



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

The Contribution Of Nanaji Deshmukh Krishi Sanjeevani Project To Economic And Social Development Of Farmers

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Abstract:

The agriculture sector is the mainstay of the Indian economy, employing approximately 54 percent of the country's workforce and contributing approximately 18 percent of GDP. However, productivity remains a challenge and poverty and malnutrition in rural areas remain high. Water scarcity, climate change and fragmented farms make it difficult for millions of small holder farmers to feed their families and profit from their work. Farmers in Maharashtra face problems like uneven distribution of rainfall, heavy rains, late arrival of monsoons, seasonal rains and hail for many years. As a result, severe drought or scarcity-like conditions cause widespread adverse effects on agricultural production and productivity and slow down agricultural development. Reduced income also increases the stress on farmers and some farmers even take extreme measures such as suicide. Overall, these significant changes in the recent climate have presented major challenges to the country's agricultural sector. Climate change is the result of adverse agricultural conditions that lead to reduced yields. Maharashtra government has proposed to implement a climate-friendly agriculture project POCRA (Project on Climate Resilient Agriculture) in the state with global financial support to ensure immediate recovery of farmers without stress due to their failed crops. Bank mainly in selected villages affected by drought in Vidarbha and Marathwada and selected villages across the saline area of the Vidarbha basin.

Key Words: Impact, PoCRA, Governments Scheme, Agricultural improvement and Rural development, climate resilient agriculture.

Introduction:

Climate change is a major challenge, and its impacts are felt around the world, impacting vulnerable populations such as agricultural/coastal communities, resource-dependent communities, and communities with limited capacity to respond. Vulnerability to climate change is used in most climate resilience projects as a criterion to identify targeted beneficiaries and villages. To understand vulnerability, it is important to have a clear understanding of the stress caused by changing climate conditions and its impact on communities. In the drought-stricken villages of Maharashtra, climate change manifests itself in sporadic monsoons. A decrease in the number of rainy days and an increase in heavy rainfall will lead to crop losses and make irrigation even more important. Access to conservation irrigation to ensure a kharif crop has become essential in villages in Maharashtra. It has also become important for the farmer's land use decision to make an educated decision based on rainfall patterns and the availability of village information. These two parameters represent financial performance through reliable income.

Agriculture is the primary source of income for most of Maharashtra's population. However, recurrent drought is a major challenge in drought and rain-fed areas of the state. The project has identified 15 districts in the Marathwada and Vidarbha regions that have been most affected by repeated monsoon disturbances in recent years. A total of 35.48 million people lives in these areas.¹ Out of more than 18768 (Marathwada 10,041; Vidarbha- 8,727 of which 932 villages are salinity affected) villages in the selected areas, the project covers 5,142 villages characterized by a high climate sensitivity index. It covers 932 villages located in the Purna river basin with high soil salinity and salinity.² The majority of rural households in the project areas are small and marginal farmers whose livelihood depends mainly on rain-fed agriculture. The adoption of climate-resilient agricultural practices among farmers in these regions can reduce climate-induced income stress. 16 districts in the state have less than 3,000 cubic meters of water per hectare. 14 districts in the state have less than 1,000 cubic meters of water per capita. Of the cultivated land of the state, 112 lakh hectares of land is affected by drought. In such a situation, agricultural income decreases and negatively affects the agricultural sector. Sometimes wet and sometimes dry droughts do a lot of damage. Sometimes farmers even lose their lives because of them.

The Government of Maharashtra, in collaboration with the World Bank, has prepared a Project on Climate Resilient Agriculture (PoCRA) in 5142 villages in 15 districts of Maharashtra. The project aims to bring about change in agriculture by scaling climate-supporting technologies and practices at farm and mini-watershed levels. The project aims to address drought-prone villages in Maharashtra, which are severely affected by agricultural stress and salinity, by promoting climate-resilient agricultural technology, investment in new resource generation to improve water availability, diversified cropping systems, protected cultivation and on-farm. value chain and at the community level. The project covers selected villages of Aurangabad, Nanded, Latur, Parbhani, Jalna, Beedi, Hingoli and Osmanabad in Marathwada district, Akola, Amravati, Buldhana,

