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INVESTIGATION ON BENEFICIARIES PROFILE AND THE CONSTRAINTS FACED IN IMPLEMENTING PARAMPARAGAT KRISHI VIKAS YOJANA IN DAVANAGERE DISTRICT OF KARNATAKA, INDIA

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ABSTRACT

Production of chemical free food in India is a challenging issue in modern agriculture. To meet the food security levels of the nation we are over dependent on use of chemicals in the agriculture production system. Restoration of the ecological balance and conservation of soil fertility are the major objectives of the organic agriculture. Keeping this point, *Paramparagat Krishi Vikas Yojana (PKVY)* was executed in the Davanagere district of Karnataka State by Department of Horticulture and *ICAR-Taralabalu Krishi Vigyan Kendra*. This project was implemented in the two clusters of Santebennur and Rameshwara of Channagiri and Nyamathi Taluks respectively comprising 150 beneficiaries. The profile of the selected respondents and the constraints faced by them was studies by structural interview schedule and analyzed statistically. During the study, majority of the respondents are old age (62%) and education level of the respondents was highest up to middle school. We also noticed maximum number of families are medium sized (42%) followed by small size of the family (38%). About 26 % of the respondents have experience of 11-20 years in Agriculture. Good response of the respondents for the mass media participation especially in TV (84%) as it is a good source for exchange of Agricultural information. Respondents are relay more on social Medias to know about the new innovative technologies in agriculture. During the course of the study period drastic changes in the area of horticulture crops was noticed. This may be due to adequate irrigation facilities and supporting schemes for area expansion in horticulture crops. However, we also noticed poor follow up of the project by the implementing agency and it needs to be corrected by regular extension activities by the implementing agency.

Keywords*: Krishi Vikas Yojana, Organic farming, Ecology*

INTRODUCTION

Organic farming strives to cultivate food without chemicals through the implementation of environmentally sustainable practices. The *Paramparagat Krishi Vikas Yojana (PKVY)* plays a pivotal role in soil health management (SHM), a cornerstone initiative of the National Mission for Sustainable Agriculture. This program advocates for the *Participatory Guarantee System (PGS)* to certify Indian farmers' organic produce, emphasizing mutual trust, adherence to local requirements, and active participation of producers and consumers in the certification process.

This project primarily aims at increasing soil fertility and helping to produce healthy food through organic practices without the use of agrochemicals. The major activities in the projects include the creation of vermicompost pits, a bio digester unit, Jeevamrutha

preparation, Dashaparna preparation, the cultivation of green manure crops as intercrops, the organic nutrigarden concept, etc. To achieve the above activities, the extension activities conducted include training, method demonstrations, workshops, exposure visits, and field days. To achieve this profile of beneficiaries, need to be surveyed, constraints in the implementation of the project, and changes in the adoption level before and after. The study was made through the described objectives to study:

1.The profile of PKVY beneficiaries.
2.The impact of the PKVY scheme in modifications in organic cultivation.
3.The constraints met by PKVY beneficiaries.

For the implementation of the above-mentioned scheme, Davanagere District of Karnataka State has been selected. Davanagere District is in the central part of Karnataka, comprising six taluks. It lies at a distance of 14°281 longitude and 75° 59[1] with the elevation of 602.5 m above sea level. Agro-ecologically, it comes under two zones, namely the central dry zone and the southern transitional zone. Davanagere, Jagalur, and Harihara Taluks come under the Central Dry Zone, with areca nut and coconut being major plantation crops in the area; paddy, maize, betel vine, and vegetables are being the other main crops grown in the area. However, Channagiri, Honnali, and Nyamathi Taluks are in the southern transitional zone, with areca nut, coconut, paddy, and mango as the main crops. In the district, horticulture crops occupy 17.14 percent of total cultivable land.

Several studies on the impact of the PKY scheme and its benefits have been carried out in different parts of India. Recently, Shetal Patel and Swarnkar V K (2023) reported that education level, annual income, source of irrigation, form mechanization, marketing behaviour, and information seeking behaviour, mass media communication, and risk-taking ability are observed to be associated significantly with their adoption behaviour of improved flower production technologies.

In contrast, Darilo Gambelli et. al., (2023) highlighted that the effectiveness of TP Organics, a European organic platform, hinges on its adept utilization of a multi-stakeholder participatory approach. This approach has enhanced the pertinence of research topics associated with organic farming, resulting in a surge in funded research initiatives and financial support for organic farming research. Additionally, in 2023, Singh and associates found that factors such as education, socioeconomic status, farming experience, and monthly household income exert significant influence on the adoption of organic farming practices.

