



Prakritik Kheti Khushal Kisan Yojana in District Kangra of Himachal Pradesh- Some Challenges

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Agriculture has been recognised as one the most important sector of Indian Economy and the country is the largest producer of wheat, rice, pulses and spice products and the second largest producer of fruits and vegetables in the world. Presently, India is Asia's largest pesticide manufacturer and ranks 12th in the world for pesticide use (Abhilash and Singh, 2009). Conventional agriculture has a major impact on the environment and some of the major issues related to agriculture are climate change, soil depletion, deforestation, pollution, irrigation problems and waste. It has been observed that excessive use of fertilizers and pesticides has not only affected air and water but also the soil health. Hence, there is a need to reduce dependency on chemical fertilizers and adopt sustainable farming practices to take into account the full cost and impact of existing production practices. Natural farming which is called Prakritik Kheti Khushal Kisan Yojana (PK3Y/PK3KY) under the new scheme of Government of Himachal Pradesh aims to help the environment by reducing agricultural runoff, reducing contamination of lakes and rivers, conserving water and maintaining soil fertility naturally by recycling nutrients on the farm. Under the scheme, financial assistance of maximum Rs.8000/ per natural farming farmer is provided for lining of cattle sheds which would help in easy collection of cow urine. Furthermore, an assistance of Rs750 /per drum and up to three drums per farmer is provided for storage for inputs/formulations, a subsidy of 50 percent limited to Rs.25000/ is provided for the purchase of desi cow with additional Rs.5000/ for transportation purpose and one time assistance of Rs.10,000/ per farmer family for preparation and sale of input formulations.

According to latest data, around 1.65 lakh farmers in Himachal Pradesh have adopted natural farming fully or partially on their land. The natural farming practices has reached 99.3 percent of the total panchayats in the State covering 19,915 hectares of land under natural farming. The state aims for 50,000 bigha land to be brought under natural farming in the year 2023-24, thus, converting the farmers from following conventional farming to adopt non-synthetic chemical, low cost and climate resilient natural farming which will further promote sustainable agriculture. The major season-wise crop combinations followed by farmers in Kangra district under natural farming are as follows:-

Crop combination	Season	
	Kharif	Rabi
Cereals-Pulses	Maize + Soybean Maize + Black-eyed pea Maize + Kidney bean Maize + Lentil	Wheat + Chickpea + Mustard Wheat + Pea + Mustard
Cereals-Vegetables	Maize + Cucumber + French bean Maize +Capsicum + French bean	Wheat + Pea + Black gram

Cereals-Vegetables-Pulses	Maize +Kidney bean+ Okra Maize +Capsicum + French bean Maize +Soybean + Okra	-
Vegetables-Pulses	Peas+Spinach+Coriander+ Radish+ Black gram Pea + Radish + Cauliflower + Beans	Capsicum + French bean Tomato + Soybean. Tomato + Cucumber + Soybean. Tomato +French bean. Tomato +Capsicum +Kidney bean

The above crop combinations are based on the main principle of mixed cropping system under natural farming. The farmers were observed to cultivate legume/pulse crop with the main crop with the reason that cultivating legume crop with the cereal provide a symbiotic relationship and enhances the nitrogen fixation in the plants which further leads to enhancing productivity of the main crops. Besides, it was also found to fix the atmospheric nitrogen in the plants/soil. As it is clear from the above table, four major crop combinations in kharif season with legume crops and vegetables were found to be followed by the farmers. Maize was the major cereal crop in the kharif season. Legumes crops like soybean, lentil etc. were taken as inter-crop with the main cereal crops. Similarly, in rabi season three major crop combinations with legume crops and vegetables were grown by the farmers. Wheat was the major cereal crop in rabi season and legume crops like black gram, beans, peas etc. were grown as inter-crops with the main cereal crops. PK3Y scheme is reaching many farmers in the state, still there are some challenges in the pathway of its adoption in the state because of different socio-economic backgrounds of farmers, varying topography etc. Some of the major challenges are discussed briefly as under:-

- ❖ **Convincing the scientific community:** The scientists need to generate enough scientific evidence about the efficiency and profitability of natural farming practices to the farmers. Since different institutes have their own different views, it becomes difficult for adoption and dissemination of practices which may result in farmers having doubts. Hence, to avoid confusion among the farmers, it is necessary to properly educate the farmers about the importance of dung and urine of desi cow, growth and activity of beneficial micro-organisms and earthworms for improving soil health, relevance of cultural practices in agriculture for weeds, diseases and insect-pest management etc.
- ❖ **Adoption by large size farm holders:** Natural farming requires constant monitoring of the field to check any nutrient deficiency, infestation of weeds, diseases as well as insect-pest and also regular spray of *Jeevamrit* in the crop field which may require more labour. This makes it more applicable to marginal and small farmers but not for large farmers; since increase in labour will increase the cost of cultivation.
- ❖ **Commercial monocropping regions:** The natural farming practices may be easily adopted by the farmers of upper Himachal but in lower plain regions of Himachal it may not be so beneficial for the farmers where monocropping is more dominant as the farmers grow crops for commercial purposes with the help of synthetic fertilizers and pesticides the farmers may not be able to get more yield or even equal to that from the conventional farming.
- ❖ **Reduced scope of mechanization:** The natural farming is more beneficial when farmers cultivate crops as intercropping or mixed cropping to maintain the fertility of soil and to get additional yield. The inter-crops and mixed crops can supplement each other and even can help in minimizing risk from failure of one crop. However, the inter-crops may not be harvested at the same time which creates hindrance in large scale adoption of farm machinery for sowing, harvesting and other inter-cultural operations.

- ❖ **Continuous improvement in crop yield:** Since the use of high yielding varieties/hybrids is not recommended under natural farming practices, therefore, it might become difficult to motivate and convince the farmers to adopt natural farming practices.
- ❖ **Setting up institutions for recognizing SPNF produce:** The produce from natural farming is free from synthetic chemicals as well as it requires more labour/monitoring for which the farmers need to get the reasonable remunerative prices for their produce. Therefore, there is a need for policy framework and institutions who will make sure that those farmers will get better prices and not same as for the produce from conventional farming.

References

1. Economic survey, 2018-19. Government of Himachal Pradesh.
2. Prakritik Kheti Khushal Kisan Yojana in Himachal Pradesh, 2018. Department of agriculture. Government of Himachal Pradesh.