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An Assessment of Paramparagat Krishi Vikas Yojana in India

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Abstract
Organic farming has emerged as a solution for addressing the problem put forth by conventional farming and has become of vital importance for the public, especially farmers and policymakers. There are various programs and policies implemented by the government to promote the larger adoption of organic farming in India. Paramparagat Krishi Vikas Yojana (PKVY) was a centrally sponsored scheme launched in the period 2015-16 that aimed to encourage organic farming among the farmers especially the youth in the country and promote domestic organic markets through a cluster-based approach. The scheme promoted PGS-India (Participatory Guarantee System) certification which implies organic certification based on mutual trust, following locally relevant organic norms and mandates. From its launch till 2021-22, total funds of Rs 1661.46 crores had been released for the scheme before the merger of the scheme with Rashtriya Krishi Vikas Yojana (RKVY). There were 32,384 clusters, an area of 6.53 lakh hectares covered, and 16.19 lakh farmers associated with the scheme. During the period 2015-16-2021-22, the CAGR for the organic farmland area under PKVY was 27.92 percent. This paper reviews existing literature and government reports to assess the basic structure, functioning, and performance of PKVY, the benefits derived by the farmers through the scheme, and the challenges faced in the implementation of the scheme.

Keywords: Organic Farming, Sustainability, PKVY and PKVY Fund Allocation.

Introduction

Agriculture is the foundation and wisest pursuit of human civilization. The goal of agriculture is not feeding the current population but also looking after the needs of forthcoming generations. Hence, it becomes essential that the farming practice undertaken today should be in alignment with the natural order of the environment, soil, and all the existing ecosystems. With the success of the green revolution, conventional means of farming caught momentum but its evil side never remained hidden from humankind. The period of the green revolution witnessed a remarkable rise in the production of food grain. But while gaining food sufficiency, we have overlooked sustainability. The conventional means of agriculture threaten the sustainability, health, and wellness of all living beings. Moreover, there have been concerns regarding increasing agricultural production costs and stagnated prices of agricultural output. This poses a serious challenge to the sustainability and viability of agriculture. In times of distress when conventional farming ways pose a grave danger to the health of the soil, plant, animal, human, and planet altogether, organic farming has emerged as a saviour of agriculture and the environment by being a sustainable alternative to conventional agricultural practices. As people's consciousness towards health and the environment is escalating, the agenda of organic farming is gaining greater popularity. Organic

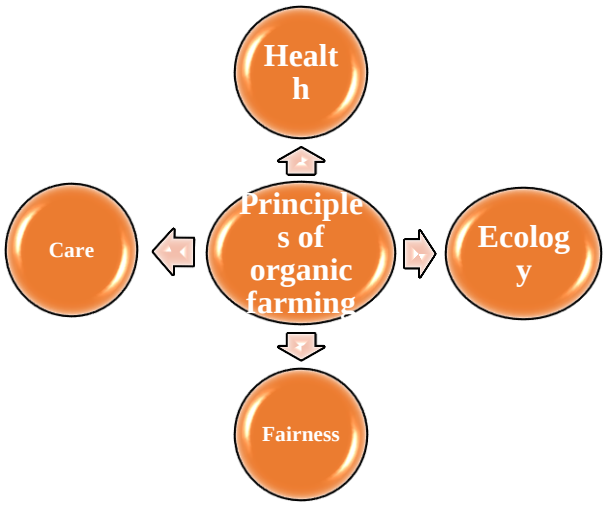
farming has become a significant part of the sustainable agriculture movement and has acquired a crucial position in government programs and policies. There are various programs and policies undertaken by the government to promote the adoption of organic farming in India. National Programme for Organic Production (NPOP), National Project on Organic Farming (NPOF), Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), Capital Investment Subsidy Scheme (CISS) Soil Health Management (SHM), National Mission on Oilseeds and Oil Palm (NMOOP), Paramaparagat Krishi Vikas Yojana (PKVY), National Horticulture Mission (NHM), etc. are some significant steps in this direction.

The objective of this paper is to present the current status of organic farming in India and role of the PKVY scheme in promote organic farming in the country. This paper assesses the structure of the scheme, components of PKVY, its performance over the years, budgetary allocations, benefits derived, and constraints faced by the farmers who adopt organic farming under PKVY.

