the heavy cost of certification, he decided to quit. Recently he has switched to PGS certification.

Mr. Man Singh is a very hardworking and keen learner, which is evident when one visits his farm. He learned and practiced hand pollination which helped him develop new varieties of vegetables. Now he is planning to register and patent varieties of guards and brinjal which he developed in recent years. Witnessing the success of Mr. Man Singh many more farmers in the region are also coming forward to go organic.

Seeds:

“Seed is very important in crop production, one must keep own seeds while doing organic farming,” says Mr. Man Singh. He treats his seeds with Bijamrit before sowing to make them disease-

free and also improve the germination percentage. Mr. Man Singh carefully selects the seeds for next-generation. He is conserving about 100 different varieties of paddy, wheat and vegetables on his farm. He has also started selling seeds to enhance his net income.

Conservation of Traditional seed varieties:

Mr. Man Singh is also involved in the conservation and improvement of traditional varieties of crops. He is conserving 47 traditional varieties of wheat and 25 varieties of paddy by growing them every year in a 5X5 feet plot. In addition, he is also conserving traditional varieties of Tomato (12), Brinjal (9), Luffa (4), bottle gourd (12), watermelon (3), bitter gourd (2), spinach (2), radish (2), fenugreek (2), chilly (4), pumpkin (3), Bengal gram (2) and 3 varieties of papaya. One of the traditional varieties of melon weighs between 12-15 kg and pumpkin from 20-30 kg.

Land use and cropping pattern:

Mr. Man Singh has 17.5 acres of land in which he grows sugarcane, paddy, toor, green gram, maize and millets (ragi, kangani and barnyard millet) during the Kharif season and wheat, chana and mustard during the Rabi season.



Irrigation:

Mr. Man Singh has one 2 bore well for which he pays an electricity bill of Rs. 12000/ year. He proudly claims that due to organic farming practices water level of his farm has risen significantly. According to him “Water level in my farm and the surrounding area has come up now, water level that was at 200 feet in the year 2010 is now at 80 feet after 10 years of organic farming, whereas water level in the chemical farmer’s field is below 200 feet.

Cowshed and Animals:

Mr. Man Singh has 4 cows and 2 calves. He collects cow urine and cow dung regularly which is used for making Ghan-jeepamrit, Jeevamrit, Gokripa Amrit and Dashparni.

Man Power:

Mr. Man Singh looks after the farm himself with the help of one permanent farm worker, who ensures timely irrigation, follows a strict spray schedule and makes various kinds of organic preparation for maintaining soil health and crop protection. The soil on his farm has become so soft that now weeding is done mostly by using a cycle weeder. Some 10 years back the soil in his farm was very hard and weeding even with the hands was quite difficult. Extra labour is also hired for weeding especially in paddy, sugarcane and millets. Labour wage in the region is Rs. 250/-day.

Land Fertility and Crop protection Management:

Mr. Man Singh has developed his own method of soil health management. He makes Ghanjeevamrit in large quantities every season. In Sugarcane he uses Ghanjeevamrut @ 10 qtl./acre and jeevamrit about 10-12 times during the cropping season with each irrigation. In addition, after 21 days, he sprays fresh cow milk mixed with turmeric powder. In addition, after every 45 days, he also does drench with cow urine. Two more sprays of cowmilk + buttermilk and turmeric are also done in sugarcane after 45 days.

In wheat and paddy, he uses 3-4 quintals of ghanjeevamrit per acre, 4-5 times jeevamrit, and 1 or 2 sprays of cow milk and turmeric (5.0-liter fresh cow milk and 250gm turmeric and 195 liters of water). He also told that “my experience to enhance the taste of vegetables one must spray the cow milk and turmeric preparation”.

The problem of pests and diseases is now negligible. But sometimes if it occurs, he uses neem oil and dashparni extract to control it.

Seed Breeding:

Mr. Man Singh is a very good seed breeder, which he learned through his passion for experimentation and learning. From 2016 onwards he is also keeping records of all the seeds on his farm right from sowing to harvesting. Through regular experimentation, he is now a trained plant breeder, who developed several varieties of vegetables, wheat and paddy. He also teaches techniques of seed treatment to other interested farmers. He is planning to register, patent and multiply the unique seeds he developed so that other farmers also get the benefit of his innovation.

Marketing:

In the beginning, Mr. Man Singh faced a lot of problems with marketing but slowly he started getting orders through his Facebook ID and known friends. Now he is selling many items online through transport or courier to different states of India like Gujarat, Telangana, U.P., M.P., which include organic jaggery, wheat, rice, millets, toor and moong daal. In addition, he has also started selling seeds of all crops he is growing on his farm.

Challenges and learnings:

According to Man Singh “Marketing is an important issue for a new organic farmer, so local or state Government should provide a platform for marketing of organic produces and also provide incentives to organic farmers. Jaivik farmers should always cultivate native crop varieties, which gives a good return if you follow certain principles of when to grow, what to grow and when to provide nutrition to the soil”.



Farm Economics:

The total cost of cultivation and processing for Sugarcane including making jaggery, basmati and other paddy varieties, toor, moong, maize, millets, wheat and mustard in his 17.5 acres (7.08 ha) of the land of

Mr. Man Singh is approximately Rs. 618600. It is also interesting to mention that most of the cost involved is for the conservation of 133 varieties of different crops ranging from grains to vegetables. His gross profit is about Rs. 1708500, whereas net profit is approximately Rs. 1089900. A summary of the annual income and expenditure of his farm is given below in table 3.

Table 3: Summary of annual income and expenditure:

Crops/ product	Cost of cultivation / Processing (in Rs.)	Gross Profit (in Rs.)	Net Profit (in Rs.)
Sugarcane, Jaggery + Mustard	277500	808000	530500
Basmati and other paddy varieties	83900	227500	143600
Toor, Maize, Millets and Moong	87250	222000	134750
Wheat	169950	451000	281050
	618600	1708500	1089900
Sugarcane is giving more profit to the farmer. Therefore, this autumn season he planted sugarcane in an 8-acre land.	618600	1708500	1089900
Sugarcane is giving more profit to the farmer. Therefore, this autumn season he planted sugarcane in an 8-acre land.			

As per Mr. Man Singh *“I’ll continue conserving all the traditional varieties, as well as developing new varieties. I also have a dream of patenting my unique varieties of vegetables”*. He further mentioned that *“growing Sugarcane is more profitable, so next year onwards I’ll be growing sugarcane in almost half of my*

land”. He concludes with the message that *“Organic farming is definitely profitable farming, but you need to learn from experiments and innovations. One must keep own seeds to reduce the cost of cultivation and ensure quality”*.



Mr. Manoj Patel

A big farmer from Sontalai, Harda, M.P., who does cow-based Organic farming

Mr. Manoj Patel is a 54-year-old graduate farmer of the village Sontalai, Tahsil-Handia, district Harda, Madhya Pradesh. Once a government servant left the job and started farming in the land, he got on lease from the MP government. In the year 2011, he started organic farming. He was motivated by Mr. Jugar Patel of Shivani, Banpura, M.P. and J.K. Babuldev of Gujarat state. He also received training in organic farming from Agriculture department M.P. and Mr. Jugar Patel

He considers himself the only big farmer in the state of Madhya Pradesh doing organic farming on 80 acres of land. Now he is giving training to farmers and motivating them to go organic. He was also rewarded by the state government and other organizations for his dedication to promoting cow-based organic farming.

Visitors and farmers come to see his natural farm almost every day. Now-a-days he is in the process of developing infrastructure for Agro-tourism in a big way. He is already offering a package of Rs. 4000/- for 3 days which includes a stay food and farm visit. Right now, only 6 people can stay at his farm. He also organized training for the farmers. Manoj Patel has two sons and both have done MBA.

Land use and cropping pattern:

Out of 80 acres of land 15 acres are under fruit trees. Of these 15 acres, 7 acres are under banana

and in the rest 8 acres, he is growing all kinds of fruits - guava, sitafal, cheeku, mango, avocado bel, ber, orange, mausami, citrus, etc. During the Kharif season, he has grown toor on 40 acres, green gram on 20 acres, sugarcane on 1 acre and maize on a 5-acres. Turmeric is also sown on 3 acres in between the fruit trees. In the current rabi season, he is growing Bansi and khapli wheat on 12 acres, chana on 9 acres and mustard on 12 acres.

Irrigation:

Manoj Patel has two tube wells that fulfill the need for water for irrigation. All kinds of liquid manure and bio-gas slurry are given to land from a tube well. He also has a drip irrigation facility for 40 acres of land.

