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Demographic survey and SWOT analysis of PDKV adopted village Chelka in Akola district

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Abstract
The demographic survey report comprises vital data regarding population dynamics that can be used in research, policymaking, and development planning. The present study was undertaken in Chelka village of Barshitakli tehsil of Akola district which is adopted by Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, in the state of Maharashtra. A sample of all 84 households were selected from village sample of Chelka in Akola district. Findings revealed that a large portion of the population (44.89%) is under 35 years, with the majority (63.26%) belonging to the Other Backward Class (OBC). The study identified key issues such as fragmented land holdings (35.72% small, 34.53% marginal), heavy dependency on agriculture (51.19%), and poor access to veterinary services and agro-based industries. The SWOT analysis highlights Chelka's strengths, such as fertile soil and a youthful population, but underscores weaknesses including inadequate knowledge of modern farming practices, lack of infrastructure, and monoculture cropping patterns. Opportunities for diversification into organic farming, horticulture, and dairy are evident, while threats include erratic rainfall and land fragmentation. This analysis is intended to serve as a foundation for future developmental initiatives, aimed at improving the socio-economic status of the villagers.

Keywords: Demographic, PDKV, PRA, survey, SWOT

1. Introduction

Participatory Rural Appraisal (PRA) is a community-driven development approach that emphasizes local knowledge and the involvement of rural populations in identifying problems, planning interventions, and implementing solutions. Chelka, a village in the Barshitakli Tehsil of Akola district, Maharashtra, was adopted by Dr. Panjabrao Deshmukh Krishi Vidyapeeth for a comprehensive developmental survey. The primary objective of this survey was to collect baseline demographic data that could be used for the planning of sustainable development initiatives. The demographic survey of Chelka will provide an essential benchmark for understanding the village's socio-economic landscape, which is crucial for identifying priority areas for intervention. The village, with a population of 343, is predominantly engaged in agriculture and labour, but faces challenges related to irrigation, education, and infrastructure.

SWOT analysis is a strategic planning technique used in various fields, including business, marketing, and project management, to assess the internal and external factors that can impact the success of a project, initiative, or organization.

SWOT Analysis is an analysis method used to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in an organization, a plan, a project, a program, a person or any kind of business activities. SWOT Analysis is the most commonly used strategic planning tool to access the Internal and External factors of any organization. This is considered as an effective framework plan and manages the organizational resource to achieve certain goals in a specific period of time (Sharath Kumar, 2023) [2].

2. Materials and Methods

The present study entitled "Participatory Rural Appraisal of PDKV Adopted Village Chelka in Akola District" was undertaken in Chelka village of Barshitakli Tehsil of Akola district which is adopted by Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, in the state of Maharashtra.

For conducting the present study diagnostic and descriptive research design of social research has been used. The research involved a population of all 84 households in Chelka village. Data were collected through personal interviews with the villagers using a structured questionnaire. SWOT analysis was done by asking farmers their strengths, weaknesses, opportunities and threats and then finalized with the help of key informants in the village.

3. Results and Discussion

Table 1: Distribution of respondents according to demographic survey of village Chelka

SL. No.	Characteristics	Category	Respondents	
			Frequency	Percentage
1	Age (years)	Young (Up to 35)	154	44.89
		Middle (36 to 50)	102	29.74
		Old (51 and above)	87	25.37
		Total	343	100.00
2	Education	Illiterate	12	4.27
		Primary	24	8.55
		Middle	34	12.09
		Secondary	100	35.58
		Higher secondary	86	30.62
		College	25	8.89
		Total	281	100.00
3	Caste	OBC	217	63.26
		SC	26	07.58
		ST	13	03.79
		VJ/NT	87	25.37
		Total	343	100.00
4	Occupation	Labour	05	05.95
		Agriculture + Labour	43	51.19
		Agriculture	30	35.72
		Agriculture + Service	04	04.76
		Agriculture + Business	02	02.38
		Total	84	100.00
5	Land holding	Landless	05	05.95
		Marginal	29	34.53
		Small	30	35.72
		Semi medium	17	20.23
		Medium	03	03.57
		Total	84	100.00
6	Sources of irrigation	Well	36	42.86
		Tube well	02	02.38
		River	11	13.09
		No irrigation	35	41.67
		Total	84	100.00
7	Information about borrowing old loan	Cooperative society	576000	80.00
		Nationalized bank	144000	20.00
		Total	720000	100.00
8	Annual income	Rs. 50,001 to Rs. 1,00,000	12	14.28
		Rs. 1,00,001 to Rs. 1,50,000	18	21.42
		Rs. 1,50,001 to Rs. 2,00,000	29	34.54
		Above Rs. 2,00,000	25	29.76
		Total	84	100.00
9	Annual expenditure	Food	2105000	23.19
		Housing	390550	04.31
		Education	628000	06.93
		Clothing	360800	03.97
		Health/ Medical expenses	864500	09.54
		Travelling	441800	04.86
		Electricity	424400	04.67
		Foot wares	88600	00.98
		Religious + social functions	524000	05.78
		Agriculture	3246000	35.77
		Total	**9073650**	**100.00**

