



Socio-economic inequalities between the Case and Control groups of Pradhan Mantri Awaas Yojana (PMAY-G): An Experience of Maharashtra.

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Abstract

The present study examines the inequality between the Case and Control Group of Pradhan Mantri Awaas Yojana (PMAY-G) in Buldhana District of Maharashtra. The Cross Sectional data have been analysed for the appropriate results. The result from the Z test analysis revealed that there are educational differences between the two groups but no difference found for level of income and the Asset score. Our result of Multi-dimensional Poverty Index shows that, the Control group is enjoying the lower living standard in the study area. Hence, the paper argues that the social assistance provided by the Government in Maharashtra is still inadequate to fulfil the needs of the rural poor in Buldhana District. The paper concludes that there is a need of more proactive strategy on the part of the government expands the coverage of PMAY scheme, and strongly monitor and evaluate policy outcomes, in study area.

Keywords: Education and Income inequality, Asset holding, Multidimensional Poverty Index, Cross-sectional data, Social development.

JEL Codes: C23, D63, I24, J71, O15,.

Introduction

Rural housing program, as an independent program began with Indira Awaas Yojana (IAY) in January 1996. This scheme was launched by Ministry of Rural Development (Sudarshanam and Ajantha Kumar, 2005). IAY which deals with the housing issues and promises to provide housing for rural poor homeless people.

¹Although IAY tended to the housing needs, certain gaps were identified during the course of performance audit in 2014. Comptroller and Auditor General (CAG) in 2014². A portion of these gaps included non-evaluation of housing deficiency, lack of transparency in the selection of beneficiaries, absence of straight forwardness in determination of recipients, low nature of houses, absence of specialized supervision, credits not benefited by recipients, limiting the impact and outcomes of the program and low living standard of case and control group, were restricting the effect and results of the program (D.

¹ Indira Awaas Yojana- "Fulfilling the Need for Rural Housing". pib.nic.in. Retrieved 12 September, 2017.

² Kumar, Devesh (2010). "Indira Awaas Yojana scope to be widened, states to come in as partners." Economic Times. Retrieved 8 March 2011.

Kumunda). Hence, the IAY was subsumed in the new provincial housing program on account of these reasons. The plan was declared in March 2016 as a piece of Housing for all by 2022 mission.³ In order to address these gaps in the rural housing program and in view Government's commitment to providing "Housing for All by 2022, the scheme of IAY has been restructured into Pradhan Mantri Awaas Yojana –Gramin (PMAY- G) with effect from 1st April, 2016. The Yojana aims to provide a pucca house with basic amenities to all houseless households and households living in kutchha and dilapidated house by 2022. Pradhan Mantri Awaas Yojana Gramin (PMAY-G) is an initiative by Government of India in which affordable housing will be provided to the rural poor. It was launched with the aim to provide housing at an affordable price to the weaker sections of the society, lower income group people from the rural area. The Yojana involves a construction of around 20 million houses at an affordable price by March 2022.(Anand, 2017) in his study titled, "Housing for the poor and the Impact of IAY in Rural India: Present Context." Has analysed the impact of housing for rural poor in India in rural poverty eradication with reference to IAY. He argues that rural housing has been marginalised both in wider policy discussions as well as within the debate on rural issues. He states that, yet housing is essential for the well-being and social security of rural households.

Mukhopadhyay and Indira Rajaraman (2012). With reference to economic benefits suggesting that housing is the major durable asset owned by households and in rural India, it has more significance. Therefore, housing quality housing is potentially useful makers of the confidence of a household in its future income stream.

Datt Rudra, (1998) opined that the National Housing policy fails to assure shelter for economically weaker sections, According to him, the housing problem is essentially the problem of the poor and the low income group. He suggested that National Housing policy calls for a progressive shift from a subsidy based housing to cost –sharing or cost-recovery-cum-subsidy scheme for rural housing and concluded that the government should change its basic approach on the National Housing Policy towards weaker sections. Sahota Avatar Singh (2005) found that there is a clear correlation between poverty and poor housing.

On the basis of above discussion it is noted that, Studies conducted have focused on benefits of rural housing program as a socio-economic impact of housing with specific (Case group) that is beneficiaries of the Yojana and have not focused on the other (Control

³ "Persons Eligible for Indira Awaas Yojana (IAY)". Press Information Bureau, Government of India. Retrieved 8 March 2011.

group) i.e. non-beneficiaries of the scheme. Hence, this study is taken up to study the socio-economic inequalities among the rural poor using Case and Control group comparison in the newly framed PAMY-G scheme.

The paper has been organized into five sections. Section 2 explores the Material and Methods of the present study. A profile of the status of PMAY-G beneficiaries and Non-beneficiaries from Buldhana District has been presented in Section 3. Section 4 presents the Z test results and Multi-dimensional Poverty analysis for the Case and Control group. Section 5 ends with a discussion and few concluding remarks.

