

Compendium of success stories

of farmers practising natural farming in Himachal Pradesh

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India is an agrarian economy and ranks second in the world in terms of agricultural production. To double the income of farmers by 2022, government has realigned its interventions from a production-centric approach to farmers' income-centric initiatives. The present day agricultural activities rely on costly inputs like chemical fertilizers and quality seeds for improving yield; however, this comes at the cost of economic viability and environmental degradation in the long run. Himachal Pradesh government is determined to increase farmers' income and their long-term welfare. They also launched the 'Natural Farming Happy Farmer' scheme in the year 2018. In its very first budget, the government has implemented 'Subhash Palekar Natural Farming' method under this scheme to reduce the use of chemicals in farming. Launched with a financial provision of 25 crores, the scheme has sought to reduce the cost of cultivation and enhance income for the comprehensive welfare and prosperity of farmers and gardeners.

Keywords: Agriculture, Economic viability, Environmental degradation, Natural farming

Natural farming is a way of chemical free farming based on livestock and locally available resources. It is based on farm-made resources prepared by the farmer himself. During the mid-1990s, Padma Shri Subhash Palekar took considerable efforts to popularize ancient Indian practices of cow centric farming which involves the application of natural inputs, made using cow dung, cow urine, jaggery, pulse flour combined with mulching practices and symbiotic intercropping.

Natural farming, was promoted by the Government of India as *Bharatiya Prakritik Krishi Paddhati* (BPKP) under the centrally sponsored scheme: *Paramparagat Krishi Vikas Yojana* (PKVY). BPKP integrates crops, trees and livestock, maximizing biodiversity and enhancing income, soil fertility, and environmental health.

BPKP has many indigenous forms in India, and currently, it is adopted by almost 8 states in the

country, including Andhra Pradesh, Chhattisgarh, Kerala, Himachal Pradesh, Jharkhand, Odisha, Madhya Pradesh and Tamil Nadu. Andhra Pradesh and Himachal Pradesh have also formed state level dedicated agencies *Rythu Sadhikara Samstha* (RySS) and *Prakritik Kheti Khushhal Kisan Yojana* (PK3Y)

respectively, with an objective to enhance farmers' welfare and conserve the environment.

PK3Y, which was started three and a half years ago, has successfully been adopted by over 1,712,000 farmers in Himachal Pradesh. This method has reached to 99% panchayats of the state and 1,17,762



Natural farming in Pangri valley of Chamba district (Himachal Pradesh)

bigha of land is being cultivated by this method. This year, under the scheme, a target has been set to bring 20000 ha of land under natural farming.

Benefits of Natural Farming

- Farmers practicing natural farming have observed health benefits through the avoidance of chemical inputs.
- Mulching improves the water retention capacity of soil, reduce crop irrigation requirements and control the concentration of groundwater contaminants.
- Integration of livestock into agro-ecological practices.

Four pillars of Subhash Palekar natural farming

Bijamrita: Farmers have been treating their seeds with local cow urine, cow dung and soil from the farm (mentioned in *Hindu Vedas* as well as in other ancient literature). The higher costs incurred on the purchase of fungicides and other chemicals for seed treatment results in the exploitation of the farmers and also increase the cost of cultivation for the farmers. The treated seeds are equally effective in controlling seed borne diseases.

Preparation of *Bijamrita*:

- Take 5 kg cow dung in a cloth and bound it by tape.

- Hang this in the 20 litre water up to 12 hours.
- Take one litre water and add 50 gm lime in it and let it stabilize for a night.
- Then next morning, squeeze this bundle of the cow dung in that water thrice continuously, so that all essence of cow dung will accumulate in that water.
- Then add a handful of soil in that water solution and stir it well.
- Then add 5 litre desi cow urine in that solution and add lime water and stir it well.
- *Bijamrita* is then used to treat the seeds which are done by spreading it over the seeds, mixing these seeds by hands, drying it well and use for sowing.

Jivamrita: It is a fermented microbial culture which provides nutrients, but most importantly, acts as a catalytic agent that promotes the activity of micro-organisms in the soil as well increases the earthworm activities and prevents fungal and bacterial plant diseases.

Preparation of *Jivamrita*:

- Add 10 kg cow dung and 10 litres cow urine.
- Add 2 kg jaggery in it.
- Then add 2 kg of pulse flour and a handful of soil from the bund.