Cowshed and Animals:

He has a well-managed pakka cowshed. At present, there are 70 desi cows and bulls. He does not sell milk or ghee. All of his cows are of Gir breed. Milk required for family and farm workers is taken, rest of the milk is left for the calves. He says "I am in service of cows and the only output I need is cow dung and cow urine". The farm is also equipped with a 6 cubic meter biogas plant.

Man Power:

At least 8 laborers are always present at the farm,



whereas during sowing and harvesting season additional labor is hired. For permanent labor he pays Rs. 200/- day and for other daily labor 250/- day. In addition, a family from U.P. is permanently working with him for the past 25 years.

Land Fertility Management:

Mr. Manoj makes different types of compost by using cow dung and farm waste. He uses waste decomposer liquid for the fast decomposition of biomass and cow dung. Slurry from the biogas plant is directly given to crops with irrigation. In addition, he also makes bio-dynamic compost, panchagavya and ghanjeevamrit. He also gives Jeevamrit with each irrigation. Crops are also sprayed with jeevamrit every 15 days. Seeds are treated with Beejamrita. Mr. Manoj Patel is growing Sugarcane in 1 acre mainly for making Jeevamrit and other preparations that need jaggery, but he uses sugarcane juice instead.

Crop Protection:

He makes dashparni for plant protection and sprays every 15 to 20 days. Neem oil and neem seed extract is also used when dashparni is not available. Seeds are treated with Beejamrita. Neem oil and neem extract is also used to control caterpillars. Rotten whey and jaggery-cow milk are sprayed especially in the fruiting stage.

Processing:

Mr. Manoj Patel processes green gram, chana and toor dal at his farm. For making daal he has a machine which costs Rs. 2 lakhs. A byproduct of the processing is used to feed animals. From this year he is also planning to have his own oil expeller.

Table 4: Summary of annual income and expenditure:

Crops/ product	Cost of cultivation (Rs.)/ production	Gross Income (Rs.)	Net Profit
Toor Daal	946000	2880000	1934000
Wheat (Bansi & Khapali)	417500	840000	438000
Chana Daal	154600	450000	201400
Green Gram	452000	840000	438000

Marketing:

Mr. Manoj Patel sells his processed or whole pulses and wheat mostly from his farm. He has a good reputation amongst the consumers. He also participates in various exhibitions, seminars and workshops. This helps him to sell his organic products as well as widen his consumer base. The farm is certified by M.P. State Organic Certification Agency. According to him “Certificate from MP State Organic Certification Agency does not help me in selling his products in bulk, it is my links and quality of my products which is helping me reach a wide range of customers”. He also adds that “marketing of organic products is still a big problem. I can’t sell my produce in bulk like chemical farmers who sell their produce at Mandi because there is no such place for organic farm produces in our state. The only way to sell organic products is retail marketing which is a time taking process”.

Right now, his banana crop is in the harvesting stage. But there is no organic market for this. The current market rate is Rs.3-4/-kg. Therefore, instead of selling to Mandi, he preferred to feed bananas to his animals.

Farm Economics:

Total expenditure on his farm for one year is about Rs. 2880700, whereas gross income per year is around Rs. 5472200. The net profit for Manoj Patel per year is Rs. 2591300. This year he fed bananas to his cattle as he could not get a good price in the market, which was although a big loss, but he considers it as God’s will. He will sell bananas in the local market only if he gets a good price. The summary of annual income and expenditure is given below in table 4.



Mustard Oil	234600	462000	227800
Banana	264000	00	-264000
Jawar & Maize for animals	112000	00	-112000
Miscellanies expenditures including the cost of sugarcane cultivation/permanent labour, machinery etc.	300000	00	-300000
	300000	00	-300000
	2880700	5472200	2591300

Mr. Patel is also involved in social service. Every year from March-April when Maa Narmada River Parikrama starts (an annual event when river Narmada devotees go around the river), hundreds of pilgrims pass through the farm of Mr. Manoj Patel. So, he also organizes Bhandara for about 2 months. Sugarcane juice is served to all visitors. A mixed fruit orchard is not profitable yet as fruits are only used personally or served to visitors. However, he is planning to make some processed products such as pickles from citrus, jam, and jelly from other fruits, which will further enhance his income.

As per Mr. Patel *“I feel satisfied by doing and*

advocating for organic farming. Organic farming needs patience, hard work along with scientific skills. Because of organic food medical bill of my family is zero”. He further adds that *“Don’t think of organic farming if you do not have a cow. Organic farming is not easy as chemical farming. The farmer must also have marketing skills to sell his organic produce”.*

Mr. Patel is now a big advocate of organic farming in the state. He is not only training farmers in organic farming, but he is also motivating farmers to go organic. Looking at his success many farmers have already shifted to organic in his area.



Mr. Roop Singh Rajput

a successful small organic farmer from Hoshangabad

Roop Singh Rajput is a 50-year-old matric pass small farmer of village Rohana, district Hoshangabad, M.P. He started organic farming from the 1-acre land area in 2008 and in 2010 he shifted all his 5-acre land under organic farming practices. He got trained and motivated by an N.G.O. Gram Seva Samiti, Hoshangabad. Through Gram Sewa Samiti he got an opportunity to be part of many exposure visits to several organic farms. In these exposure visits, he understood that crop diversity and multilayer farming can bring prosperity to the small farmer. Now he regularly participates in the exhibitions, workshops and seminars organized by the state government and NGOs. His farm is certified by M.P. Organic Certification Agency and PGS by Divya Yog Mandir Trust (DYMT), Haridwar.

Mr. Roop Singh has many awards in his credit including M.P. government's Sarvottam Krishak Puraskar and Shrestha Krishak Puruskar by Gujarat government. He also got an opportunity to visit New Zealand under the Chief Minister Agriculture Development Program of M.P. Visitors from different states of India and abroad come to see his farm and learn from him. Training programs are also organized on his farm by the government as well as NGOs.

Mr. Roop Singh has his own tractor with all essential attachments like cultivator, ridger, harrow, tiller, etc. He also has a biogas plant, which is used

for cooking and slurry for land fertilization. He has one son and a daughter. He is able to give his children a good education, as his son is pursuing a Ph.D.

Land use and cropping pattern:

Roop Singh has 5 acres (2.02 hectare) land. In 2011 he planted 150 teak plants and 25 guava plants on the boundary of his farm. In addition, he also developed a small fruit orchard having 50 citrus plants. Both Guava and Citrus are in the fruiting stage for the past 7 years. Recently in 2020, he planted 50 mango plants in a separate piece of land. On his farm, about 0.5-acre land is dedicated to fruit plants. In addition, he grows Basmati Paddy, green gram and premium quality Bansi wheat in 3.5 acres and seasonal vegetables in a 1-acre land. In the vegetable plot, he also grows Chana in 0.25 acres during the rabi season. He grows almost all seasonal vegetables such as tomato, potato, cabbage, cauliflowers, onion, turmeric, fenugreek, spinach, coriander, chilly, shimla mirch (bell pepper), French bean, eggplant and all cucumber plants.

Irrigation:

Roop Singh has his own tube well which is enough to meet his water requirements. He prepares different kinds of liquid manures. Liquid manures and biogas slurry are given from the tube well at



the time of irrigation.

Cowshed and Animals:

He has 4 Sahiwal cows, an indigenous breed. He is not selling milk but makes organic ghee which he sells at a premium price.

Man Power:

Mr. Roop Singh spends almost the entire day on his farm if he is home. He has employed a permanent worker, who is compensated with Rs. 9000/- per month. In addition, he hires labor for weeding, intercultural operations, sowing and harvesting of the crops and vegetables.

Land Fertility Management and Crop Protection:

Mr. Roop Singh makes compost by using cow dung, biogas slurry and farm waste. He also uses a waste decomposer for fast decomposition. In addition, he gives Jeevamrita with each irrigation. He also sprays jeevamrita on crops after every 15 days. He also gives waste decomposer to all his crops occasionally.

He makes and sprays Dashparni for plant protection at an interval of every 15 to 20 days. Neem oil and neem seed extract is also used when Dashparni is not available. All seeds and plantlets are treated with Beejamrita before sowing. He also uses Pheromone traps and sticky paper to control the pest population.

Processing:

Roop Singh sells his basmati paddy after milling as

organic basmati rice. He also does the processing of green gram and chana to make split dal at his home. Excess vegetables are sliced or cut into small pieces and dried and sold in the market after packing especially during the off-season.