The paper makes a review of secondary data and existing literature, governmental and non-governmental reports, and papers related to the scheme and analyses the performance of organic farming under Paramparagat Krishi Vikas Yojana (PKVY).

Organic farming and its principles

As per IFOAM, organic farming is a holistic production management system that sustains the health of soil, ecosystem, and people. It is based on ecological processes, biodiversity, and cycles that are adapted as per the local conditions instead of relying on the use off-farm synthetic inputs harming the health of soil, environment, and all living beings. Organic farming is based on the principle of health, ecology, fairness, and care. The principle of health implies organic agriculture should help to sustain and enhance the health of all biotic and abiotic components of the planet as all these components of the environment are interlinked and impact each other. health symbolizes the wholeness and integrity of all living systems. Immunity, resilience, and regeneration are vitals of good health. The principle of ecology states that organic agriculture works in sync with the living ecological systems and is based on ecological processes and practices of recycling. The principle of fairness implies organic agriculture should be based on equity, respect, and justice for all involved. It should ensure fairness at all levels for all the involved parties-farmers, workers, processors, distributors, traders, and consumers. The principle of care states that organic agriculture should undertake responsible production and safeguard the well-being of both present and future generations and the environment altogether (IFOAM- Organics International, 2021).



Organic Agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved. It is not just an agricultural practice but a movement to reinstate the lost biological, cultural, and spiritual heritage and practices of earlier civilizations. The natural way of farming practiced by our ancestors respected the mother nature and biota around the farm. Thus, organic farming is a movement to return to roots.

Scenario of organic farming

According to "The World of Organic Agriculture- Statistics and Emerging Trends 2024", there are 188 countries engaging in organic farm practices. The global organic agricultural land amounts to 96.4 million hectares constituting 2 percent of global agricultural area. Australia (53 million hectares) India (4.7million hectares) and Argentina (4.1 million hectares) are the countries with maximum organic agricultural land. India, Uganda and Thailand have maximum number of producers. In 2022 the global organic market valued 134.8 billion euros (which was 15.1 billion euros in 2000). The US (58.6 billion euros), Germany (15.3 billion euros) and China (12.4 billion euros) occupy the largest market share of organic products globally. Considering the escalating income and consciousness of people for health, the global organic market is experiencing a boom. India's organic farmland is 1.48% of India's agricultural land. India is the world leader with respect to the number of producers inhibiting 47.03 percent (24,80,859) of global organic producers and holds the 2nd position with respect to global agricultural land with 4.7 million hectares of organic agricultural area (Willer et al, 2024).

Sikkim is the only organic state in India. It gained the status of an organic state in 2016. Despite being a small state its achievement of converting fully organic has established benchmarks for other states to follow. Realizing the potential of organic farming in India, the government is taking several initiatives and one such crucial initiative was Paramparagat Krishi Vikas Yojana (PKVY) which focuses to upheave the domestic production and consumption of organic products.

Paramparagat Krishi Vikas Yojana

Paramparagat Krishi Vikas Yojana (PKVY) was a centrally sponsored scheme (CSS), launched in 2015 as an extended component of the Soil Health Mission (SHM) which is a sub-component under the National Mission on Sustainable Agriculture (NMSA). The scheme aimed to promote organic farming in the country through a cluster-based approach by providing end to end support to the organic farmers i.e financial and other assistance was provided to the organic farmers from beginning of the production to certification and marketing. Under the scheme, financial assistance of over 3 years was provided for cluster formation, capacity building, incentive for inputs, value addition and marketing. The scheme aimed to organise farmers into clusters and undertake organic farming.

The objectives of the scheme were to encourage farmers especially youth, consumers, and traders to shift to organic farming and to mobilise the latest technology and research in organic farming through a cluster-based approach by organising marginal and small farmers. The scheme aimed to improve soil health while increasing productivity by avoiding dependence on fertilizers and other chemicals. The scheme envisaged commercialisation of organic production via certified farms, motivating farmers to mobilise natural resources, ensuring consumers' health by providing residue free food and raising farm income (Raut et al., 2018) (Tripathy & Khan, 2020).