- Put water to make 200 litres volume in a barrel.
- Stir the solution well and let it ferment in shade for 48 hours.

Accchadana (mulching): Mulching promotes humus formations, suppresses weeds and maintains the water requirement of crops. For the proper growth, multiplication and activity of beneficial micro-organisms that are applied through *Jivamrita*, a favourable definite microclimate is required. The temperature of the soil should be in the range of 25–32°C with 65–72% moisture, darkness and warmth. Microclimate is created automatically after mulching the soil.

Whapasa (moisture): According to Palekar, what roots need is water in the form of vapours. *Whapasa* is that microclimate in the soil, by which the soil organisms and roots can live freely with availability of sufficient air and essential moisture in the soil. Most of the micro-organisms and root hair are active in the top 10–15 cm of soil layer and it is important to maintain *Whapasa* in that zone of soil.

Pest management

Neemastra: It is useful in the management of whitefly, aphid, jassids, sap sucking insects, small caterpillars, etc.



Farmers of Nako Village (Kinnaur, Himachal Pradesh)

Method of preparation:

- After pouring water (100 litre) in the drum and mixing cow urine (10 litres) in it, add cow dung (2 kg) to it.
- Now add small neem twigs (5 kg), cut into pieces along with the leaves.
- Mix this solution well slowly in the direction of the needles of the clock.
- Cover this mixture with a gunny bag and keep it in the shade for 48 hours.
- Stir this mixture morning and evening with a wooden stick in clockwise direction for 1 minute.

Agniastra: The use of *Agniastra* is useful for controlling pests like sap sucking insects, small caterpillars, pod borers, etc.

Method of preparation:

- Mix crushed neem leaves (2 kg), tobacco powder (500 g), green chilli chutney (500 g) and garlic chutney (250 g) in cow's urine (20 litres) and boil on low flame by covering it with a lid.
- After this, keep this mixture for 48 hours and mix this mixture with a wooden stick in the morning and evening.

Brahmastra: It is useful in the control of sucking insects, weevils/ caterpillars.

Ingredients for preparation for 1 acre: Any 5 plants viz. Darek, Sita Phal, Castor, Papaya, Mango, Guava, Datura, Duranta or any other available and prepare leaf sauce (200 g per plant).

Method of preparation:

- Dip the chutney of the above leaves in cow urine (4 litres) and cook on a low flame for a while.
- Heat till it boils. After this keep it to cool for 48 hours.
- Mix 2.5–3 litres of solution in 200 litres of water and spray it on the crop.

SUCCESS STORIES OF FARMERS IN HIMACHAL PRADESH

Success story 1

Atma Ram, 63, a resident of Kalpa block (Kinnaur), who retired from the post of health supervisor was fed up with the increasing use of pesticides and other chemicals. Knowing the importance of health, he adopted natural farming in 2018 and is now connecting other farmers of the area with this method. Atma Ram came to know about natural farming from the officials of the Department of Agriculture. Enthused by the initial knowledge, he took formal training in natural farming from Palekar in Kufri (Shimla) in 2016. He was so impressed by this 6-day training camp that as soon as he came back, he started using natural farming inputs in his fields and observed good production. Apart from fruits, he has also adopted this method on cereals and vegetables. In 2022, he has harvested 1.5 q cabbage, 1 q tomato and 1 q pumpkin from his field. He has also planted saffron in his orchard for home consumption.

Incidence of woolly apple aphid was observed but it was controlled by the spray of Dashparni ark. Although the yield was less but the quality of fruit was better. Atma Ram's agriculture-horticulture model is also encouraging other farmers of the district.