Marketing:

Roop Singh has a good reputation as an honest and innovative organic farmer in the region, which he earned with his hard work and dedication. For the last few years now, many visitors are not only coming to see his organic farm but also to buy authentic farm-fresh or processed organic produce. Therefore, most of his produce is now sold from his farm. With the help of Gram Seva Samiti and district administration, an organic Haat has been established, which is being run on a weekly basis. Many organic farmers go there to sell their organic produce. He is also an active member of Jaivik Haat who also put his stall regularly to sell his organic products.

Farm Economics:

Mr. Roop Singh is a dedicated hard-working farmer. He sets an example that small farmer having land of 2.02 hectares can also live a dignified life with organic farming. The total annual expenditure for all farm operations and labour is Rs. 276800, whereas gross income from the farm is Rs. 759000. The net profit for Mr. Roop Singh from his farm is about 580800, which is more than 1 lac per acre. The summary of annual income and expenditure for his farm is given below in table 5.

Table-5: Summary of annual income and expenditure.

Crops/ product	Cost of cultivation (Rs.)/ production	Gross production (Rs.)	Net Profit
Vegetables	107600	210000	93000
Basmati Rice	51550	240000	188450
Wheat (Bansi)	63600	165000	101400



Green Gram	54050	144000	89950
Fruits (Citrus & guava)	Guava and citrus and citrus pickle (Approximate)	12000	438000
Dry vegetable	1.5 to 2 Qt./Year (Approximate)	12000	227800
Cow Ghee	@ 6 kg/month @1400/kg.	84000	-264000
	276800	759000	580800
150 Teak trees are planted at the farm boundary in 2011. All plants are healthy and straight. Teak is harvested after 16 years. The current average production per tree is Rs.50000-60000/-. Therefore, a farmer is supposed to earn Rs. 75 to 90 lakh by selling teak wood in the year 2026-2027.			

Mr. Roop Singh has also done long-term planning for his old age by planting 150 teak plants along his farm boundaries. By the year 2026-27, his trees will be 20 years old. By selling these trees he is expected to get anything between Rs. 75 to 90 lacs.

Mr. Roop Singh is now encouraging more and more

farmers to go organic. According to him *“I am getting sustainable income from my farm now and more than that my whole family is leading a happy and healthy life as our hospital bill is almost zero. Now I can proudly say that organic farming has become my hobby and I would like to advocate for it whole life”*.



Deepak Bhimrao Ghuge

A Farmer Scientist promoting Poison Free Farming

Mr. Deepak is a 32-year-old young emerging farmer scientist from Yeranda Village, Malegaon taluka, Washing district, Maharashtra. He started converting his farm to organic in 2010. In 2012, he came in contact with Dr. Santosh Chauhan, a microbiologist from Pune, Maharashtra. Since then, he has been using various preparations suggested by Dr. Chauhan. In 2019 he established a Farm Lab at his village farm with technical support from Dr. Chauhan. He is giving employment to two persons who help him in running this farm lab. Right now, he is manufacturing Trichoderma, Neem and Karanj oil, seaweed solution, seaweed coated granules, etc., used in organic farming.

Mr. Deepak is associated with the **Jaivik Shetkari Gut** having 1200 farmers across 4 districts of Maharashtra. These farmers visit him and purchase his bio-products. He is also providing free training to the associated farmers. Mr. Baibhav Ghuge who got trained by Mr. Deepak has also established the same type of Farm Lab in district Yavatmal, Maharashtra. Recently through financial support from the Human Development Council (Manav Vikas Ayog), 11 such farm labs were established in different Talukas of the Washing district. Mr. Deepak has also been selected as a resource person and trainer for establishing these labs and training support by the Council.

Land use and cropping pattern:

Mr. Deepak has a total of 15 acres of the agricultural

farm. He grows soybean, turmeric, toor during the Kharif season and wheat, chana and onion seed during the Rabi season. He also has a pomegranate orchard spread over 2.5-acre of land which has been giving fruits for the last 3 years. He also grew flowers in 1 acre of land in 2021.

Irrigation:

For irrigation, Mr. Deepak has one dug well in his farm, however, Pomegranate orchard and turmeric fields are equipped with drip irrigation systems.

Cowshed and Animals: Mr. Deepak has 2 cows and 2 calves. Cow dung is used to run the biogas plant. Biogas slurry is used for land fertilization. Cow urine is being collected and used for making various liquid manure and organic pesticides.

Man Power:

Mr. Deepak himself looks after his farm. Labor is hired during sowing, harvesting and weeding operations. The average labor rate in his area is Rs. 200 per day.

Land Fertility Management:

Mr. Deepak mainly uses biogas slurry for land fertilization. Every month about 5000 liters of biogas slurry is given to crops using rotation to cover all the fields. Biogas slurry or jeevamrit is



given to soybean, tur, wheat and chana only once, and 3 to 4 times to turmeric, vegetables and pomegranate orchard. He is making vermicompost and using it @ 20 kg./plant in a pomegranate orchard. He is also using chemical fertilizer DAP @ 15-20 Kg. /Acre.

According to him *“I am reducing the chemical fertilizer every year and plan to stop completely soon”*.

Aerobic Liquid Preparation for one-acre land:

For aerobic preparation, he uses Wheat flour-1 kg.; Jowar Flour-1 kg.; Bajra Flour-1 kg.; Rice flour -1 kg.; Urd, Moong, Tur and Chana- 250 gm. Each; 5 kg. Jaggery; and 1 kg. MUM substrate (supplied by Dr. Chauhan). All these items are mixed with water in 200 lt. drum and allowed to ferment for 7 days, after the preparation is given to the crop through irrigation or drenching.

Crop Protection:

According to Mr. Deepak, Trichoderma is prepared in various kinds of substrates, which works very well in controlling all types of soil-borne diseases and pests.

Table -6: Summary of annual income and expenditure:

Crops/ product	Cost of cultivation (Rs.)	Gross production (Rs.)	Net Profit
Pomegranate (723 plants in 2.5 acres planted in May 2015)	125000	420000	295000
Soybean (8-acre, production 71 Qt.)	160000	461500	301500
Tur (0.5-acre, production 2.5 Qt.)	9000	20000	11000
Turmeric (2-acre, production 50 Qt. dry turmeric)	95000	400000	305000
Onion Seed (1 acre, production estimated 4 Qt.)	56000	200000	144000
Wheat (1 acre, production estimated 18 Qt.)	18000	39600	21600
Chana (6-acre, estimated production 52 Qt.)	140000	275000	135000
	603000	1816100	1213100

According to Mr. Deepak *“Currently our Farm Lab is being run on a no profit-no loss basis. But it has the potential to earn at least 4 to 5 lac Rs per year, by creating demand for the manufactured products in the Lab. Farmers are coming forward and using*

Karanj and Neem seed extract (Oil) is used to control insects and other kinds of pests.

Marketing:

All the farm products are being sold at normal market price, mainly at Mandi. However, he grows onion seeds on a buy-back contract basis, for that, he gets the premium price of Rs.5000/- quintal more than other farmers, because of the quality seeds.

Farm Economics:

Mr. Deepak pomegranate orchard in the year 2015. To date, he has spent about Rs. 10,25,000 in his pomegranate orchard from plantation to installing a drip irrigation system. He has already recovered the amount spent to date and now his orchard has started earning profit. Annual expenditure on his farm is about Rs. 6,03,000, whereas gross profit is about Rs. 18,16,100. The total net annual income of Mr. Deepak from the farm is Rs. 12,13,100. Farm lab is currently being run on a no-profit-no-loss basis, which is giving employment to 2 youth of the village. Summary of annual income and expenditure of the farm is given below in table 6.

biofertilizers and pesticides in place of highly poisonous chemical pesticides. Organic farming has a great future in our country as people are now aware of hazards of agro-chemicals”





Gajanan Tulsiram Baged

Organic Farmer and a leader from Village-Metalsa, Washim, Maharashtra

Sri Gajanan Tulsiram Baged of village Metals of Washim district in Maharashtra is considered amongst the successful organic farmers of the state. He is also associated with Patanjali since 2011. He started natural farming in the year 2014 using Patanjali organic products like Jaivik prom, verticillium and Beauveria bassiana etc. In the year 2019, he initiated Farmer Producer Company with the help of Dr. Punjabrao Krishi Vidhyapeeth, Akola, which finally he was able to register in December 2020. He got trained in organic farming and various other aspects of FPO management from Krishi Vidyapeeth Akola.