Being a centrally sponsored scheme, the funding ratio of central to state was 60:40, and for north eastern states, the ratio of funding of centre to state was 90:10 while it is 100 centrally funded schemes in the case

of union territories. Operating outside the framework of "third party certification", the scheme promotes PGS-India (Participatory Guarantee System) certification which implies organic certification based on mutual trust, following locally relevant organic norms and mandates. The products certified under PGS certification are organic and are eligible for domestic market sales.

The scheme had two main components: model organic cluster demonstrations and model organic farm. The objective of model organic cluster demonstration was to promote organic farming aiming rural youth, farmers, consumers and traders by inducing awareness regarding latest technical advancements related to organic farming. These were conducted on the farmer's field in the clusters of 20 ha. or 50 acres. These demonstrations are supervised by the experts and scientists of various institutions like Indian Council of Agricultural Research (ICAR), State Agricultural Universities (SAU), Central Agricultural Universities (CAU), Krishi Vigyan Kendras (KVKs) etc.

The second component was the Model Organic Farm that demonstrated the conversion of conventional farm to organic farm in one-hectare parcels. The motive was to spread awareness related to latest technologies of various organic inputs production through exposure visits to farmers. Various central, state and other public sector organisations have their own farms for demonstration of technologies in various organic farming practices. These institutions developed their model organic farms and a maximum of three model organic farm demonstrations were allocated to each organisation with a minimum of one farm to each institute each year.

Participatory Guarantee System- India (PGS-India)

There are two organic certification systems prevailing in the country for assuring the quality of organic products: third-party certification provided by an accredited certification agency functioning under the National Programme for Organic Production (NPOP) under the Ministry of Commerce and Industry which focuses on the organic export market and Participatory Guarantee System-India (PGS-India) under Ministry of Agriculture of Farmers' Welfare focusing on the domestic organic market. Participatory Guarantee System-India (PGS) is a tool of quality assurance for the domestic organic market comprised of locally relevant norms and standards, working outside the framework of third-party certification. It is guided by the principles of participation, shared vision, transparency, trust, horizontally, and national networking. PGS-India on one hand through low-cost certification helps the farmers to avail price premiums for their organic produce and on the other hand provides organic quality assurance to domestic consumers. Thus, PGS-India plays a significant role in the expansion of the domestic organic market by boosting domestic production and consumption of organic products. Under PGS-India, there are two types of PGS-India labelling: PGS-India Organics for the products originating from organic farms and PGS-India Green for products originating from farms that are under transition from conventional to the organic farm.

Requirements and financial assistance under PKVY

The scheme was implemented over a time duration of 3 years which is the prescribed PGS- India's conversion period from conventional to organic farming. PGS-India helped the farmers to get their products certified and labelled as organic and market them for domestic consumption. Farmers were organised in clusters. The maximum land limit for a cluster was 20 hectares or 50 acres. A cluster was required to have 50 or more farmers. The objective of PKVY was to cover 2 lakh hectare area covered by 10,000 groups i.e. each group covering 20-hectare area in a span of three years. At least 65 percent of the

farmers in a cluster were required to be small and marginal and 30 percent of the budgetary allocation should be for women farmers.

The total financial assistance of Rs. 14.95 lakhs were provided over 3 years for each cluster. Out of this, Rs. 10 lakhs were provided to the cluster with a maximum of Rs. 50,000 thousand per farmer per hectare. Assistant per farmer was limited to one hectare. Rs. 4.95 lakhs were provided for mobilization and PGS certification. Table 1 reflects the breakdown of the total financial assistance of Rs. 14.95 lakhs into different components, provided to a cluster over three years. Out of the total funds, Rs. 4.50 lakhs were allocated for the adoption of organic villages, organic seeds, and inputs, etc., Rs. 3.75 were allocated for an integrated manure management system, Rs. 2.81 lakhs were allocated for labelling, branding, and transportation, Rs. 2.64 lakhs directed towards certification and quality control under PGS-India, Rs. 80 thousand were allocated for mobilisation of the farmers and 45 thousand were given for custom hiring centre charges.