Material and Methods

This section focuses on material and methods of the study. The proposed study attempts to make an in-depth analysis of the inequalities between Case and Control groups of Pradhan Mantri Awaas Yojana i.e., (PMAY-G), of the rural poor from Buldhana District in Maharashtra. In this study we have applied causal research method to compare the Case and Control groups i.e., rural poor Beneficiaries and Non-beneficiaries of the Pradhan Mantri Awaas Yojana (PMAY-G) in the recent Context. According to the District Rural Development Agency (DRDA) Buldhana and the Socio-Economic review, Buldhana District Government of Maharashtra (2018) the trend of homelessness in Buldhana resembles the overall trend observed in Maharashtra. The majority of the homeless population is found in rural areas. Hence, the robustness of claims that the benefit of (PMAY) successfully alleviates poverty, empowers rural poor (BPLs) and above all produces favourable health outcomes, higher socioeconomic status and better quality of life, must be scrutinized more carefully. Hence this study has made an attempt to examine the evidence of PMAY services. The material and methods section is designed to examine the following primary objective of the present research study: Our objective was, "To examine the socio-economic inequalities in terms of education, income, Employment, Asset holding, living conditions and incidence of poverty of the beneficiary's vs. non-beneficiaries i.e., Case and Control Group of PMAY in Buldhana District." The present study has been initiated in the year 2019-20, and the primary data was collected during August to December 2019. The multi-staged stratified sampling⁴ design was used for the comparison between PMAY beneficiary and non-beneficiary households from the

⁴Multistage sampling refers to sampling plans where the sampling is carried out in stages using smaller and smaller sampling units at each stage. Multistage sampling can be a complex form of cluster sampling. Cluster because sampling is a type of sampling which involves dividing the population into groups of (or clusters).

Buldhana district which is backward compared to another district in Maharashtra. The present study has a deductive research design. In a cross-sectional type of research study, either the entire population or a subset thereof is selected, and from these individuals, data are collected to help answer research questions of interest. The *hypotheses* of the study was;

1. *There are no inter-group inequalities in socio-economic conditions across the PMAY beneficiaries and non-beneficiaries in Buldhana District.*

The present study is based on the primary data, Survey method was used to collect primary data from 405 respondents, out of the 324 households are beneficiaries of IAY and 81 households are non-beneficiaries. The sample of 81 households did not get any benefits of the scheme. The investigator has collected the data personally from the field. This would facilitate taking rational decisions about the modification in questions required to understand the functioning of the scheme, implementation of the scheme, and to evaluate the actual performance of Pradhan Mantri Awaas Yojana (PMAY) in Buldhana District. A field survey, based on simple random sampling was conducted to collect the primary data in the selected talukas of Buldhana District. Data is collected with the help of a structured questionnaire. Two questionnaires have been used for the data collection in this research. 1. The structured questionnaire for beneficiaries of PMAY. 2. The structured questionnaire for non-beneficiaries of PMAY. While selecting the research design for primary data we have gone through the following steps.

First stage – *Selection of Buldhana District from Maharashtra State.*

(On the basis of backwardness in HDI and Poverty Index the Buldhana District was selected from Maharashtra State – HDR, 2019) b) **Second stage** – *Selection of Blocks from Buldhana District* (On the basis of BPL population data provided by DRDA, three blocks Mehkar, Chikhali and Jalgaon- Jamod were selected) c) **Third stage** – *Selection of Villages from the chosen blocks.* (On the basis of list of BPL villages provided by BDOs, Nine villages Deulgaon Mali, Hiwara Khurd and Kalambeshwer from Mehkar Taluka, Sungaon/Chalthana, Umapur, and Wadgaon (Gad) /Islampur from Jalgaon Jamod Taluka, and Kelwad, Mera (Bk), and Isoli from Chikhali Taluka were selected) d) **Fourth stage** – *Selection of PMAY Beneficiaries and Non-beneficiaries.* (On the basis of BPL list provided by the Village Gram-panchayats using random selection method every second person were selected to include in the sample of PMAY beneficiaries and non-beneficiaries were also selected using the same technique).

The choice of statistical tools for data analysis depends on the objectives of the study. The primary objectives are to examine the impact of PMAY benefit on socio-economic status, Income, Employment, Asset holding and quality of life, of the beneficiaries and non-beneficiaries. And also find the inequalities between the Case and Control groups.

Two sets of analysis have been conducted to test the hypotheses-the first one is we conducted a two proportion z test to check the difference across beneficiary and non-beneficiary variables while in the second case, the attempt have been made to construct the Multi-dimensional Poverty to compare the incidence of poverty and social vulnerability between the two groups i.e. PMAY beneficiary and non-beneficiaries in the study area.