According to Mr. Gajanan *“after forming FPO, our team was able to motivate other farmers of our as well as neighbouring villages, as a result now more than 500 farmers of the area have started following organic practices and 230 have become a member of our FPO”*.

Land use and cropping pattern:

Mr. Baged has 9 acres (3.64 hectares) of land. He is growing Toor and soybean during the Kharif season and Kusum (safola), Chana, Bansi wheat, mustard and flax seed during the Rabi season. His agricultural land is quite vulnerable to flooding during the monsoon period. So if it rains excessively, flooding destroys his crop often as it happened during the monsoon season of 2021.

Irrigation:

Mr. Baged has two borewells. In addition, there is a large pond located in the village. There is enough water for irrigation. His annual electricity bill is around Rs. 6000.

Cowshed and Animals:

Mr. Baged has 8 cows, a calf and 2 oxen. Cow urine and cow dung is collected regularly and used for making various kinds of preparations including vermicompost, Jeevamrit, Gokripa Amrit, etc.

Manpower:

Mr. Gajanan himself does most of the agriculture-related work like ploughing, spraying mechanized weeding etc. Labor is also hired during sowing, weeding and harvesting operations. The average labor rate in the region is rs. 150 per day.

Land Fertility Management and Crop Protection:

Mr. Gajanan uses well-decomposed compost for soil health management. He is also making vermicompost from the cow dung. He has been using Patanjali jaivik Prom for the past 5 years and found it very effective in enhancing the crop yield. On average, he gives 10 qt. FYM and 50 kg. of



Prom per acre, as a basal dose. In addition, he makes Jeevamrit and Gokripamrit. Jeevamrit and Gokripamrit are given to the crop twice through irrigation as well as a foliar spray. He also uses YES-9, a biodynamic product of Supa Biotech for the decomposition of Farm Yard Manure. He found it very good, according to him, YES-9 raw decomposes cow dung manure completely within 2 months.

Mr. Gajanan and all other members of FPO also grow green manure crops like Dhaincha and Sunhemp which is sown in the month of March and mixed in the soil after 45 days preferably at the time of flowering. In addition, Tarota (a leguminous plant) which grows everywhere as a weed in the region is also used for making organic manure.

Crop Protection:

For crop protection, farmers are mostly dependent on

off-farm inputs. He uses mainly Beauveria bassiana, Neem Gold (1500 cc & 3000cc), and homemade Dashparni for crop protection. At present inputs both for soil health and crop protection are being purchased from the FPO fund, which is giving member farmers a big relief.

Marketing: To date, there is no special market for organic products. Therefore, farmers are selling all their produce at Mandi rates.

Farm Economics:

In his 9 acres of farm, his annual expenditure is about Rs. 216200, whereas gross income is Rs. 530600. His total annual income is Rs. 476475 which also includes reimbursement of Rs. 46250 from FPO against the input purchase. The summary of annual income and expenditure is given below in table 1.

Table 3: Summary of annual income and expenditure:

Crops/ product	Cost of cultivation (Rs.)/ production	Gross production (Rs.)	Net Profit
Toor & Soybean	89800	210000	85975
Kusum, Chana, Wheat, Flax seed & mustard	126400	320600	344250
Support through FPO	-	-	46250*
	216200	530600	476475
	216200	530600	476475

*Reimbursement against the purchase of organic fertilizers and pesticides from FPO.

Mr. Gajanan Baged is a dedicated organic farmer, a good organizer and a leader. He, first of all, started organic farming himself and after getting good results he started motivating other farmers of the region. Now he has gone a step further by organizing farmers in an FPO.

According to Mr. Baged “organic farming is profitable if done with care and with patience. More farmers in the region are joining our FPO because of profit in organic/natural farming”. We have 230 members in our FPO but more than 500 farmers in the region have completely shifted to organic.

Yog Rishi Jaivik Kheti Mission Farmer Producer Company

Mr. Gajanan Baged and a few other farmers joined hands together to form a Farmer Producer Company, which was named Yog Rishi Jaivik Kheti Mission

Farmer Producer Company. This Farmer Company was registered in December 2020 with the help of Panjabrao Deshmukh Krishi Vidhyapeeth, Akola, Maharashtra,



under the National Jaivik Kheti Mission programme. Panjabrao Deshmukh Krishi Vidhyapeeth, Akola, is the nodal agency for running this mission. Under this mission so far 48 FPOs were formed in 6 districts of the Vidarbha region of Maharashtra.

The programme actually started in 2019 in which farmers were motivated to adopt organic farming, which was a basic prerequisite for becoming a member of FPO. District agriculture officers Shankar Totawar and Dilip Karwal organised a number of meetings with farmers of 5 villages. Finally, farmers agreed to be the shareholder of the FPO. The Yog Rishi Jaivik Mission FPO consists of 230 farmers from Metlsa (105 farmers), Kinod (25 farmers), Kuksa (25 farmers), Mangru Janak (25 farmers) and Nawali (50 farmers) villages. The average landholding of the group is around 6 acres.

The training was imparted to the member farmers by the Panjabrao Deshmukh Krishi Vidhyapeeth, Akola, in formulating FPO and its financial management. Each member has Rs.4000/- share in this FPO. Total farmer's holding in FPO is Rs. 920000.

Manging body:

Mr. Ghanshaym Tulsiram Baged from Metalsa village was elected as president cum Director and Mr. Damodar Anna Gode of Kenod village as a secretary of the FPO. All members meet once in 15 days.

Financial resources and expenditure layout:

Besides member shares, 1.5 crores have been sanctioned to the FPO from Jaivik Mission for 3 years, as a grant for implementing various organic agriculture-related activities within FPO. FPO already received 50 lacs as a first installment for the year 2020-21. This grant has to be spent on the basis of common guidelines set by the State Jaivik Mission. This grant is being utilized to purchase organic agri-inputs that include organic fertilizers, insecticides, pesticides, food processing aids, training and extension of organic farming practices, establishing organic utilities, soil and food grain testing, PGS organic certification etc. FPO employed 1 full-time trainer and 4 other co-trainer cum helpers for assisting

member farmers in practicing organic farming. A total of Rs. 47000/- per month is paid to all these facilitators. During the current financial year, FPO has spent Rs.16 lac on the purchase of Bio-dynamic inputs from Supa Biotech and Rs. 5 lac on the purchase of Prom, bio-insecticides from Patanjali.

Mechanized Seed Dressing Drum for seed treatment:

In addition, 18 lacs have been sanctioned for building a Go-down from Dr. Panjabrao Krishi Vidhyapeeth. Rs. 17 lacs were also received from Neeti Ayog for making Vermicompost units. FPO also received @ Rs.3000/ farmer for purchasing good quality seed of new crops like Kusum and mustard. NABARD has agreed to provide a 60% subsidy on the purchase of oil Ghanis. On the other hand, Tata Trust funding agreed to fund for PGS organic certification of the group.

Challenges:

According to Mr. Gajanan managing such a large group is not an easy task and therefore challenges are always there. So far 10 members have been expelled from the FPO because of non-compliance as they were not following the organic cultivation practices. The marketing of agricultural products is yet another big problem. Most of the cities like Akola, Amaravati, Wardha, Nagpur etc. are located at more than 150 km from the village.

Future Plan:

The basic idea behind this is that the FPO will produce some of the commercial crops in bulk and raw as well as processed products will be sold in the market. Efforts are being made for affiliation with some companies that want to involve FPO as a buy-back contract. FPO is also planning to go for quality organic seed production with the help of Dr. Panjabrao Krishi Vidhyapeeth, Akola. FPO has acquired about half an acre of land on lease for the construction of Go-down. In addition, three oil Ghanies are also proposed to be installed in three villages. During this Rabi season, FPO is growing Chana in 273 acres, Bansi wheat in 62 acres and Kusum in 70 acres of land.



Mr. Pawan Mishra

An Organic Farmer and Trainer from Lado Village, District Washim, Maharashtra

Mr. Pawan Mishra is a 50-year-old farmer and trainer from Lado village, district Washim of Vidharbha region of Maharashtra. He is known for his deep knowledge regarding the processes and techniques of organic farming. He and his colleague also formed a Farmer Producer Company, through which they are selling their organic products. Mr. Pawan has trained more than 5000 farmers in the Vidharbha region and is actively working with more than 150 farmers in the Washim district.

