

SOCIOLOGICAL STUDY OF NANAJI DESHMUKH KRISHI SANJEEVANI PRAKALP

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Abstract:

The agricultural sector is a central pillar of the Indian economy, employing 60 percent of the nation's workforce and contributing to about 17 percent of its GDP. Productivity remains a challenge, however, and poverty and malnutrition in rural areas remain high.¹ Water shortages, a changing climate, and fragmented land holdings make it difficult for millions of smallholder farmers to feed their families, much less earn a profit from their labor. For the last many years, farmers in Maharashtra have been facing problems like uneven distribution of rainfall, large volume of rainfall, late arrival of monsoon, unseasonal rains and hailstorms. As a result, severe drought or scarcity-like conditions lead to large scale adverse effects on agricultural production and productivity and slow down the rate of agricultural development. Decreased income also increases stress among farmers and some farmers even commit extreme measures like suicide. Overall, these significant changes in the recent climate have posed major challenges to the agricultural sector in the state. Climate change is the result of adverse agricultural conditions resulting in declining yields. In order to ensure immediate recovery of the farmers without any stress due to these declining yields the Government of Maharashtra has proposed to implement 'Climate Friendly Agriculture Projects POCRA' (Project on climate resilient agriculture) in the state with the financial assistance of the World Bank mainly in selected drought affected villages in Vidarbha and

Marathwada as well as in selected villages in the saline belt of the entire river basin in Vidarbha.

Key Concept:

Governments Scheme, Agricultural upliftment and Rural Development

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:

Following hypothesis was put ward for proposed study.

1. Various benefits have been taken by farmers of Vaijapur Region under the PoCRA.
2. The only PoCRA is playing vital role in upliftment of the farmers from vaijapur Tehsil.

Research Design:

The topic of present study is related to 'Sociological Study of Nanaji Deshmukh Krishi Sanjeevani Prakalp. All the aspects and related issues of this prakalp are logically studied through 'Descriptive and Exploratory research design' and so 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. 50 samples' interviews were taken by researcher with the help of interview schedule.

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 programme 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.² 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 the Data:

The data as collected from the above-mentioned sources have been processed with the help of MS-excel, MS- word and SPSS programs of computer for coding, tabulation, hypothesis testing and analyzed taking into consideration the following precautions: a) the

data have been recorded and registered faithfully and analyzed without any bias. b) No collection without proper verifications.

Introduction:

The MS Swaminathan Commission, constituted in 2004, had submitted five reports, with recommendations on alleviating distress of farmers and provided a framework for a sustainable and profitable agricultural system. Providing responsive and targeted regional support to further inclusive agricultural transformation across the region.³ In recent times, agriculture in Maharashtra has been facing adverse conditions due to climate change. As a result, the traditional plans of the farmers are found to be wrong. The challenge for farmers is to adapt to such erratic weather conditions. About 80% to 90% of agriculture in Maharashtra is dependent on monsoon rains. Only 16.4% of the total cultivable area is under irrigation.⁴

In the last two decades, the agricultural sector has performed less than its potential. From 1990 to 2000, the annual agricultural growth rate was about 33.5%. Between 2013 and 2015 the rate fell below 2% due to low productivity, high rainfall and land scarcity. Water scarcity is major barrier to crop and highwater levels. Drought and erratic rainfall and inequality are natural in the state. There used to be droughts in the past, there are still droughts today, there will continue to be droughts. Climate change is also natural. Rising temperatures are also worrisome.