Anupam Singh and Aldona Glinska (2022) filled gaps in the current literature and research on sustainable food consumption by offering a new viewpoint on public attitude towards organic foods.

Priya et al. (2006) found that among the farm women who participated in the Farmers Field School in the Kolar district of Karnataka, the majority (55.60%) were middle-aged, while the remaining 27.50% and 16.70% were either young or old, respectively. The majority of farm demonstration beneficiaries in the Kolar district, which is 63.34 percent, have certain personal and socio-psychological traits. In 2006, Swetha et al., In terms of women's participation in agriculture, particularly in Srinagar, the illiterate 81.60% is more compared to the literate 18.40% (Buchh *et.al* 2012)

Chaya et al,(2013) reported on the involvement of farm women in decision-making in Rajasthan revealed that, (50.84%) of the respondents with medium-sized land holdings followed by small (35 %) and large (14.16%) sized land holdings. According to Raghuraja J. and Madhumati (2018), the vast majority of National Horticulture Mission (NHM) recipients were elderly (65.28%), with 26.38% having completed high school or less. The distribution of beneficiaries was evenly distributed among small, medium, and large families. In light of the foregoing, research has been carried out to examine the Davangere district of Karnataka.

MATERIALS AND METHODS

The current research was conducted in two clusters, namely the Rameshwara of Nyamathi Taluk and Santebennur of Channagiri Taluk of Davanagere district. A total of 150 farmers were selected from both the blocks. A structural interview schedule was used to gather data through personal interviews. Primary and secondary sources of information formed the backbone of the research. The study used an ex-post facto research design. Book chapters, reports, theses, journals, and online resources comprised the secondary data set.

The PKVY scheme is implemented in both clusters by the Department of Horticulture and Indian Council of Agriculture Research-Taralabalu Krishi Vigyan Kendra. The financial component for the construction of the vermicompost pits, bio digesters and Jeevamrutha units, certification process was taken care by the Horticulture department. Whereas the capacity building components like training to the farmers, exposure visits, Method demonstrations were taken up by the ICAR-Taralabalu KVK.

The collected data was analysed statistically with factors like mean and percent coverage. Each data was analysed for the parameters like Distribution of beneficiaries based on the age of the respondents, Education level of the respondents, family size of the respondents, their farming experience, participation of the beneficiaries in the mass media and the constraints faced by them in implementation of the project.

RESULTS AND DISCUSSIONS

Among the beneficiaries, the majority 62.0% belong to the old age group followed by middle aged 26.39% and young were 8.33% as presented in the table 1.

Table 1: Distribution of Beneficiaries based on their Age N=150

Category	Age	%
Young (< 35 Years)	27	18.0
Middle Age (35-50 years)	30	20.0
Old (> 50 years)	93	62.0

It so happened that, lands are in the name of senior ones of the family, and they are eligible for government benefits while the majority of agricultural operations will be carried out by youngsters. Regarding education level, 26 % of the beneficiaries attained education up to middle school level, followed by illiterates (22%) who are mainly due to lack of financial facilities for the family members in the village level. Among the respondents 20 % studied up to matriculation level. Pre-university level and graduation level of education of the respondents was 12 % in both the cases as reported in Fig 1.

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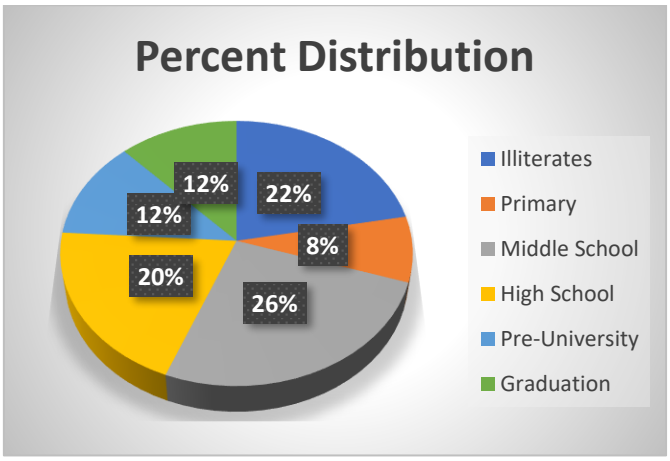

Fig. 1: Distribution of Beneficiaries based on their Education N=150

Similar results were reported by Anand M Chavai and Pandurang M Kadam (2016). In the case of size of the family, the maximum number of the beneficiaries are medium-sized (42 %) followed by small (38%) and only 20% of them fall under a big sized family and is shown in Figure.2.