Mr. Mishra is a very well-known name in the region. He is also the recipient of many awards like 'Vasantrao Naik Jagruk Wachak Puraskar – 1998; Dainik Deshonnati Smriti Chinnha – 2002; Gaurav Chinha by Bharat Vikas Pratishthan Maharashtra – 2005.

Mr. Mishra has also written a book on techniques of organic farming in the Marathi language, which is being published by Navdanya Trust, New Delhi. He is also a very good trainer for organic farming. He has developed his own process of organic farming, wherein he suggests ten techniques.

As per Mr. Mishra, *“if farmer follows the ten techniques/steps in his farm following him, he or she will never fail. These ten steps are ‘Saving the farm soil and monitoring soil health by testing the soil on regular basis; Saving own farm water; Saving own farm seeds; Testing the seed germination before sowing; Treating the seeds before sowing using my preparation of Bijamrit as well as soil*

from the roots of healthy plants of the same crop; Pre-monsoon sowing for Kharif crops; Mix farming as a rule; maintaining Proper soil health/nutrition management; Pest and Disease management and finally; Adopting good post-harvest practices and processing of raw material for value addition so that farmer gets a good price in the market’. With little effort, one can also make a market for his / her organic farm products. Organic But farmers must not compromise with the quality at any stage of farming to make some extra money”.

Land use and cropping pattern:

Mr. Pawan Mishra owns 13-acre land. He cultivates Soybean, Toor, drumstick during the Kharif season and sesame, vegetables, and wheat during the Rabi season. One of the major attractions of his farm is flowers which he grows round the year. However, during the current Rabi season, he is only cultivating sesame and flowers.

Irrigation:

For irrigation, Mr. Pawan has one dug well in his farm, which is sufficient for his farm needs as per his words. He makes all efforts to save every drop of water that falls on his farm. He states that *“Water is a gift of God, we need to welcome it by making required environment like big trees, followed by crop cover. We must make sure that raindrop is not touching the soil directly, which otherwise erode our soil. In addition, we need to make our*



soil porous and rich in organic carbon, to increase the water-holding capacity of the soil to retain more water for a longer time”. According to His power bill comes around 4000/year.

Man Power:

Mr. Pawan himself looks after his farm. He also has two permanent female workers on his farm. Additional labor is hired during sowing, weeding and harvesting periods when more manpower is required. The daily labor rate in his area is Rs.200 per day for women and 300 for men.

Land Fertility Management:

Mr. Pawan does not have cows or any other animals. “I travel a lot outside for training, so I sold off my cows as it was becoming difficult to look after them,” told Mr. Pawan during the interview. he purchases 5 trolleys of Farm Yard Manure every year which he put on his farm using rotation. Normally he applies 2 trolley FYM in one-acre land at an interval of 2 years. In addition, he applies Jeevamrit to each crop twice or thrice in a cropping season. For making Jeevamrit, dung is collected from his farmer friends. Every seed is sown by treating with Beejamrit for which he has developed his own formula and uses lime, cow dung extract, cow urine and termite soil.

Crop Protection:

As per Mr. Pawan caterpillar is the major pest that

Table – 8: Summary of annual income and expenditure (Year 2021-22):

Crops/ product	Cost of cultivation (Rs.)/production	Gross production (Rs.)	Net Profit
Soybean (5 acres) Production 32 Qtl.	62000	192000	130000
Tour (Gajab, Charu & Foole Rajeshwari) (3 acres) Production-14 Qtl.	41000	175000	134000
Flowers (Aster, marigold, spider lily, rajanigandha) 3.5 acre	110000	270000	160000
Sesame (2 acres) Production-8 qtl.	16000	80000	64000

damages most of the crops in his farm as well as in the area. With the experience of about 3 decades, now he has deep knowledge and understanding about process and time, that when and how moths and butterflies lay eggs on plant parts. So, he never forgets to spray dashparni (extract of leaves of 10 plants) extract made in cow urine and cow dung well before they start laying eggs. He says that the “smell of dung and cow urine keeps away moth and butterfly, therefore they can’t sit on plants and lay the eggs”. He also uses heeng (Asafoetida) and termite soil extract to control the fungus problem.

Marketing:

Soybean and sesame are sold in local mandi and toor is sold as seed @125/kg. While flowers are picked daily and transported to Karanja Tehsil through bus or auto. Farmer also tried to sell toor daal and wheat through organic shops in Amaravati. But he found it quite cumbersome because payment by the seller is done in pieces and that also only after his products are sold.

Farm Economics:

Mr. Pawan Mishra in his 13 acres of land earns about Rs. 4,76,000 per annum. The gross income of his farm is about Rs, 7,21,000, whereas the total cost of cultivation including labour and all inputs is about Rs. 2,45,000. *A summary of the annual income and expenditure of Mr. Pawan Mishra’s farm is given in table 8.*



Drumstick Leaf powder (0.5 acre)	2000	4000	2000
Electricity bill & cost of manure	14000	0.0	-14000
	245000	721000	476000
This year Mr. Mishra did not cultivate wheat and vegetables during the Kharif season. This year he made 4 kg. drumstick leaf powder and sold it @1000/- kg.			

According to Mr. Mishra *“If I’m able to spend more time on my farm, I can definitely double my income, as organic farming needs more attention and proper planning. Many farmers in my area and outside follow my techniques of organic farming and are successful”*.

When asked if you can replicate the same model using your techniques elsewhere, he said *“Yes, I’m ready to take any challenge, anywhere in the country. I can assure that even in the very first year farmers would not be at a loss if he uses my techniques”*.



Mr. Sagar Rawale

A Natural Farmer who uses Waste Decomposer

Mr. Sagar Rawale is a 45-year-old farmer from village -Washim, Washim district of Vidharbha, Maharashtra. He got inspired by Mr. Ravi Marsetwar of the same district who was doing organic farming for many years. He started natural farming in the year 2017. Later on he came in contact with Dr. Krishn Chandra of Ghaziabad who has invented West Decomposer. Initially he reduced the quantity of chemical fertilizers, started following organic practices and from 2019 onwards he completely shifted to natural farming. Now he is doing organic farming mainly by using Waste Decomposer.

Mr. Sagar believes that *“a farmer can do organic farming exclusively with the help of Waste Decomposer. I am saving about Rs. 2 lakh every year which I was spending on purchasing chemical fertilizers and pesticides”*. He further mentioned that *“My cousin brother who supplied me seeds and chemicals is not happy with me anymore, as I have stopped buying seeds and chemicals from his shop and not only this but after seeing good results, I am also encouraging other farmers to stop using chemicals by adopting natural farming”*.

Land use and cropping pattern:

Mr. Sagar owns 8.09 ha. (20 acre) land, out of which he is growing crops in 6.68 ha. (16.5 acres). He grows tour, soybean and turmeric during the Kharif season and chana and wheat during the Rabi

season. In this Rabi season he is also growing Chia seeds on contract basis. Chia (*Salvia hispanica*) belongs to the mint family, valued for its Omega-3 fatty acid content and is useful in heart problems.

Crop Loan:

According to Mr. Sagar, he is eligible for Rs.3.5 lac crop loan in every season at 6% interest, which is provided on the basis of land holding. This loan has to be returned before March every year to avoid cumulative interest as well as to retain the benefits of crop insurance.

Manpower:

Farming is the only source of livelihood for Mr. Sagar and his brother. In a addition 2 women work permanently on his land, and more labor is hired during sowing, harvesting as well as post-harvesting operations. Labor cost in his area varies from Rs.150 to 200 /day. He owns a tractor with ridger and bed maker. Threshing is done on a rental basis. He also uses a cycle weeder /hand weeder for weeding on his farm.

Mr. Sagar also developed a cycle-based spray system that is able to hold 90 lt. of liquid at a time. This has helped him reduce the cost of labor on spraying, for this innovation he was also awarded by Ludhiana University.



Irrigation:

Mr. Sagar has one dug well and a tube well. He pays an average annual electricity bill of around Rs. 15000. He irrigates his crops using flood irrigation through temporary gools.