About the PoCRA:

Agriculture is the primary income-generating activity of majority of the population in the state of Maharashtra. However, recurring drought is a major challenge in drought-prone and rainfed areas of the state. The project has identified 15 districts of the Marathwada and Vidarbha regions that have been most adversely affected by the recurrent monsoon failures of recent years. These districts account

for a total population of 30.2 million people. Out of a total of 18,000+ villages in the districts selected, the project covers 5,142 villages characterized by a high climate-vulnerability index; this includes 932 villages located in the Purna river basin tract which have high levels of soil salinity and sodicity. The vast majority of rural households in the project districts are small and marginal farmers whose livelihood primarily depends on rainfed agriculture. Implementation of climate-resilient agricultural practices amongst farmers in these areas can reduce climate-induced income stress.⁵

16 districts in the state have less than 3000 cubic meter of water per hectare. 14 districts in the state have less than 1000 cubic meter of water per capita. Out of the arable land in the state, 112 lakh hectares of land is affected by drought. In such a situation, the agricultural income decreases and adversely affects the agricultural sector. Sometimes wet and sometimes dry droughts cause a lot of damage. Sometimes farmers even lose their lives due to these.

The Government of Maharashtra, in partnership with the World Bank, conceptualized the Project on Climate Resilient Agriculture (PoCRA) for 5,142 villages in 15 districts of Maharashtra. The project attempts to bring transformational changes in the agriculture sector by scaling up climate-smart technologies and practices at the farm and mini watershed level. The project aims to drought-prone those villages of Maharashtra severely affected by agriculture distress and salinity affected villages by promoting climate resilient agriculture technologies, investments in creating new assets for increased access to water, diversified cropping system, protected cultivation, and value chain at farm and community level. The project includes selected villages in the districts of Aurangabad, Nanded, Latur, Parbhani, Jalna, Beed, Hingoli, and

Osmanabad in the Marathwada region, Akola, Amravati, Buldhana, Yavatmal, Washim, and Wardha in the Vidarbha region, and Jalgaon in the Khandesh region. Salinity affected villages in the Purna river basin have been specifically selected due to the unique challenges faced by the farmers therein.⁶

Nanaji Deshmukh Krishi Sanjeevani Prakalp
 When the project was started, it was called 'Climate Friendly Agriculture Project (POCRA)'. But in January 2017, the administration decided to rename the scheme as 'Nanaji Deshmukh Krishi Sanjeevani Prakalp'⁷. Considering the selfless social service done by Mr. Nanaji Deshmukh and his contribution in the field of agriculture, it was decided to name the World Bank-assisted climate friendly agricultural development project after Nanaji Deshmukh. Since then, the project has been called 'Nanaji Deshmukh Krishi Sanjeevani Prakalp'.

On 24 May 2016, World Bank agreed to work with the State Government for the design and implementation of the project. The project was started. The 'Project Management Cell' was set up in Mumbai by preparing the project implementation plan. The cell has been set up under the supervision of 23 senior officials in the Indian Administrative Service. Also, a committee was formed to select 4000 drought-stricken villages in Vidarbha and Marathwada. The 'Nanaji Deshmukh Krishi Sanjeevani Prakalp' is the largest scheme implemented by the Government of Maharashtra for farmers with the financial assistance of the World Bank. The scheme is characterized by maximum subsidy and immediate benefits. About Rs 4,000 crores will be provided for this scheme with the help of World Bank and this scheme will be implemented in full for 6 years in selected villages. It is mandatory for the state government to provide 70% of the funds required for this project from the World Bank and the remaining 30% from the state

government. Soil testing in selected villages under the scheme is done by an organized team. After testing the soil of the cultivated soil, it is noticed that there is a deficiency of minerals in the soil and deficiency of bacteria. Goat rearing units are established under this scheme in all areas where farming will not be possible. So that farmers have a source of income to increase their income. Excavation of lakes and fishing industries are set up. There is a provision to apply drip irrigation system in areas where irrigation water is scarce. Special extension work is done to enhance the knowledge and skills of the farmers by organizing agricultural workshop, demonstrations, training and study tours by disseminating climate friendly technology through the project. Village level Agriculture Assistants, Community Assistants, Agricultural School Instructors, Krishitai and the Minister of Agriculture interact with the farmers and try to resolve their crop problems. The government has made changes in this project from time to time. The 'Prakalp Sukanu Samitee' and the 'Technical Advisory Committee' were set up to ensure effective implementation of the scheme. In the meeting of the High-Level Secretary Committee held on 19th September 2017, in the first 23 posts, 782 more posts were added ($23 + 782 = 805$) and a total of 805 posts were created. With the objective of meticulously planning the work to be undertaken at the village level under the project, two committees were set up in the selected village gram panchayats under the name 'Gram Krishi Sanjeevani'. One committee acts as the District Level Coordinating Committee, while the other acts as the 'Development Committee' of the Gram Panchayat. The development committee consists of 13 persons related to agriculture and rural development in the village.