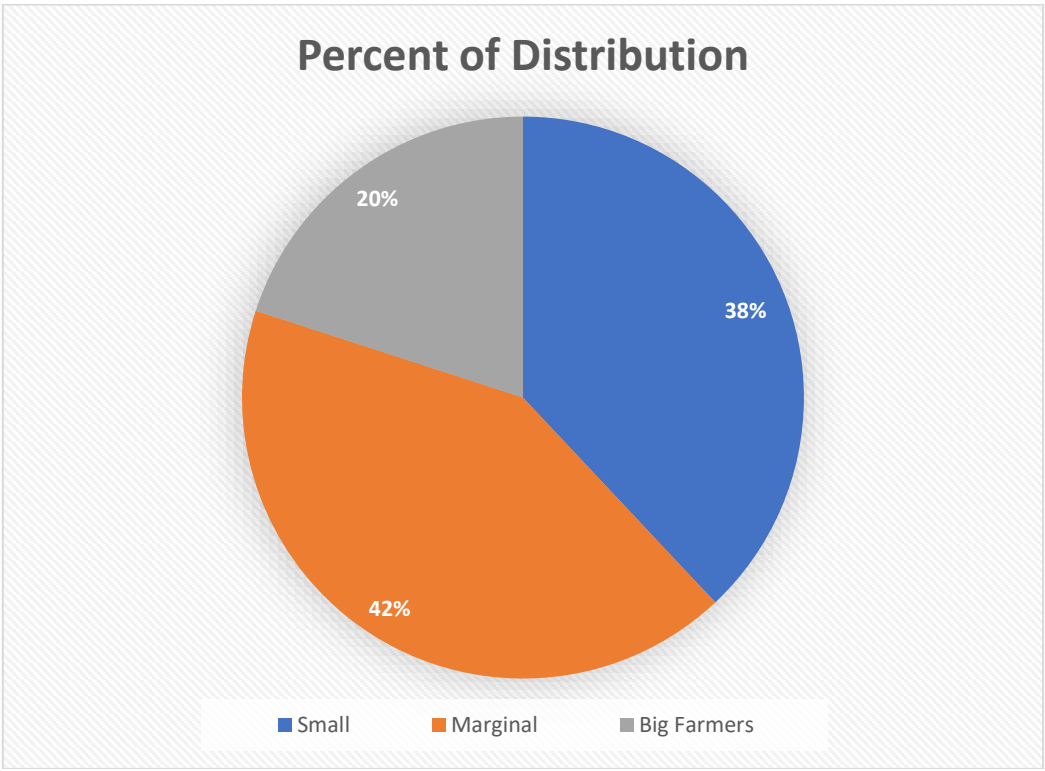

Fig. 2: Distribution of Respondents based on the family size N= 150

Regarding the experience of farmers in agriculture, aged between 11–20 years (26%) followed by 21–30 years (22%) and 31–40 years (20%). Interestingly, 16% of the beneficiaries have less than 10 years of experience and is depicted in the table 2. This number

may be due to interest developed in agriculture. Chethan Patel et al (2021) also reported the similar findings in his research.

Table 2. Distribution of Beneficiaries based on their Farming Experience N=150

Category	Number	%
< 10 Years	24	16.00
11-20 Years	39	26.00
21-30 Years	33	22.00
31-40 Years	30	20.00
> 40 Years	24	16.00

Mass media contribution of PKVY benefitted ones as shown in table 3. reveals that the greater part of beneficiaries never listens to radio for communication.

Table 3. Distribution of Beneficiaries based Mass media Participation N=150

Sl. No	Crop	2021-22 Area (ha)	2022-23 Area (ha)	% Change in Area
1	Arecanut	69710.6	84784	21.62282
2	Coconut	1111.6	7908	611.407
3	Banana	2440.72	1643.51	-32.6629
4	Mango	1786	110.6	-93.8074
5	Sapota	168.07	479.15	185.0895
6	Pomegranate	410	1107.57	170.139
7	Tomato	1826.38	4705.19	157.6238
8	Onion	7288.74	487.36	-93.3135
9	Green Chilli	487.89	573.40	17.52649
10	Betelvine	833.23	290	-65.1957
11	Marigold	254.5	75.48	-70.3418
12	Oil Palm	81.26	12.9	-84.125
13	Cocoa	27.19	38.25	40.67672
14	Cashew	49.64	287.8	479.7744
15	Black Pepper	454.73	287.8	-36.7097
16	Papaya	139.66	123.4	-11.6426
17	Cabbage	217.82	275.62	26.53567
18	Drumstick	142.11	19.35	-86.3838
19	Ridgegourd	70.45	47.06	-33.2009
20	Cucumber	147.12	72.4	-50.7885
21	Brinjal	184.71	108.04	-41.5083
22	Ginger	184.4	189.4	2.711497