Land fertilization:

Cattle dung is used to make compost using a waste decomposer which takes about 2 months. Compost is given to the fields on a rotational basis and depending on kind of soil. A waste decomposer is also given directly water to crops with each irrigation. He also makes stone extract (Stone juice) in order to fulfil the micronutrients requirements of the crops. Stones of different colours are collected and put into a drum with a waste decomposer for 21 days. It needs to be churned clockwise daily by a stick for about 5 minutes. This extract is given to crops using sprayer by mixing with waste decomposer and normal water. Each crop is sprayed with this solution at least 5 times during the cropping season. When he observes the problem of nitrogen deficiency in the crop, i.e. leaves are showing yellowness, he sprays copper-treated whey, which has fabulous results. He also decomposes horse dung or goat excreta with waste decomposer and sprays it on the crops showing nitrogen deficiency. Followings are some recipes of the preparations used by Mr. Sagar-
Waste Decomposer: 200 water + 2 kg. jaggery- leave for 7 days. Churn it daily with a stick- spray on the crop @ 5 Lt./pump of 16 lt. or give to crop through irrigation.

Stone Juice:

25 kg different colour stones 50 lt. waste decomposer- churn it daily for 21 days- strain and spray with waste decomposer @ 250ml/ pump.

Copper treated whey (Mattha):

250 gm. Copper dipped in 10 lt. of whey and 10 lt. waste decomposer for about 21 days- churn it daily- spray 1-2 lit on crops by mixing with 5 lt. waste decomposer/

pump of 16 lt.

Goat/horse dung liquid manure: 5 kg goat/horse dung decomposed in 200 lt waste decomposer for 7 days- strain and spray.

Insects and pest control:

He uses Nimboli (Neem seed) extract, and Dashparni (10 different leaves) extract in order to control insects, pests and fungal diseases. For fungal problem he specially uses copper-treated whey. He also uses Bajra flour and alum (Fitkari) to control fungal diseases. When insect's insurgence goes beyond control, he also uses Agneyastra and Brahmastra preparations given below as suggested by Mr. Subhash Palekar.

Nimboli Ark:

25 kg. Neem fruit powder (@ Rs.25/ kg.) or Neem cake + 200 lt. Waste decomposer - leave it for 7 days- strain and spray @ 5ml/lt.

Dashparni:

20 kg. (2 kg. each) 10 types of leaves having insecticidal properties (like: neem, datura, tarota, parthenium, besharam etc) + 200 lt. of water- decompose it for 21 days or more - strain and spray @ 05 lt- 1 lt/ pump of 16 lt depending on the intensity of pest attack.

Weed management:

Weeds are controlled by following Dora (ploughing of the interspace between two-row by using bullocks, hand weeder, or cycle weeder). Weeds are also uprooted by hand using labor. Normally a few broadleaf weeds grow which are uprooted by hand.

Farmer's Observations:

Mr. Sagar has observed many ecological changes on his farm. According to him *"I have seen few new kinds of leguminous and broad-leaved weeds such as chhui-mui, wild pulses which I have never seen in chemical fields. In addition, many friendly insects like red ants,*



trichogramma type of wasps, ladybird beetle etc. are very common now, which helps natural pest control. The soil in my farm has become very soft as it takes only 2 hours to prepare field, whereas earlier to prepare the same field 5-6 hours were required”.

He further adds that *“waste decomposer is also a kind of medicine. I have given a waste decomposer to my sick ox who was not eating anything for many days. The doctor also refused to treat him and declared that he will survive only a few days. I tried a waste decomposer and gave him water; amazingly he started eating and became normal within 2 weeks. He survived 2 more years after he was treated with a waste decomposer. I have also experimented with waste decomposer for dandruff and hair fall, and found it very effective”.*

Marketing:

Mr. Rawle is selling most of his farm produce in the local mandi at a normal price. He has also started processing about 25% of his turmeric into the powder and selling it to local consumers. Because of quality, demand for turmeric powder is increasing and now he is also planning to process and sell toor and chana daal.

Economics:

Total expenditure for the production of his crops is about 677385 per annum, whereas gross income from his farm is about Rs. 2272600. His net profit from his 6.68 ha farm is around Rs. 1595215 per annum, summary is given in table 9.

Table 9: Summary of annual income and expenditure of the organic farm:

Crops	Cost of cultivation (Rs.)/production	Gross Income (Rs.)	Net Profit
Toor & Soybean	197225	798000	600775
Turmeric dried + t. powder	282750	1140000	857250
Chana whole	72625	180000	107375
Wheat	18125	39600	21275
Chia seed	26660	115000	88340
Miscellaneous expenditure- 5 qt jaggery + regular labor (500MD) @120/day- per year	80000	0.0	0.0
	677385	2272600	1595215

Note: Average production of chia seed reported in UP is 6-7 qt./acre while optimum production is reported 20-25 qt./acre.

Mr. Sagar is a very confident motivated and committed farmer towards organic. He not only believes in and practices organic farming but, but is also a big advocate. According to him *“many farmers visit my farm and ask me about the techniques, especially waste decomposer and stone juice. Many farmers have also adopted the*

technique and benefited. I want to see more farmers leaving chemical farming and adopting organic farming practices, especially stone juice and decomposer. It is miracle in reality. Others should follow organic farming. It is definitely more economical and low-risk farming”.



Savita

A successful Women organic farmer and entrepreneur from Wardha, Maharashtra

Smt. Savita J. Yelane, village Kanapur, district Wardha, Maharashtra is a matric pass woman who started organic farming in the year 2008 in her 1-acre area after she received training from the Centre for Sustainable Agriculture (CSA) based in Secunderabad, Telangana. Subsequently, she also attended training organised by the state agriculture department, Maharashtra. During an exposure visit, she visited the organic farm of Mr. Subhash Sharma. After this, she started organic farming on 6-acre land in 2012. After that, she brought another 3 acres of land under organic farming. She is associated with Maharashtra Rajya Jeevan Unnati Abhiyan, through which she is now imparting training in organic farming to the women of the Wardha district. Smt. Sarita was awarded by Taluka and district-level certificates of excellence in innovative organic farming. Her husband and children also help in farm management. Village farmers are getting motivated by Savita and now more than 30 farmers have started growing organic food, especially for their own consumption.

With the help of sustainable income from organic farming, Mrs. Savita is leading a good life and is also able to provide a good education to her children. Her daughter has done B.E. and her son has just completed MSc. Agriculture.

Land use and cropping pattern:

Mrs. Savita owns 9-acre land, out of which 6 acres is near her home and the rest 3 acres is about 2

km away from her home. In her 6 acres of land, she is doing organic farming, whereas in the rest of the 3 acres she partially followed organic practices while growing cotton, till last year as she sprayed chemical pesticides to control the bollworm. However, last Kharif season, she decided not to grow cotton, instead, she grew soybean and toor following organic practices.

Cropping pattern:

Land area of 6 acres near her house is dedicated for cultivation of all seasonal vegetables, sugarcane, soybean, toor, chana, papaya, etc. Whereas in 3 acres land which far away from the village she is taking soybean and toor.

Cowshed and Animals:

Mrs. Savita rears desi cows and oxen. She has 6 desi cows and 2 oxen. Milk is limited for family consumption. She has made nice arrangements for the collection of cow urine in her cowshed. All cattle urine is drained down through pipes which is being collected in a bucket placed outside.

Man Power:

In addition to farm works, Savita is also involved in household works and managing the vegetable shop. Her husband looks after land and outside work. Her son Mr. Amar also helps her mother.



She has employed one person from their village who is being paid Rs. 10000/- per month to look after crops (spray, irrigation, fodder collection, etc.) and cows. In addition, extra labor is hired for weeding as well as at the time of sowing and harvesting of crops.

Irrigation:

She has one dug well at her 2-acre vegetable farm and bore well in a 4-acre Papaya farm. There is no irrigation facility available for 3-acre farmland located outside the village. For electricity, she pays around 20000-25000/year.

Land Fertility Management:

Savita has 2 NADEP compost pits where she makes compost once a year. Compost is also prepared in underground open pits by mixing farm waste by piling in a layer-by-layer manner. She also has 2 pakka vermicompost pits. About 2 kg. of jaggery solution is poured on the compost pits by making holes. It helps in the fast decomposition of biomass and dung. She also gives jeevamrita or Sajeev Jal with each irrigation at an interval of 15 days. The entire compost is used in 9 acres of land, nothing is purchased from outside.

Crop Protection:

For crop protection, Mrs. Savita mainly uses the Dashparni solution. Neem leaves and other 9 types of leaves having pesticidal properties are fermented with cow urine, water and jaggery for about 2 months. Of this 300-400 ml dashparni is used in 15 lt. spray pump. Spraying is done at an interval of every 15-20 days on

a regular basis whether pests are there or not. She also uses neem fruit extract for plant protection.