The Main Objectives of the PoCRA:

The basic objective of the scheme is to make the drought prone and barren lands of

Maharashtra fertile so as to increase the productivity and also to double the income of the poor and economically weaker farmers.

1. To develop agricultural practices in line with climate change.
2. To increase the participation of farmers in the agricultural value chain to increase their income.
3. Eliminate the growing apathy towards agriculture as well as stop the incidence of farmer suicides. To promote production and meet the economic needs of farmers by starting farming in barren and drought prone areas.
4. To make farmers self-reliant and self-empowered.
5. To make complete arrangements for irrigation for agriculture.

Facility Available Under the PoCRA

Green House, Poultry Farm, Sprinkler Irrigation, Drip Irrigation, Well, Well Repair, Farm, Goat Breeding, Closed Goat Breeding, Beekeeping, Silk Industry, Freshwater Fisheries, Orchard Planting, Tree Planting, Collective Farming, Farm Dams, water harvesting of borewell Dams, vermicompost production, Organic Fertilizer Units, Agro-based Industries, Shed Net Houses, Seed Storage Warehouses, Tractors, Power Tillers, Bamboo Cultivation, Water Absorption Equipment, Agricultural Tools Manufacturing Center, Pipes (PVC) etc. Farmers useful elements have been given a place in this scheme.

Data Analysis and Discussion:

In this section, the researcher, on the basis of predetermined hypotheses to guide the research work while conducting research on the topic of "Sociological Study of Nanaji Deshmukh Krishi Sanjeevani Prakalp, the ultimate objective of the research work was to verify those hypotheses, the findings were clarified and the hypotheses were verified by a scientific process based on the data collected from the

sample selected respondents. Similarly, some recommendations have also been made, based on the experiences and knowledge gained by the researcher in the entire study process.

Hypothesis Testing:

After research, it is necessary to check the veracity of hypothesis. The hypotheses made for the research in that regard are systematically verified as follows.

Hypothesis 1

H0: Various benefits have not been taken by farmers of Vaijapur Region under the PoCRA.

H1: Various benefits have been taken by farmers of Vaijapur Region under the PoCRA.

The above hypothesis was made to study the need of PoCRA to farmers from Vaijapur Tehsil. If we see the geographical variation and climatically changes in the region of Vaijapur it seems that uncertainty in the field of Farming and cropping. It effects on farmers earning and income. Therefore, it is needed to implement such project for upliftment of rural agricultural. During the study, researcher gone through the

above statement and the reality found in positive sense like the Various benefits have been taken by farmers of Vaijapur Region under the PoCRA and it is most needed to the farmers and Agro sector for its upliftment and it is needed to be continue in future too. Because whatever the benefits accepted in the form of agro equipment and agricultural Infrastructure Development has been done under the PoCRA are in Working Condition and useful. It proves that the first hypotheses put forward for research are true and this has to be understood as the success of research.