Results

This section examines the functioning of the PMAY in the study area. Buldhana district⁵ is one of the backward districts in Maharashtra. Hence, it is selected for the study. And also produces the comparative results for the Case and Control group in terms of inequalities socio-economic inequalities for the groups.

Socio-demographic Profile of the Sample

The gender wise Socio-demographic profile of the entire sample i.e. PMAY beneficiaries and non- beneficiaries is depicted in the (Table 1) below.

Table 1
Gender Distribution of Respondents

| Respondents | Female | Male | Grand total |
|--------------------|----------------|----------------|--------------------|
| Beneficiaries | 82 (20.00) | 242 (59.75) | 324 (79.75) |
| Non-Beneficiaries | 24 (6.17) | 57 (14.70) | 81 (20.25) |
| Grand Total | 106 (26.17) | 299 (73.83) | 405 (100.00) |

Source: Primary data collected from the field.

Note: Figures in the parentheses represent percentages.

The Gender wise distribution of theselectedsamplersrespondentshas been depicted in the Table-1.The distributed data illustrates that there are total 405 responses including PMAY beneficiaries and non-beneficiaries responses were collected, of which 324 responses were collected from the (PMAY) beneficiaries and remaining 81 samples were

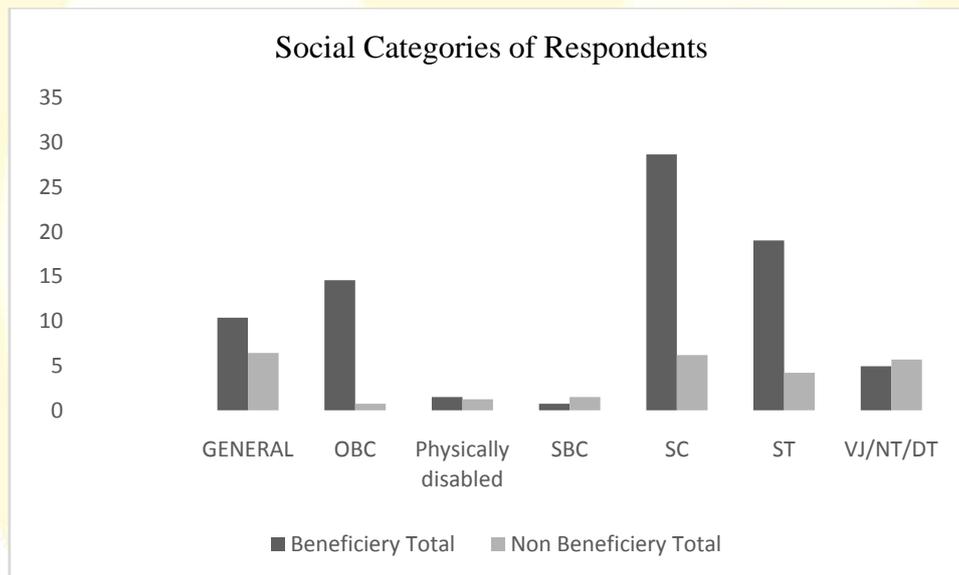
⁵Human Development Report (2019), of Buldhana District, Maharashtra.

collected from the Non-beneficiary households. While selecting the sample purposive sampling was applied for 80:20 in ratio, so that maximum opinions from the beneficiaries and some of the opinions from the Non-beneficiary can be included in the sample. The selected sample of Buldhana District shows the combined statistics of the Female and Male of PMAY Beneficiaries and Non-Beneficiaries as well.

Social Categories of the Respondent Households

The social inclusion of the PMAY beneficiaries in Buldhana District. Social status, with different variables comparison between PMAY beneficiaries and Non-beneficiaries. For example, Social categories of the sample. The configuration of socio profile of the sample beneficiaries and non-beneficiaries has been depicted in the chart 1 below.

Figure 1: Social Categories of PMAY Beneficiaries and Non-beneficiaries



Source: Primary data collected from the field

Distribution of the respondents by the social category has been given in Chart-1. The presented data of beneficiaries and non-beneficiaries calculates that SCs and STs Households were dominating in both the categories of PMAY beneficiaries and non-beneficiaries in Buldhana District. The configuration of the total sample in the above chart shows that 29 percent of the sample households under the scheme (PMAY) in Buldhana District were from Scheduled Castes, (SCs), 19 percent were Scheduled Tribes, (STs) 15 percent were Other Backward Castes, (OBCs). Similarly, 5 percent of beneficiaries were VJ/DT/NT in the selected sample, whereas, 10.37 percent of beneficiaries were included in the benefit of PMAY from the BPLs of General Category. It has also been found that 1.48

percent of physically and mentally handicapped beneficiaries were included in the scheme. At the same time, it was noted that only 0.74 percent of beneficiaries belonged to the Special Backward Class (SBCs) in Buldhana District. On the other hand, by considering the responses of Non-beneficiaries respondents of PMAY, It was exposed from the data that, SCs and STs Up to the certain extent were kept away from the benefit of IAY housing. Majority of the Non-beneficiaries were SCs and STs; it shows that there were social/caste wise discriminations for these groups while allocating the houses in Buldhana District.