Marketing:

In 2008 Mrs. Savita used to sell her papaya and vegetables just sitting by the side of the road in baskets. After 2012 she opened her shop on Nagpur –Wardha Road, outside her farmland. She opens the shop at 2 pm every day and closes at 6 pm. Now people from Nagpur and Wardha are coming regularly to purchase her chemical-free vegetables. Average daily sale fluctuates from Rs. 1000 to 2500. Her average per day sale is about Rs. 1600. In addition, she also has a sugarcane juicer machine. Sugarcane juice is sold during the summer season mainly in May-June. From this outlet, she is selling all her farm vegetables, processed chana and toor, turmeric powder and papaya. Soybean and remaining toor is sold in mandi on market rates. She is selling all her farm products at market rates without charging any premium price for organic.

Farm Economics:

Mrs. Savita is a hard-working woman who is now being supported by her husband and son. Starting with just one-acre land in 2008 she converted the entire land to organic. Slowly she started selling her farm produce outside her farm on Wardha Nagpur road. Now her annual income from the farm including the shop is around 678850 per annum. The total cost of cultivation is about Rs. 290260, whereas gross income is Rs. 969110. A summary of her annual income and expenditure is given below in table 10.

Table 10: Summary of annual income and expenditure:

Crops	Cost of cultivation (Rs.)/ production	Gross production (Rs.)	Net Profit
Seasonal Vegetables, papaya, toor, soybean, wheat and sugarcane in a 6-acre land.	235000.00	861400	626400.00
Toor & soybean in 3-acre area	55260.00	107710.00	52450.00
	290260.00	969110.00	678850.00



Mrs. Savita is now associated with Maharashtra Rajya Jeevan Unnati Abhiyan as a trainer for organic farming. Once a shy woman is now an entrepreneur and advocate of organic farming. Many farmers visit her farm and have shifted to organic farming.

According to Mrs. Savita “Organic farming can give

you sustainable profit if you are innovative and work hard. I’m able to lead a happy and healthy life after shifting to organic. Now our health bills are negligible, as they have significantly come down, in addition, I was able to give good education to my children, which was possible only because of organic farming”.



Baibhav Thakare

An Organic Farmer who turned Trainer

Baibhav Thakare is a 35-year-old young farmer from Badhad Village, Yavatmal, Maharashtra. He started organic farming in the year 2017 on his 15-acre land. He learned organic farming from Subhash Palekar, Subhash Sharma and many others. Later on, he joined an NGO **Pandit Deen Dayal Upadhyay Shetkari Prakalp**. This NGO is working on low-cost farming practices. Now he is working as a trainer of organic farming in Washim and Yavatmal districts. According to him, his organization is working with about 7000 farmers.

Land use and cropping pattern:

Mr. Baibhav has a total of 33 acres of land, out of which 15 acres is cultivable land rest of 18 acres is a wasteland. He grows cotton, toor, soybean, chana, mustard and vegetables. This year he is planting orange trees in about 3-acre land. Soil type in his farm is black cotton soil and light murrum. He also has a drip irrigation system in about 4 acre area.

Irrigation:

Mr. Baibhav has one dug well. In addition, a river flows nearby his land from where a canal is flowing to his land. Electricity is used for lifting the water for irrigation. His annual electricity bill is around Rs. 4000.

Cowshed and Animals:

Mr. Vaibhav has 2 cows and 2 oxen. Cow urine and cow dung are collected regularly and used for making various kinds of preparations like Jeevamrut, Gokripa Amrit, Dashparni etc.

Man Power:

Mr. Baibhav looks after his land himself. Labor is hired during sowing, harvesting and weeding operations. The average labor rate in his area is about Rs. 200- day.

Land Fertility Management:

Mr. Baibhav uses Jeevamrit, Gokripa Amrit, garbage enzymes and fermented whey for land fertilization. All these preparations are given to crops through irrigation and spray. He also makes bilwa rasayan (fermented bel fruit) as a source of potash.

Crop Protection:

Mr. Baibhav makes various kinds of Jaivik preparations for crop protection.

Dashparni (10 types of leaves having insecticidal properties) is used for controlling insect and fungal



diseases.

Sorghum flour (2 kg) is mixed with curd, tobacco, chili and ginger- fermented for 21 days- used to control all kinds of insects.

To control fungus Asafoetida (heeng) and Mucuna (kaunch seed) seed powder and the extract is effective. Nimboli ark is also prepared on large scale for controlling all kinds of pests. 20 kg. neem seed powder is fermented with 100 lt. water or cow urine. After 21 days, it is strained and can be stored for years. 60 ml per liter is used if it is made in cow urine and 150 ml/liter is used if it is made with water.

Bajra flour (2 kg.) is mixed with 10 lt. water and put into an airtight container for 50 days. The fermented solution is strained and used as insecticide @ 5ml/lt, to control caterpillars.

Pandit Deendayal Shetkari Prakash distributes nimboli

ark and dashparni to the all-organic farmers free of cost. Approximately, 10000 lt. is distributed in every cropping season.

Marketing:

Six organic farmers from Vaibhav's village have jointly established a processing unit for wheat, toor and chana. So far all these farmers are selling their organic produce in mandi at market price.

Farm Economics:

Total annual expenditure in Vaibhav's farm is about Rs. 148500, whereas gross income is about Rs. 358000, His net income from the farm is Rs. 209500. According to him "I could not look after my farm last year due to illness of my father". Summary of annual expenditure and income is given in table 11.

Table 11. Summary of annual income and expenditure

Crops/ product	Cost of cultivation (Rs.)/production	Gross Income (Rs.)	Net Profit
Tur & Soybean	75700	228000	152300
Cotton	11200	15000	3800
Mustard	13900	15000	1100
Chana & Wheat	34700	100000	65300
Electricity bill/ year	3000	0.0	0.0
Miscellaneous Expenditure: 0.5-acre sugarcane destroyed by Boars cost of Jeevamrit and other preparation	10000	0.0	0.0
	148500	358000	209500
Mr. Baibhav could not look after his agriculture land because of his father illness. His father is suffering from thought cancer.			

As per Vaibhav "Organic farming is a profitable occupation if done with commitment. We need to motivate more and more farmers for organic farming to minimize the soil and water pollution and improve the health of farmers".

Despite low yields, low returns amidst family problems

Mr. Vaibhav is happy with the outcome. He also adds that "despite crop failure and the family problem I was not in loss. Whatever I got from the farm is my profit as I am not spending anything from my sprocket. Whatever is coming from the farm is put back to the farm".





Vijay Vishwakarma

A teacher who became a successful organic farmer

Mr. Vijay Vishwakarma is a retired teacher from village Pusad of Yavatmal district of Maharashtra. After retirement in the year 2017, he observed that whatever they are eating is not healthy food but blended with poison as farmers are using chemical fertilizers as plant nutrients and pesticides to protect their crops. So, he decided to grow healthy food by growing chemical-free food for home consumption.

He was not having land for farming, so first of all he bought 2.5-acre land in village Pusad which is about 12 km from Yavatmal city and started learning and finding the way out and means of growing organic food crops by himself. Through interaction with farmers and searching on the internet as well as through various authentic sources, he found that having a Deshi cow is a prerequisite of chemical-free farming. So, immediately without any delay he bought a desi cow of Gir variety and started farming. Initially, during the first two years, he got less yield compared to the neighbouring farmers. But after two years he got equal or even better yield than chemical farmers.

The interesting thing about Mr. Vijay is that he started from scratch, and learned farming through farmers and youtube. He hasn't taken any training in farming, but now he is a successful organic farmer.

His entire farm has black soil with murram (gritty) having a maximum of 1-meter depth. He uses only

cow urine and fermented cow dung as input.

According to him *“People are making organic farming complicated. One must have at least one indigenous cow to start organic farming. We can grow the crop just by using cow urine and a little bit of fermented dung”*.

He has a total of 10 cattle including calves in his cattle shed, wherein he has designed a proper drainage system based on gravity for the collection of cow urine.

Dairy:

In 2018 he bought 2 Gir cows, now the number of animals has increased to 10. He has made provision for the collection of cattle urine, which is drained through a pipe at one place in his cowshed. Average milk production is approximately 10-12 liters per day. The cost of maintaining cows is borne by selling milk.