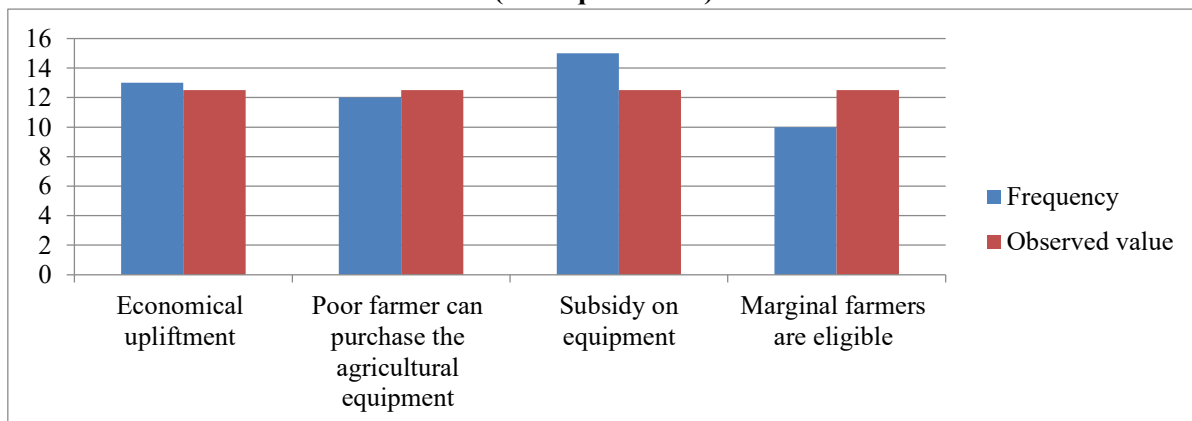
Hypothesis Test:

Various benefits have been taken by farmers of Vaijapur Region 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 Showing Form of Benefits Under PoCRA Scheme

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Economical upliftment	13	26.00	26.00	26.00
	Poor farmer can purchase the agricultural equipment	12	24.00	24.00	50.00
	Subsidy on equipment	15	30.00	30.00	80.00
	Marginal farmers are eligible	10	20.00	20.00	100
	Total	50	100.0	100.0	

Expected frequencies based on the hypothesis of normal distribution (Chi-square Test)



Chi-Square Test	
Total N	50
Test statistic	1.04
Degrees of Freedom	3
Asymptotic Sig. (2-Sided Test)	.000

H1 Accepted at significant value 0.05 level.

Critical value of $\chi^2 = 7.815$ at 0.05 level of significance.

Critical value of $\chi^2 = 11.345$ at 0.01 level of significance

Actual value of χ^2 is 1.04 and it is lower than table value. Due this H_0 Accepted 0.05 level of significant. Hypothesis, is there increased your family income due to benefits or help of PoCRA?

When degree of freedom is 3 and the significant level is 0.05 per cent, the calculated value of chi-square is greater than table value ($7.815 > 1.04$). So the null hypothesis various benefits have not been taken by farmers of Vaijapur Region under the PoCRA is appears to be rejected while the alternative hypothesis various benefits have been taken by farmers of Vaijapur Region under the PoCRA is appears to be accepted. The hypothesis analysis shows that there is a correspondence/ correlation between the independent and dependent variable. Therefore, various benefits have been

taken by farmers of Vaijapur Region under the PoCRA.

Result of above table is;

H_0 rejects (Null Hypothesis rejected)

H_1 Accepted (Alternative Hypothesis accepted)

Hypothesis 2

H0: The only PoCRA is playing vital role in upliftment of the farmers in vaijapur Tehsil.

H1: The only PoCRA is not playing vital role in upliftment of the farmers in vaijapur Tehsil.

As the main objective of PoCRA is to empower the farmers of certain villages to cope with the changing environment by providing different forms of agricultural and agriculture-related assistance, different forms of agricultural supplementary assistance are provided to each farmer according to their needs and within the framework of terms and conditions. In this context, when the sample farmers in the villages selected for the study were informed about the nature of the benefits received under this project, the facts and details were found as per the table below.

Benefits Taken Under PoCRA

	Forms of Benefit	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Falbag Plantation	3	6.0	6.0	6.0
	Pipeline	3	6.0	6.0	12.0
	Pipeline with 5 HP Pump	2	4.0	4.0	16.0
	5 HP Pump	4	8.0	8.0	24.0
	Shed -net House	1	2.0	2.0	26.0
	Shet-tale	2	4.0	4.0	30.0
	Shet-tale and falbag Plantation	1	2.0	2.0	32.0
	Drip set	9	18.0	18.0	50.0
	Drip set and Reshim udyog	1	2.0	2.0	52.0
	Drip set and pipeline	1	2.0	2.0	54.0
	Drip and Sprinkler set	6	12.0	12.0	66.0