However, television is the most widely accepted electronic medium. 84 % of the beneficiaries regularly watch television so that they will come to know about the different products and schemes available from the government. Even the illiterate can watch and listen to the television. Majority of respondents (96 %) never read the farm magazine and occasionally read the newspapers (54 %). Since television, which has audio and video, provides all sorts of information, including about agriculture, attracts more farmers than the print media, since the respondents have received less formal education. Shikha Negi (2023) and Sivaraj and Philip (2017) observed the similar observations on role of mass media in modifying the attitude of farmers in Agriculture.

The internet and the bandwidth in rural areas is a major challenge. So, the greater number of respondents (78%) never use the internet browsing for agricultural information. Nevertheless, maximum number of beneficiaries uses Whatsapp (87%) to exchange their views on agriculture. Amusingly, they are members in the many Whatsapp groups created for agriculture related information exchange. Further, in recent days beneficiaries obtain the information regarding the available government schemes by visiting the horticulture

department and Krishi Vigyan Kendras (KVKs) in addition to participation in the training programmes organized for farmers (95%). According to Deepa Singh and Bhoopendra Kumar Verma (2023), Progressive farmers are using developing social media like WhatsApp, YouTube, Instagram as various platform of social media. Bite Balchandra Balkrishna and Anand A Deshmukh (2017) reported the similar observations in his research work. The change in the area of horticultural crops for the years 2021-22 and 2022-23 were given in the Table-4.

Table 4: Change in Area of Horticulture crops after the implementation of PKVY project

Media	Frequency of Use					
	Regularly		Occasionally		Never	
	No.	%	No.	%	No.	%
Radio	18	12.00	78	52.00	54	36.00
Television	84	56.00	54	36.00	12	08.00
News Paper	48	32.00	54	36.00	48	32.00
Farm Magazine	15	10.00	39	26.00	96	64.00
Internet	39	26.00	33	22.00	78	52.00
Whats App	87	58.00	30	20.00	33	22.00

The area under horticulture crops like Arecanut, Coconut, Sapota, Pomegranate, Tomato, and Cashew has been increased significantly. However, we can also notice a negative trend in many crops like onion, Mango, Betel vine, Marigold, Oil palm, Brinjal etc. The reasons for this may be due to fluctuations in prices in the market and also due to a change of farmer's mindset towards cash crop Arecanut. In addition, both the clusters' farmers do irrigation with through canal (62,415 ha), tube wells (1,38,186 ha), lift irrigation (19,210ha), tank (3,181 ha) and well (518 ha) united with prime red sandy, loam soil, mixed red gravelly soil and climatical state of southern transitional zone offers congenial environment best suited for horticulture crops in the district. According to research by K. M. Singh (2022) on the effects of India's National Horticulture Mission on the country's fruit and vegetable industries, both area and production of vegetables grew faster after the NHM, although productivity fell slightly.

Looking beyond, farmers also face a number of constraints in the implementation of the PKVY project presented in Table 5.

Table 5: Constraints faced by PKVY Beneficiaries (N= 150)

Constraints	No.	%	Rank
Poor follow up of activities under PKVY by Personnel	84	56	1
Subsidies under PKVY less for different personals	76	50.6	2
Less number of trainings covered under PKVY to impart technical knowledge	70	46.6	3
Frequent transfer of department officers	55	36.66	5
Heavy post-harvest losses and handling losses	41	27.33	9
Lack of cold chain and transportation facilities	51	34	6
Poor Extension activities under PKVY	59	39.3	4
Less Price for the produce in the market	43	28.66	8
High cost of Production	48	32.0	7
Lower Productivity	39	26.0	10

The important factor to mention here is the implementing agencies like PKVY need to do more follow-up activities with the beneficiaries, which was lacking, expressed by 56%, and ranked as number one constraint (table 5). In other cases, the implementation of the project is limited to distribution of inputs with fewer follow-up activities by the implementing agency. The frequent transfers of officials in the department/agency may be one of the major reasons for the poor progress (55%). Subsides provided under the PKVY scheme is less, as expressed by 50.6% of beneficiaries. In the case of subsides, each component has been shared by

beneficiaries and the government. The anticipated bodies can utilize the service of Krishi Vigyan Kendra's, Extension Education Units (EEU) to offer skill-based training to farmers. Lack of post-harvest technologies like good conveyance and cold storages (51%), reduced extension activities of PKVY for technical knowledge (59%). Bheemanagouda and Hosamani (2017) reported the similar studies under National Horticulture Mission scheme and implementation stage.