Yavatmal, Washim and Wardha in Vidarbha district and Jalgaon in Khandesh district. Villages in the Purna watershed affected by salinity were chosen precisely because of the unique challenges faced by farmers.³

Nanaji Deshmukh Krishi Sanjeevani Prakalp at the beginning of the project, it was called "Project on Climate Friendly Agriculture (POCRA)". But in January 2017, the administration decided to rename the scheme as 'Nanaji Deshmukh Krishi Sanjeevani Prakalp'. Considering Mr. Nanaji Deshmukh's selfless social service and his contribution in the field of agriculture, it has been decided to name the World Bank-supported Climate Friendly Agriculture Development Project after Nanaji Deshmukh. Since then, the project has been called 'Nanaji Deshmukh Krishi Sanjeevani Prakalp'.⁴

The project is characterized by maximum support and immediate benefits. Around Rs 4,000 crore will be allocated for this project with the help of the World Bank and the project will be fully implemented in selected villages within six-year period from 2018-19 to 2023-24. According to the GoM, the world bank will fund 70% of the project cost out of a budget of Rs. 4,000 crores (Rs. 2800 crores), with the remaining 30% (Rs. 1200 crores) will be provided by the state government.⁵

Objectives of PoCRA:

The main objective of the scheme is to make the arid and barren lands of Maharashtra fertile to increase productivity and double the income of poor and economically weaker farmers.

1. To develop agricultural practices adapted to climate change.
2. To increase the participation of farmers in the agricultural value chain to increase income.
3. Eliminate growing apathy towards agriculture and stop the suicides of farmers. Promote production and meet the economic needs of farmers by starting cultivation in desert and drought areas.
4. To make farmers self-sufficient and independent.
5. Make a complete arrangement for agricultural irrigation.

Component available under the PoCRA:

The project has mainly four components namely,

- A. **Promoting Climate Resilient Agriculture Systems:** Under component, there are three sub components i.e.
 - A.1: Participatory development of mini watershed plans,
 - A.2: On-farm climate-resilient technologies and farming systems and
 - A.3: Climate-resilient development of catchment areas.
- B. **Climate Smart Post-Harvest Management and Value Chain Promotion:** Under Component B, there are three sub components i.e.
 - B.1: Promoting Farmer Producer Companies,
 - B.2: Strengthening emerging value chains for climate-resilient commodities and

B.3: Improving the performance of the supply chain for climate-resilient seeds.

C. **Institutional Development, Knowledge and Policies for a Climate-resilient Agriculture:** Component C, consist of three sub components i.e.

C.1: Sustainability and institutional capacity development,

C.2: Maharashtra Climate Innovation Center and

C.3: Knowledge and policies.

D. **Project Management.**

Schemes available under the PoCRA project i.e. Sprinkler Irrigation, Drip Irrigation, Wells, Well Repair, Green house Farms, Poultry Farm, Goat Farming, Beekeeping, Silk Industry, Freshwater Fishing, Fruit Planting, Tree Planting, Crop Rotation, Dams, Borehole Dam Water Harvesting, Vermicomposting Production, Organic fertilizer units, agricultural industry, protective net houses, seed storage, tractors, cultivation machines, bamboo cultivation, water absorption equipment, agricultural tool production center, pipes (PVC) etc. Useful elements for farmers are in the given project.⁶

Objectives of the Study:

The study was undertaken with following specific objectives in view:

1. To study the relevance of PoCRA.
2. To know the out-put of PoCRA.

Hypothesis:

The following hypothesis was presented for the proposed study.

1. Farmers of Buldhana district got benefits under PoCRA.
2. Only PoCRA plays an important role in the upliftment of the farmers of Buldhana district.

Research Design:

The topic of this research paper is related to A Sociological Study of Prakalp by Nanaji Deshmukh Krishi Sanjeevani. All the aspects of this prakalpa and its related questions were logically studied in "Descriptive and Exploratory Research Design" and therefore the researcher used the same research design.

Data Collections:

The data for this study was collected from the Primary and Secondary Sources. The study was primarily based on the data collected from the field by using interview schedule. This data was collected by selected samples. It was selected through Purposive Sample Method from Non-probable sampling design. Selected samples were belonging to beneficiary of PoCRA. 100 samples' interviews were taken by researcher with the help of interview schedule.