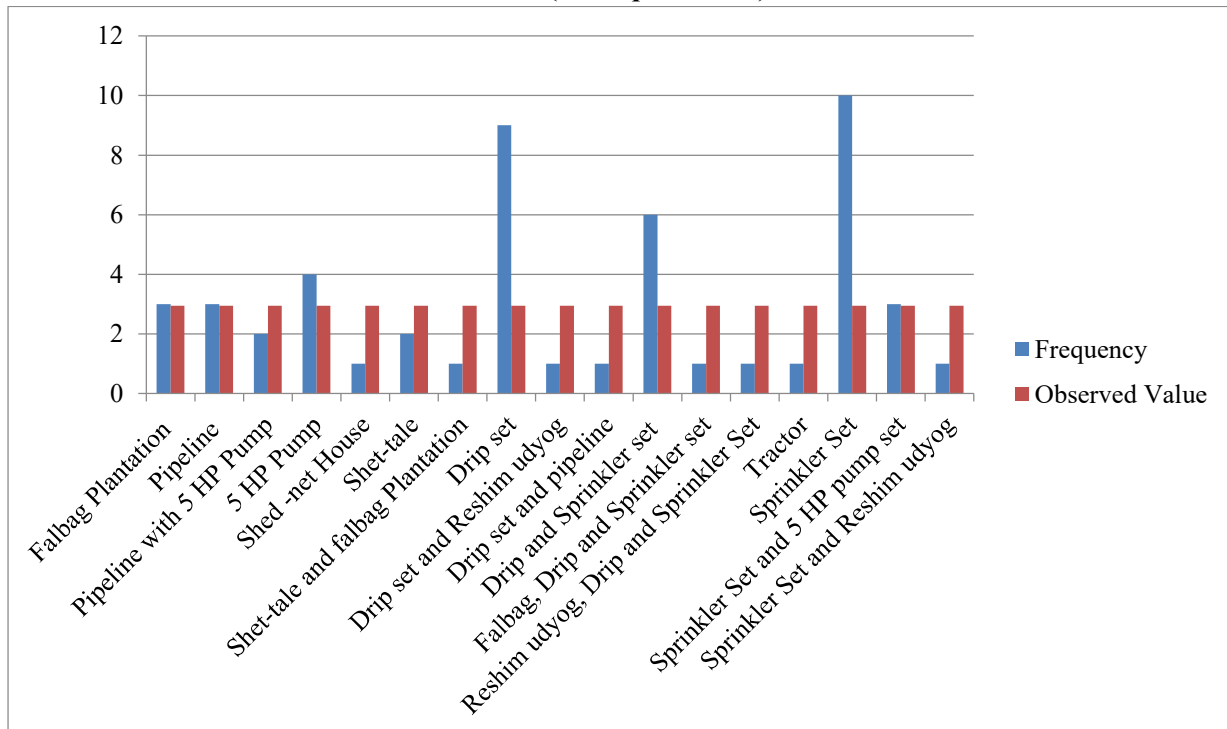
Falbag, Drip and Sprinkler set	1	2.0	2.0	68.0
Reshim udyog, Drip and Sprinkler Set	1	2.0	2.0	70.0
Tractor	1	2.0	2.0	72.0
Sprinkler Set	10	20.0	20.0	92.0
Sprinkler Set and 5 HP pump set	3	6.0	6.0	98.0
Sprinkler Set and Reshim udyog	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Considering the above table, it appears that under PoCRA, farmers are required to cultivate orchards for their progress, pipeline in the field, purchase agricultural pumps; build shed net houses, dig farms, drip irrigation sets, start sericulture (silk industry), sprinkler set, and tractors. Some farmers seem to have taken advantage of both, such as procurement. Similarly, most of the farmers have drip irrigation kits. About 44% of the beneficiaries are drip irrigation kits. This was followed by sprinkler set (22%), 6% farmer also preferred silk industry. The reason for giving preference

to drip irrigation system is the importance of water conservation in agriculture and the huge savings in labor and water.