CONCLUSIONS

For successful implementation of the PKVY project, participation of beneficiaries in the extension activities plays an important role. Sincere officers in the department eager to help society both technically and via government schemes can play a vital role in the success of any project. Further, extension activities will ensure the best implementation and outcome of the project. Also, the constraints identified during the phase of the projects may be worked on and improved for better understanding.

REFERENCES

[1]. Anand M Chavai and Pandurang M Kadam (2016), Impact of National Horticulture Mission on the pomegranate growers of Maharastra: *International Journal of Tropical Agriculture* : Vol 34:4.

[2]. Anupam Singh and Aldona Glinska, (2022), Modeling the public attitude towards organic food: a big data and text mining approach, *Journal of Big Data*: 9:2.

[3]. Bite Balchandra Balkrishna and Ananad A Deshmukh (2017), A study on role of social media in Agriculture marketing and its scope: *Global Journal of Management and Business Research*: 17(1).

[4]. Bheemanagouda O.Patil and Hosamani S.B (2017), Performance of National Horticulture Mission (NHM) scheme and its impact on Horticulture development in Karnataka: Journal of farm Science: 30(4): 485-490.

[5]. Bucch.FKhan.N. and Jan.F. (2012) Role of women in Agriculture, *Asian J. Home Sci*,,7(1):144-147.

[6]. Chayal.K.B.,Dhaka.L,. Poona. M.K. Tyagi. S.V.S and S.V.S, Varma. (2013), Involvement of Farm Women in Decision making in Agriculture. *Stud Home Com Sci*,7(1):35-37.

[7]. Chadha D. Srivastav S.K. (2020), Growth performance of organic agriculture in India. CurrjAppl.*SciTechnol* 39(33):86-94.

[8]. Chethan Patil N.D, Patel, J.K, Rahul Dundesh Bellagi, Manunayaka G (2021), Relationship between socio-economic characteristics of beneficiary farmers and their attitude towards National Horticulture Mission: *Journal of Community Mobilization and Sustainable Development*: 16(2).

[9]. DaniloGambeli, Daniela vairo, EdurdoCuoco and RaftacleZanoli (2023) and innovation policy ; a case study of technology platform organics.*Org Agr.* 13:293-308 :

[10]. Deepa Singh and Bhoopendra kumar Varma. (2023), The utilization of social media for accessing farming information by progressive farmers; Bharathiya Krishi Anusandhan Patrika : 38(3): 290-295.

[11]. Priya D.Y, Eshwarappa G and Manjunatha B.N.,(2006), Profile and constraints of Farm Women participants of FFS. Mysore J Agric, Sci., 45(2):393-398.

[12]. Raghuraja J. and M.Madhumathi, (2018) A study on profile and constraints faced by National horticulture mission beneficiaries in Davanagere district of Karnataka International journal of Agricultural science and research, 1-8.

[13]. Singh K.M, Nasim Ahmed, Vijay Lakshmi Pandey, Sinha D.K, (2022), Impact of National Horticulture mission on vegetable and fruit sectors of India: Indian Journal of Economics and Development: 18(1): 66-75.
[14]. Sheetal Patil and V.K Swarnkar, (2023), Association between social personal, psychological and communicational attributes of NHM flower grower beneficiaries and their adoption behavior, Asian journal of agricultural extension, economics and sociology, volume 41, issue 4, (101-105).
[15]. Shikha Negi, (2023), Role of mass media in Agriculture: International Journal of Noval Research and Development: 8(7).
[16]. Sivaraj P and Philip H. (2017), Role of media in changing the attitude level of farmers towards organic farming in the western zone of Tamil Nadu: Journal of Extension Education: 29(2).
[17]. S.P Singh, Priya, KomalSajwan, (2023), Factors influencing the odoption of organic farming ; a case of middle Ganga river basin, India, Org.Agr 13:193-203.
[18]. Swetha B.S. Narasimha.N, Shankara.M.H. andSoumya.T.M., (2006), Personal and Soci- psychological characteristics of Farm Women beneficiaries of on-Farm Demonstration (OFD). Mysore J Agric.Sci.,45(3):642-647.

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