Analysis and Discussion of Data:

In this section, the researcher conducts the research by conducting research based on the given hypotheses and quote; 'The Contribution of Nanaji Deshmukh Krishi Sanjeevani Project to economic and social development of farmers' with the ultimate goal of hypothesis testing, the results were explained and the hypotheses were tested through a scientific process based on the data collected from the sampled respondents. Therefore, some recommendations were made, based on the experience and knowledge gained by the researcher throughout the learning process.

Theoretical framework:

The study will evaluate the overall PoCRA project performance as well as strengthen the implementation processes. The study will need to understand 'how' the programme has contributed to the enhancing climate resilient agriculture system; 'which' aspects of the programmed have contributed; and 'what' impact, the intervention has had, on creating climate resilient agriculture system. Theory based evaluation; the nature of the project, the application of a theory-based evaluation approach to evaluation. Theory-based approaches to evaluation use an explicit theory of change to draw conclusions about whether and how an intervention contributed to observe results.⁷ PoCRA follows an explicit results framework approach to define outcome it wants to achieve. Incorporation of theory-based evaluations will prove to be highly relevant in the context where outcomes are assessed with the creation of logical results pathway. Most importantly, a theory-based approach will allow development of narrative around resilience both for agricultural system and human systems. Aligning the evaluation along this principle will also widen the scope to benchmark indicators around resilience with the acceptable global targets. Above theory plays vital role to prove this study as scientific study, that's why the finding and conclusion from this study prove to this study as scientific and logical.

Interpretation of data:

The data collected from the sources mentioned above were processed using MS-excel, MS-word and SPSS programs for coding, tabulation, hypothesis testing and the following precautions were considered in the analysis: a) data has been recorded and recorded faithfully and analyzed without prejudice. b) No collection without proper control.

Hypothesis testing:

After the study, it is necessary to check the validity of the hypothesis. In this regard, the hypotheses formulated for the study are systematically tested as follows.

Hypothesis 1

H₀: Farmers of Buldhana district did not get benefits under PoCRA.

H₁: Farmers of Buldhana district got benefits under PoCRA.

The above hypothesis was formulated to study the need of PoCRA for the farmers of Buldhana Districts. If we see the geographical and climatic changes of Buldhana districts, there seems to be uncertainty in the field of farming and cultivation. This affects the income of farmers. Therefore, it is necessary to implement such a project to increase agriculture. During the research, the researcher studied the above statement and the reality found in a positive sense, how the farmers of Buldhana district took various benefits under PoCRA and it is most needed for the farmers and agriculture sector to raise it and it is needed. will continue in the future. Since all the benefits are in the form of approved farm equipment and farm infrastructure development under PoCRA, they are operational and beneficial. This indicates that the first hypotheses presented for the study are correct and should be understood as a success of the study.

Hypothesis test:

Various benefits have been taken by farmers of Buldhana districts under the PoCRA. Such hypothesis was made for research. To verify this hypothesis, is there increased your family income due to benefits or help of PoCRA? This question was asked to the respondents. Their responses are mentioned in the following table and hypothesis is verified on that basis.

Table-1: Showing Benefits Under the PoCRA Project

Sr. No		Frequency	Ei	(Oi-Ei)	(Oi-Ei) ²	(Oi-Ei) ² /Ei
1	Marginal farmers are eligible for project	18	25.0000	-7.0000	49.0000	1.96
2	A farmer who is financially struggling can afford to buy agricultural equipment.	24	25.0000	0.0000	0.0000	0
3	Economic growth.	31	25.0000	5.0000	25.0000	1
4	Subsidy on equipment	27	25.0000	2.0000	4.0000	0.16
	Total	100	100.0000			3.12

Expected frequencies based on the hypothesis of Chi-square Test

Chi -square Test	
Total N	100
Test Statistics	3.1200
Table Value	0.3518
Level of Significance	5% (0.05)
Degree of Freedom (d.f.)	n-1=4-1=3
p-value	0.373491032

Decision: Here, Test statistic > Table value

Therefore, Reject H_0

Conclusion: We reject H_0 . Which means H_1 is true. Therefore, we can conclude that Farmers of Buldhana district got benefits under PoCRA.

p-value = 0.373491032,

Decision: Here, p-value < 0.05,

Therefore, Reject H_0 .