From this it can be said that farmers are adopting drip irrigation system for agricultural irrigation on a large scale. Also, the farmers who went out of traditional way and experimented in the field of agriculture were found to be very small i. e. only 6% of the farmers who accepted the silk industry. That is, even today, modernity in the agricultural sector is not accepted to the extent it should be.

**Expected frequencies based on the hypothesis of normal distribution
 (Chi-square Test)**



Chi-Square Test	
Total N	50
Test statistic	43.84
Degrees of Freedom	16
Asymptotic Sig. (2-Sided Test)	.000

Ho Reject (Null Hypothesis Rejected)
 Critical value of $\chi^2 = 26.296$ at 0.05 level of significance.

Critical value of $\chi^2 = 32.000$ at 0.01 level of significance.

Exactly drawn χ^2 is 43.84 and it is defiantly higher than table value. Due this H_0 rejected. Therefore, it is significant so, the hypothesis is that the only PoCRA is playing vital role in upliftment of the farmers in Vaijapur Tehsil. The only PoCRA is not playing vital role in upliftment of the farmers in Vaijapur Tehsil. Alternative hypothesis is accepted. That is, the only PoCRA is not playing vital role in upliftment of the farmers in Vaijapur Tehsil.

This proves conclusively that the hypothesis No. 2 proposed for the research work has come true after the research.

When degree of freedom is 16 and the significant level is 0.05 per cent, the calculated value of chi-square is greater than table value. So the null hypothesis the only PoCRA is playing vital role in upliftment of the farmers in Vaijapur Tehsil is appears to be rejected while the alternative hypothesis The only PoCRA is not playing vital role in upliftment of the farmers in Vaijapur Tehsil is appears to be accepted. The hypothesis analysis shows that there is a correspondence/correlation between the independent and dependent variable. Therefore, the only PoCRA is not playing vital role in upliftment of the farmers in Vaijapur Tehsil.

Conclusions:

In addition to the verification of hypotheses, some other important and salient findings have also emerged from the present research work. They are arranged as follows.

1. The annual income of 94% of beneficiaries was below 1 lakh per annual.
2. Nuclear and Extended types of families are functioning in rural area in present era and type of family does not matter in getting benefits of Nanaji Deshmukh Krishi Sanjiwani Project (PoCRA). As earlier the joint family was found at lead to getting such types of benefits from government.
3. Farmers are adopting drip irrigation system for agricultural irrigation on a large scale. Also, the farmers who went out of work and experimented in the field of agriculture were found only 6% of the farmers who accepted the sericulture.
4. The role of agricultural assistants (Krishi Sahayyak) and media is important in reaching the Nanaji Deshmukh Krishi Sanjeevani project to the target group.
5. There is no scope for irregularities and misuse of sources in Nanaji Deshmukh Krishi Sanjeevani Yojana so the actual beneficiary gets the benefit only if the terms and conditions are fulfilled.

References:

1. http://www.3ieimpact.org/media/filer_public/2012/05/07/Working_Paper_3.pdf
2. <https://www.gatesfoundation.org/our-work/places/india/agricultural-development>
3. What Does the MS Swaminathan Report Say About Reforms Proposed by Farm Laws? – The Leaflet

4. https://agricoop.nic.in/sites/default/files/pocketbook_0.pdf
5. <https://mahapocra.gov.in/docs/PoCRA-DigitizingAgricultureForClimateResilience.pdf>
6. <https://mahapocra.gov.in/docs/PoCRA-DigitizingAgricultureForClimateResilience.pdf>
7. Department of Agriculture, Animal Husbandry, Dairy Development and Fisheries, Maharashtra Government, G. R. No. HAPR -0716/P. No. 82 dated 17th January,2017,
8. Wilkinson and Bhandarkar (1984), Methodology and techniques of Social Research (forth Edi.), Himalaya Publishing House, Bombay. N. 08
9. Selltitz C, Jahoda M, Deutsch M & Cook SW (1965). Research methods in social relations. Revised Edition, New York: Holt, Rinehart & Winston. p.n. 66