Table 1 Budgetary allocation for different components of PKVY clusters

S. No.	Component	Total financial assistance per cluster in three years (in Rs lakhs)
1.	Mobilization of farmers to form clusters	0.80
2.	PGS-India certification and quality control	2.64
3.	Adoption of Organic villages, organic seeds, organic inputs, biological nitrogen, etc.	4.50
4.	Integrated manure management	3.75
5.	Custom hiring centre charges	0.45
6.	Labelling, branding, and transportation	2.81
	Total`	**14.95**

Source 1: Impact Study of Paramparagat Krishi Vikas Yojana

Performance of Paramparagat Krishi Vikas Yojana

Table 2 shows the total organic farming area and organic area under PKVY since 2015-16. In 2015-16, 1.4 lakh hectares of organic farmland area was under PKVY which was 12 percent of the total organic farmland area. In 2018-19, the organic area under PKVY grew to 6.2 lakh hectares which were 32 percent of the total organic farmland area. In the year 2021-22, the organic area under PKVY was 11.85 lakh hectares which comprises 25 percent (one-fourth) of the total organic farmland area of the country indicating the continuous growth of the organic area under PKVY.

During the period 2015-16 to 2021-22, the Compound Annual Growth Rate (CAGR) for the total area under organic farming is 23.90 percent, and CAGR for the organic area under PKVY is 27.92 percent indicating more organic area growth in PKVY as compared to total organic area growth in the country.

Table 2 Total organic farming area and organic area under PKVY (in hectares)

Year	Total area under organic farming (in hectares)	Organic area under PKVY (in hectares)	PKVY organic area as a percent of total area under organic farming
2015-16	1,180,000.00	144,160	12.22

2016-17	1490000.00	144160	9.68
2017-18	1780000.00	247660	13.91
2018-19	1938220.79	621020	32.04
2019-20	2299222.37	642520	27.94
2020-21	2657889.33	1151700	43.33
2021-22	4726714.74	1185700	25.09