Farming model adopted by Atma Ram:

- Total land holding: 10 bigha.
- Apple varieties: Royal Delicious, Argan Spur, Super Chief, Gail Gala, Golden Spur
- Other crops: Maize, Rajmah, Peas, Garlic, Tomato, Cabbage, Capsicum, Bottle gourd, Radish, Pear, Japanese Fruit, Yellow chilli, Kesar and Grapes.
- Chemical farming: Investment: ₹30,000 Returns: ₹2,00,000
- Natural farming: Investment: ₹4,000 Returns: ₹5,00,000



Left to Right: Daffodils intercropped with saffron and apple, saffron flower and yellow chilli

Success story 2

After doing organic farming for a decade, Jeet Negi, who turned to natural farming in Kinnaur, said that a camp was organized in Rohru in August 2018 which changed his perspective towards farming. He attended a 2-day training camp and started practicing natural farming in his farm. He said that initially people were of view that adopting the new method would result in loss of crop but he got good results in the first year itself. He also attended the World Organic Expo in 2019 with his produce. People appreciated his produce in this exhibition and he also sold black potatoes at ₹200/kg and apples at ₹325/kg. After participating in this expo, he expanded his area under natural farming. Currently, he is using natural inputs on 2500 apple plants in two orchards. He produces an average of 1500 boxes of apples every year.

He has also planted natural farming trial on Asafoetida and Kuth and if his trial is successful, he will cultivate asafoetida on a larger scale.

Farming model adopted by Jeet Negi:

- Total land holding: 20 bigha.
- Land under natural farming: 20 bigha
- Apple varieties: Black Royal, Red Golden, Geromine, Red Velox, Gail Gala
- Other crops: Potato, Peas, Cumin, Asafoetida, Black Cumin
- Chemical farming: Investment: ₹1,00,000 Returns: ₹15,00,000
- Natural farming: Investment: ₹15,000 Returns: ₹15,00,000



Apple orchard of Jeet Negi in Kinnaur

Success story 3

Ganga, a teacher, suffered from health issues realized that one of the major reasons for her health issues was non-availability of chemical free produce. Therefore, from 2013, she started experimenting on various farming methods. When Ganga started her natural farming trail, she was not supported by her family. But after getting a good yield of french bean, coriander and radish, she even started natural farming in apple and is now supported by her family. She came to know about natural farming through internet and in 2018, got training from Subhash Palekar in Kufri and hence adopted this method. Presently, Ganga is practicing natural farming in apple, peas, carrot, cucumber, french bean, coriander and radish. To support Ganga, her husband took voluntary retirement from job in 2019. Now the couple is successfully doing natural farming in their farm. She noticed that Jivamrita and Khatti Lassi were effective in controlling fungal diseases, whereas, Saptdhyankur enhanced the colour and shine in apple. This year, they sold peas worth ₹10,000, coriander worth ₹4,000 in the local market. She said that PK3Y is changing the fortune of farming and horticulture and is also empowering women. She also has a WhatsApp group to connect and share information with other women farmers regarding natural farming.

Farming model adopted by Ganga:

- Total land holding: 10 bigha.
- Land under natural farming: 6 bigha
- Apple varieties: Royal Delicious, Red Golden, Geromine, Gail Gala
- Other crops: Radish, Coriander, French Beans, Potato, Peas, Carrot, Bottle Gourd
- Chemical farming: Investment: ₹12,000 Returns: ₹1,50,000
- Natural farming: Investment: ₹3,000 Returns: ₹2,50,000



Apple and french bean crop in Ganga's farm

As a part of its efforts for promoting natural farming, the need for creating evidence of these practices as well as their validation is necessary. This compendium is an attempt in this direction to collect and document the practices adopted by farmers across the state, so that these farmers get encouragement and become an inspiration for others as well. It is observed that farmers have often developed their own techniques and methods for implementing the principles of natural farming.

To make Himachal Pradesh a chemical-free state, government took a bold step in this direction by launching 'Natural Farming

Khushhal Kisan' scheme in February 2018 to double the income of farmers and for their long-term welfare. So far, a total of 1,64,766 farmers have been trained across the state and 1,53,643 have started farming fully or partially with this method.

SUMMARY

Natural Farming is a unique method of farming in which the farmers can grow hardy local varieties of crops without application of fertilizers and pesticides. More importantly, there is absolutely no place for fertilizers and plant protection chemicals in this scheme of farming. While the country has been planning to

revamp its agricultural production system including R&D to meet the formidable challenges being faced by it, the economic survey of 2018–19 made a fervent appeal for the adoption of natural farming in a big way to double farmers' income. The whole philosophy behind this system is to make the farmer self-reliant so that he is freed from the clutches of money lenders and market dispensed high cost inputs. Hence, successful results of *Prakritik Kheti Khushhal Kisan Yojana* (PK3Y), which was started three and a half years ago, are being seen.

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