Land use and cropping pattern:

Mr. Vijay planted about 700 fruit plants in his 2.5-acre land in the year 2019. The fruit plants include Guava, Sitalfal and Mango for commercial purposes and other plants like Amla, Pomegranate, Bel, Ber, Cheeku, Banana, Orange, Mosambi and Papaya were planted for personal use. Moringa is also grown on-farm boundary. Currently, he is doing organic farming in about 10.5-acre land, of



these 7.5 acres belong to his brother for which he is paying annual rent. Major crops on his farm are mostly turmeric in about 2.5 acres, and Toor & Soybean in about 4 acres. After harvesting soybean, chana is sown in 4 acres and wheat in about 1.5 acres. Crops are regularly rotated for better output. All fruit plants and turmeric plot is equipped with a drip irrigation system.

Manpower:

Mr. Vijay has one person on his farm to look after farm animals, land fertility management and crop protection, who is compensated with Rs. 9000/month. Besides this, he is also responsible for irrigation, spraying and fodder collection for animals. Labor from outside is hired during land preparation, sowing, weeding and harvesting/post-harvesting operations. Daily labour charges for women are Rs. 130/day Rs. 250/ day for men. Weeds from the fields are used to feed animals.

Irrigation:

The main source of irrigation is a canal, for which he is paying Rs. 500/- per month. For canal water one has to register. Mr. Vijay has registered only 2.5 acres under canal irrigation, for the rest of the leased land he has one dug well. The electricity bill for lifting water is Rs.500/month.

Weed management:

Weeding is done by hand. Normally two weedings are sufficient. Weeds are fed to animals and every day about 150 kg of weeds are fed to animals. He is not growing fodder grown to feed animals, it is managed through

weeds and grasses growing in the field.

Land fertilization and crop protection:

Compost made of animal dung is used only in fruit plants. For other crops he never used any type of FYM, instead, he gives fermented fresh dung, jaggery and bio-discomposure solution. This fermented dung mixed with cow urine is given with each irrigation at an interval of 15 days. In addition, 500ml Dashparni, 250 ml cow urine and 500 ml of fermented liquid compost is sprayed on each crop at an interval of every 15 days. To control the yellow mosaic disease of turmeric, he uses fermented babul leaf extract.

Marketing:

Mr. Vijay is registered on Amazon where he sells his organic turmeric. 40% of his turmeric is sold online through amazon. He also processes tours and chana which are sold locally at premium prices. Fruits are also sold directly from his farm.

Farm Economics:

Mr. Vijay keeps a record of income and expenditure of each field as well as crop. According to him *“My fruit orchard of 2.5 acres is still in loss of Rs. 58350, as only 25% of his orchard is productive. It will start giving profit in next 2 years”*. In addition, he also pays the lease for the land of his brother. Summary of crop-wise total income, expenditure and net profit is given in the table 12 below:

Table 12: Summary of annual income and expenditure:

Crops	Cost of cultivation (Rs.) / Production	Gross Income (Rs.)	Net Profit
Fruits (2.5 acre)	133350	75000	-58350
Turmeric (2.5 acre)	143750	900000	756250
Tour & soybean (4 acre)	126480	214500	88020
Tour	0	0	40000
Chana (4 acre)	56500	112000	55500



Wheat (4 acre)	26850	67500	40650
Dairy Milk @10lt/day	120000	180000	60000
	606930	1549000	982070
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(Half of farm caretakers' cost is adjusted in land fertilization head of crop cultivation)

Total expenditure in his total 10 acres of land for one year is about Rs. 606930, whereas, gross income is 1549000. Mr. Vijay earns Rs. 982070 from 10 acres which is almost one lac rupees per acre despite charging a lease of Rs. 10000 / acre. Mr. Vijay is a

very good example of a person who started organic farming without any knowledge which proves that you can definitely get success and achieve any goal if you are committed to the task and work hard.



Anil Chamola

An Organic Apple farmer from Uttarkashi district, Uttarakhand

Mr. Anil Chamola a 60-year-old farmer presently residing in village Gainchangaon, block-Mori, Uttarakhand needs no introduction now, as he is known as a successful organic Apple farmer in the region. He bought 6 acres of land in 2015 in Gainchangaon village and started planting apple plants in 2016. He also has an apple orchard in Hatkoti, Himachal Pradesh where he has been doing apple farming for the past 30 years. He followed chemical farming practices till 2018 but after that when he came in contact with social media, he decided to follow organic practices. Now he is also practicing organic farming of apples in his 30-year-old apple orchard of Hatkoti, Himachal Pradesh.

Land use and cropping pattern:

Mr. Anil Chamola's 6-acre land is lying on sloppy terrain at the edge of the Gaichangaon village boundary. He is growing mainly two varieties of apple Red Chief and Gale Gala. These varieties are planted on M9 rootstock. This rootstock was imported by the Himachal Government from Italy. Apple plants are planted at a distance of 4- 5 feet. All these plants started fruiting in the 3rd year. At present, he has over 5000 plants, of these 3000 are in the fruiting stage and the remaining 2000 plants will start flowering this year 2022. Plantation of new plants is still in progress.

Irrigation:

Irrigation is being managed from a perennial stream flowing just 300 m away from the orchard.

Cowshed and Animals:

So far farmers have no animals at this place. But he has cows at his other orchard located at Hatkoti. Right now, he is managing the requirement of cow dung and cow urine from other farmers of the village Gaichangaon.

Man Power:

He has employed 3 permanent workers for looking after his apple orchard. More labor is hired during the peak working period. According to him, the annual expenditure on labor is around Rs. 6-7 lacs.

Land Fertility & Crop protection Management:

Mr. Anil Chamola is using jeevamrit and west decomposer as the main source of soil fertilization. He also sprays Panchgavya and rock extract 3-4 times during the fruiting season. With jeevamrit, he mixes bio-fertilizers and bio-pesticides like Trichoderma, Pseudomonas, Verticillium etc. From this year he is planning to spray soil on his



apple plant as fertilizer and pesticide. One spray has done when plants are ready to flower.

About 20 Kg. of soil from a depth of 3 feet and 2 kg fertile surface soil from his farm is mixed properly with about 180 Lt. of water in a 200 lt drum for about 36 hours. This soil extract is sprayed on the plant after adding 2 kg. Caſtor oil. In addition, he also sprays rock extract after leaves ſtart appearing, then in mid-May and later in the month of June. He also does mulch in each plant to protect the ſoil moiſture and increase nutrient availability to the plants.

Mr. Anil ſays that “there is a huge problem of canker, which is one of the known fungal diſeaſes in this region, but my plants are free from this diſeaſe as I’m using organic techniques of nutrient management and plant protection”.

Marketing:

Mr. Anil is not yet an organic certified farmer. He ſells his produce in open mandi. But his apples are ſo uniform and ſhining that he fetches more price than other farmers. He is ſelling his apple, minimum @ Rs. 150/-kg for the laſt 3 years.

Challenges and ſuggeſtions:

According to Mr. Anil “ I have ſeen the YouTube videos of Mr. Tarachand Belji, Subhaſh Sharma, Subhaſh Palekar and many others. But I am in ſearch of very-very ſimple techniques which can be uſed eaſily by the apple farmers. At preſent, for one ſpray I need 1000 drums of 200 lt. each. Therefore, I am experimenting with ſoil ſpray, which looks quite effective as of now. I alſo do mulching, which is very helpful in retaining moiſture as well as nutrient management. Efforts are needed to make organic nutrients and peſticides eaſily accessible to farmers”.

Economics:

Starting a new apple orchard in 2016 using chemical farming, he ſhifted to organic in 2019 to reduce the expenditure on management, eſpecially nutrition and crop protection. After ſhifting to organic my orchard has improved a lot. The number of plants are increasing on my farm every year, but the maintenance coſt is not increasing in that proportion. Slowly more and more apple plants are bearing fruits every year, ſo is the profit. Summary of the annual coſt of maintenance and income from beginning till 2021 is given below in table-13.

Table-13: Summary of annual income and expenditure:

Year	Coſt of land preparation, plant coſt and planting, labour boxes etc	Total production / Boxes of 10 kg.	Coſt/ box of 10 kg. Rs.)	Gross Income (Rs.)	Net Profit
2016	900000	0.0	Nil	0.0	-900000
2017	950000	0.0	Nil	0.0	-950000
2018	950000	0.0	Nil	0.0	-950000
2019	1000000	1500	1500	2250000	1250000
2020	1050000	1500	1500	2250000	1200000



2021	1100000	2000	1500	3000000	2100000
					1750000

Mr. Anil is setting a good example by reducing the cost of cultivation, especially plant protection and nutrient management. According to him “*crop protection and nutrient management are the major challenges in*

organic farming. I’m trying to on one hand reduces the cost of cultivation and on the other simplify the technique so that anybody and everybody can adopt it easily”.