Source 2 APEDA, Press Information Bureau

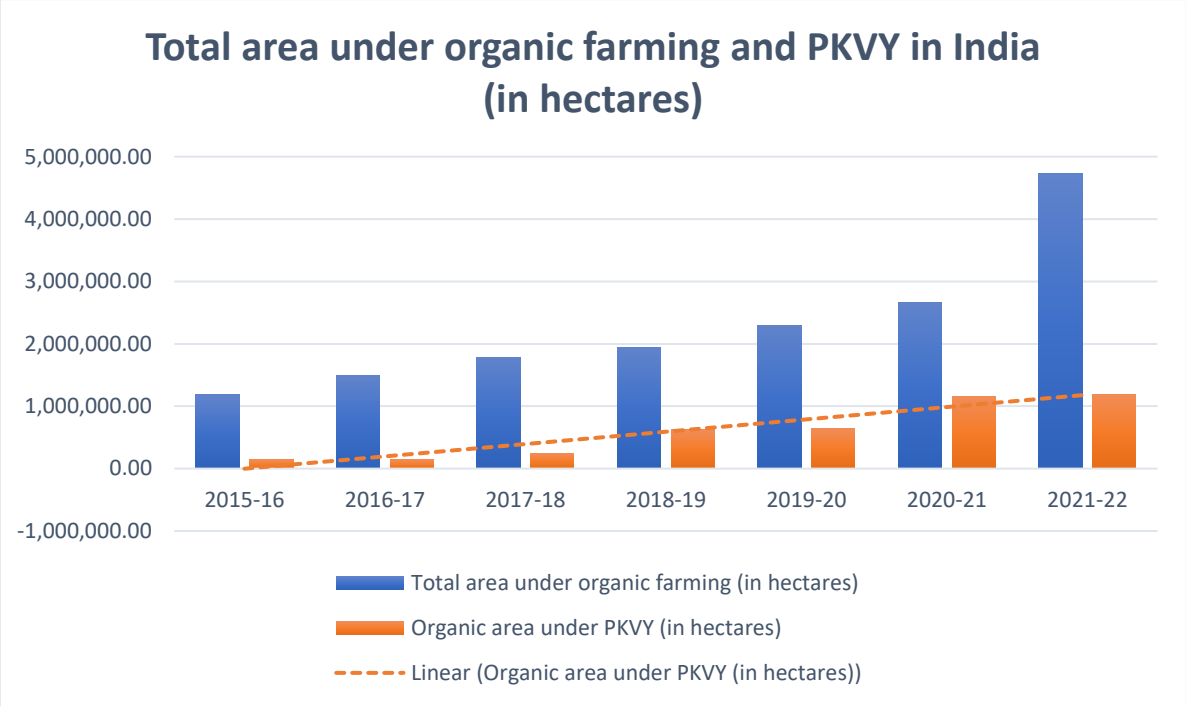


Table 3 shows, there was a total of 11,891 PKVY clusters and 5.95 lakh associated farmers which grew to 30,934 PKVY clusters and more than 15 lakh farmers associated with the scheme in 2021-22. There were 32,384 clusters, an area of 6.53 lakh hectares covered, and 16.19 lakh farmers associated with PKVY (PIB, Delhi, 2023).

Table 3. Number of farmers and clusters under PKVY

Years	Total organic farmers under PKVY (in lakhs)	Total number of clusters under PKVY
2017-18	5.95	11891
2019-20	9.52	19043
2021-22	15.47	30934

Source 3: PIB

Budgetary Allocations under PKVY

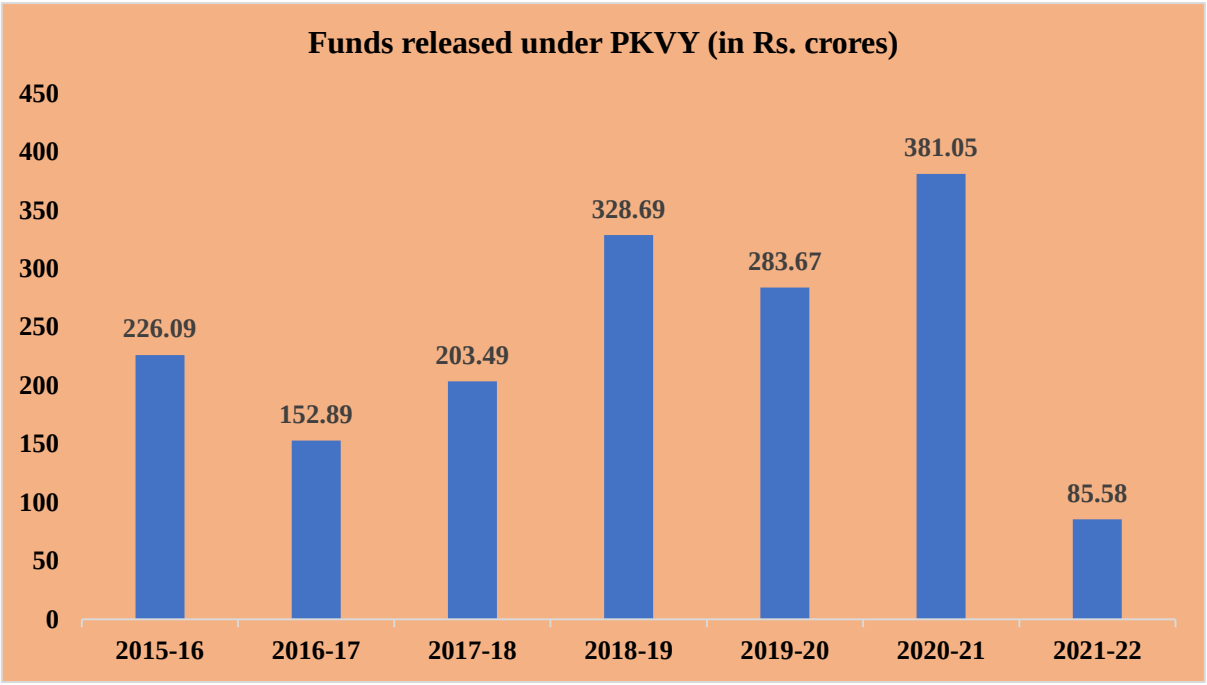
Table 4 shows the funds sanctioned for the scheme over the years. The scheme was launched during 2015-16 with an initial sanctioning of Rs. 300 crores, then relaunched in 2018-19 with a fund release of Rs. 328.69 crores, and in 2021 the amount budgeted for the scheme was Rs. 450 crores but funds actually