It was observed from Table 1 that a significant portion of the population (44.89%) was under 35 years of age. In terms of education, most adults (35.58%) had completed secondary school, followed by 30.62% with higher school education. Regarding caste distribution, the majority of the population (63.26%) belongs to the Other Backward Class (OBC), with 25.37% from the VJ/NT category. A large proportion of households in the village (51.19%) rely on a combination of agriculture and labor for their livelihood. In terms of land ownership, 35.72% of households were classified as small farmers, while 34.53% were marginal farmers. The primary source of irrigation for 42.86% of households was wells. It was observed that most of the households (80.00%) borrowed loans from cooperative society. Regarding household income, 34.54% fall within the Rs. 1,50,001 to 2,00,000 annual income range. The total family consumption expenditure as shown in Table 1 indicated that expenditure on agriculture has largest share constituting 35.77 percent of total expenditure.

SWOT analysis of village Chelka

A SWOT analysis is designed to facilitate a realistic fact-based, data-driven look at the strengths and weaknesses of a village. The SWOT analysis of the Chelka village is mentioned below in the Table 2.

Table 2: SWOT analysis of village Chelka

Strengths	Weaknesses	Opportunities	Threats
Rural youth population is more	Monoculture cropping pattern in village	Introduction of crossbred animals and improved fodder crop variety	Land fragmentation
Good cooperation amongst villagers	Unawareness about IPM and IDM	Introduction of horticulture	Pest attack
Greater participation in social activities	Lack of knowledge of INM	Incorporation of organic farming	Heavy losses due to wild animals
Soil suitable for all types of crops	Imbalanced fertilizers and pesticides use	Milk cooperative dairy	Uncertainty of rainfall
Availability of use of farm implements	Kutcha farm roads	Apiculture	Discontinuity in electricity
Absence of social evils	Poor sanitation	Use of high yielding varieties	Youths losing interest in farming due to low returns
	Lack of grain storage	Construction of Godowns	

The SWOT analysis of Chelka village illustrated both the potential for growth and the significant challenges it faces. While there were clear strengths such as a more youth population and good soil quality, weaknesses in farming knowledge and infrastructure pose barriers to progress. Opportunities for diversification into horticulture, dairy, and organic farming offer a pathway to more sustainable development, but threats like land fragmentation, climate uncertainty, and youth disengagement remain pressing concerns. Addressing these issues will require a combination of education, infrastructure development, and policy interventions aimed at both short-term gains and long-term sustainability.

4. Conclusion

The demographic survey of Chelka village provides a comprehensive understanding of its socio-economic status. The findings indicate that the village has a relatively young and moderately educated population, there are significant challenges in terms of irrigation, income inequality, and infrastructure development. These insights can inform the development of targeted interventions aimed at improving agricultural productivity, enhancing educational outcomes, and ensuring equitable access to resources.

The SWOT analysis of village Chelka highlights the need for integrated rural development strategies focusing on education, infrastructure, and sustainable agriculture. By addressing the identified weaknesses and threats, while capitalizing on the village's strengths and opportunities, it is possible to foster a more prosperous and sustainable future for Chelka's residents. The findings suggest that investment in cooperative ventures, agro-based industries, and youth engagement programs would yield significant long-term benefits.

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