Conclusion: We reject H_0 . Which means H_1 is true. Therefore, we can conclude that Farmers of Buldhana district got benefits under PoCRA.

Hypothesis 2

H_0 : PoCRA's contribution to the upliftment of farmers in Buldhana district is significant.

H_1 : PoCRA alone does not play a major role in the upliftment of farmers in Buldhana district.

Since the main objective of PoCRA is to enable farmers in certain villages to face the changing environment by providing different forms of agricultural and agro-subsidies, different types of additional agricultural subsidies are given to each farmer according to his needs and constraints. limits framework of conditions. In this regard, when the sample farmers of the villages selected for the study were informed about the nature of the benefits derived from this project, the facts and details were found as per the table below.

Table-2: Showing Components of Benefits taken Under PoCRA

Sr. No	Components of Benefit	Frequency	E_i	$(O_i - E_i)$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
1	Sprinkler Set	15	5.882352941	9.1176	83.1315	14.1324
2	Drip set	10	5.882352941	4.1176	16.9550	2.8824
3	Horticulture Plantation	8	5.882352941	2.1176	4.4844	0.7624
4	5 HP Pump	9	5.882352941	3.1176	9.7197	1.6524
5	Pipeline	11	5.882352941	5.1176	26.1903	4.4524
6	Pipeline with 5 HP Pump	3	5.882352941	-2.8824	8.3080	1.4124
7	Drip and Sprinkler set	5	5.882352941	-0.8824	0.7785	0.1324
8	Sprinkler Set and 5 HP pump set	7	5.882352941	1.1176	1.2491	0.2124
9	Drip set and Reshim udyog	2	5.882352941	-3.8824	15.0727	2.5624
10	Sprinkler Set and Reshim udyog	3	5.882352941	-2.8824	8.3080	1.4124
11	Drip set and pipeline	2	5.882352941	-3.8824	15.0727	2.5624

12	Falbag, Drip and Sprinkler set	5	5.882352941	-0.8824	0.7785	0.1324
13	Reshim udyog, Drip and Sprinkler Set	2	5.882352941	-3.8824	15.0727	2.5624
14	Shed -net House	6	5.882352941	0.1176	0.0138	0.0024
15	Shet-tale	5	5.882352941	-0.8824	0.7785	0.1324
16	Shet-tale and Horticulture Plantation	3	5.882352941	-2.8824	8.3080	1.4124
17	Tractor	4	5.882352941	-1.8824	3.5433	0.6024
	Total	100	100			37.0200

Expected frequencies based on the hypothesis of Chi-square Test

Chi -square Test	
Total N	100
Test statistic	37.02
Table Value	7.961645572
Level of significance	5% (0.05)
Degrees of freedom (d.f.)	$n-1=17-1=16$
p-value	0.002083521

Decision: Here, Test statistic > Table value

Therefore, Reject Ho

We reject Ho which means H1 is true.

Conclusions: We reject Ho. Therefore, we may conclude that PoCRA alone does not play a major role in the upliftment of farmers in Buldhana district.

p-value= 0.002083521,

Decision: Here, p-value < 0.05,

Therefore, Reject Ho.

Conclusion: We reject Ho. Which means H1 is true, Therefore, we may conclude that PoCRA alone does not play a major role in the upliftment of farmers in Buldhana district.

References:

1. Census India, 2011
2. The Project Director, Project on Climate Resilient Agriculture (PoCRA), Government of Maharashtra, Page No. 13
3. <https://mahapocra.gov.in/docs/PoCRA-DigitizingAgricultureForClimateResilience.pdf>.
4. Department of Agriculture, Animal Husbandry, Dairy Development and Fisheries, Maharashtra Government, G. R. No. HAPR -0716/P. No. 82 dated 17th January,2017,
5. <https://mahapocra.gov.in/docs/PoCRA-DigitizingAgricultureForClimateResilience.pdf>.
6. The Project Director, Project on Climate Resilient Agriculture (PoCRA), Government of Maharashtra, Page No. 14-15.
7. <https://www.gatesfoundation.org/ourwork/places/india/agriculturaldevelopment>.