allocated were 85.58 crores. Till 2021-22, total funds of Rs 1661.46 crores had been released for the scheme. No further allocations have been made under the scheme as the scheme along with other schemes viz. Pradhan Mantri Krishi Sinchai Yojna-Per Drop More Crop, National Project on Soil and Health Fertility etc. have been merged with Rashtriya Krishi Vikas Yojana (RKVY). PKVY was a scheme under Green Revolution Programme and due to delay in fund allocation and moreover they were not utilised optimally and timely, the scheme was merged with RKVY.

Table 4. Budget Allocation under PKVY (in Rs. crores)

Year	Funds released (in Rs. crores)
2015-16	226.09
2016-17	152.89
2017-18	203.49
2018-19	328.69
2019-20	283.67
2020-21	381.05
2021-22	85.58

Source 4: Directorate of Economics and Statistics, Ministry of Finance



Benefits and Impediments in PKVY:

The farmers under PKVY were benefited in multiple ways reduction in the cost of cultivation by up to 10 to 20 percent, an increase in net returns from 20 to 50 percent due to cost reduction, saving in the purchase of inputs as heavy expenditure on purchase of fertilizer and pesticides is eliminated, and price premiums ranging from 10 to 30 percent depending upon the factors like commodity type, closeness to the big cities and large market linkages, initially there is yield drop but later on, an improvement in yield was witnessed after transition period under PKVY (Reddy, 2018). Thus, high cost of cultivation under inorganic farming is a major reason for farmers to shift to organic farming under PKVY as cost of production drastically

reduced after conversion but marketing challenges like sale of produce posed major challenges in the proper implantation of the scheme (Singh, & Thakur, 2022).

There were several challenges faced by farmers under PKVY like inadequate and delay in fund release from the state government, labour-intensive process of preparation of organic inputs, lack of trained farmers regarding organic input preparation process, involvement of bio-pesticides companies in agriculture, farmers fail to avail price premiums as they lack awareness regarding PGS certification, lack of regional centres for market promotion under PGS certification via PPP model to break the supremacy of private firms in the organic market, insufficient support to farmers during the transition period, lack of integration of livestock with farm activities to provide additional farm income, lack of flexibility in the guidelines of PKVY in accordance to the local situations, the problem of duplication of beneficiaries who are enrolled in other government schemes concerning organic farming, strengthening the bargaining power of the organic farmers via association with NGOs, FPOs, Krishi Vikas Kendras (KVKs), concentration of PKVY organic cluster in few states etc. (Reddy 2018, Balkrishna et al. 2020, Balkrishna, et al. 2022).

PKVY could have been implemented more effectively by employing fund planning, timely release of funds, special focus on potential zone like rainfed areas where there is the less intensive use of fertilizers, formation of organic special economic zones (OSEZ), providing other logistic services at low cost, identifying contiguous areas, identifying default organic area and certifying them, compensating farmers for low yields during the transition period, mass production of bio-inputs like Panchagavya, Panchamruth, and Beejamruth, encouraging research and development to produce bio-inputs at low cost, encourage organic farming through Farmer Producer Organisations (FPOs) and cooperatives, etc.

Conclusion

Due to the increase in the demand for organic products in India and the globe, the organic farming growth story is unfolding. While battling with the pandemic the demand for healthy and safe food has been witnessing an upward trend and has created an opportune moment for organic farming to flourish further and has created a win-win situation for farmers, consumers, and the environment. PKVY had a significant role in organizing small and marginal farmers into clusters and assisting them to adopt low-cost and less input-intensive organic farming. There were 32,384 clusters involving more than 16 lakh farmers and an area of 6.53 lakh hectares associated with the scheme, the scheme aimed to provide organic farmers with end-to-end support from production to certification and marketing and ease the process of adoption of organic farming in the country. The effective implementation of PKVY essentially played a crucial role as the scheme not only strengthened organic agricultural practice in the country and helped the farmers to increase their income through low-cost organic farming and associated price premiums but also contribute to the society and environment by providing safe food and healthy environment for all involved.

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