The Education Profile of the PMAY Beneficiary and Non-beneficiary Households

While considering education as one of the criteria of social development, the study has collected the information regarding the educational levels of PMAY beneficiaries and Non- beneficiaries from the study area.

Table 2
Levels of Education Beneficiaries and Non-beneficiaries

| Education levels | Beneficiaries | Non-beneficiaries | Total |
|------------------|---------------|-------------------|--------|
| Illiterate | 34.67 | 54.88 | 38.77 |
| Primary | 25.08 | 26.83 | 25.43 |
| SSC | 13.93 | 9.76 | 13.09 |
| HSC | 10.53 | 3.66 | 9.14 |
| Diploma | 4.33 | 1.22 | 3.70 |
| Degree | 7.43 | 2.44 | 6.42 |
| PG | 4.02 | 1.22 | 3.46 |
| Grand Total | 100.00 | 100.00 | 100.00 |

Source: Primary data collected from the field.

The distribution of the educational data has been depicted in table 2. With regard to the educational levels, 39 percent of the sample population in Buldhana constituted illiterates while 13.58 percent were merely literate as far as higher education is concern. The maximum population in Buldhana had acquired education up to the primary level i.e. 25.43 percent and 13.09 percent up to SSC level, 9.14 HSC level respectively. The level of illiteracy was much higher in PMAY Non-beneficiaries than Beneficiaries in Buldhana District. The data on higher education reveals that negligible percent i.e. 3.46 had achieved the level of Post-Graduation. It was also noted from the data the percentage of higher education was low in the category of Non-beneficiaries than the PMAY beneficiaries.

Occupational Profile of the Respondents Households

The economic characteristics of the sample like, employment, income, etc. also this section studies the cross-sectional relations of the data. As Neo-Classical Economist J. M. Keynes suggested that employment is the key to success in life⁶, therefore we have collected the occupation wise data for the PMAY beneficiaries and Non-beneficiaries from the field. Since the majority of samples constitute SC and ST households for PMAY beneficiaries and non-beneficiaries in Buldhana District, the fact is these two groups are mostly depending on casual wages is obviously true. Most of them associated with agriculture and activities for employment, we noted that 28 percent of PMAY beneficiaries and 51.22 percent non-beneficiaries were landless labours in Buldhana District. A negligible percentage of casual labours were found to be engaged in the non-agriculture occupations in both the samples.

Table 3
Occupational Status of the Sample Groups

| Occupations | Beneficiaries | Non-beneficiaries | Grand Total |
|-------------------|---------------|-------------------|-------------|
| Cultivators | 26.63 | 25.61 | 26.42 |
| Landless laborers | 27.86 | 51.22 | 32.59 |
| Part-time Private | 4.95 | 4.88 | 4.94 |
| Self-employed | 14.86 | 6.10 | 13.09 |
| Unemployed | 20.12 | 8.54 | 17.78 |
| Other | 4.02 | 1.22 | 3.46 |
| Grand Total | 1.55 | 2.44 | 1.73 |
| | 100.00 | 100.00 | 100.00 |

Source: Primary data collected from the field.

To understand the occupational structure of the PMAY beneficiaries and Non-beneficiaries the data regarding various occupations has been collected and depicted in table 3. The distributed data estimates that 33 percent of the total samples were landless labours, whereas 26 percent were engaged in the field of cultivation followed by 18 percent were self-employed and 13 percent were working in the private sector. It was also noted that 3.46 percent of the total sample were unemployed. In terms of beneficiaries, it was examined that, 28 percent of the respondents were landless labours on the contrary 51 percent landless labours were in the non-beneficiary group which shows that, more than 50

⁶ Keynes J.M. (1936) *The General Theory of Employment Interest and Money*, Palgrave Macmillan, Publishing Company, United Kingdom (UK)

percent non-beneficiaries were not having the piece of land which indicates that, high poorness in the category of non-beneficiary respondents.

Income Profile of PMAY Respondents in Buldhana District

The income level of PMAY beneficiaries and Non-beneficiaries reveals the similar gaps in Buldhana District. The higher level of income have reported more physical and human capital. Significant differences have been noted in income generation across the groups. On the whole, a high proportion of poor households derive their livelihood on a day-to-day basis by working as landless labours in agriculture and allied activities. It has also been noted that the majority of the sample respondents were having low levels of income for mitigating the basic needs.

Table 4
Total Annual Incomes of the Respondents

| Annual Income | Beneficiary | Non-beneficiary | Total |
|----------------------|--------------------|------------------------|--------------|
| No income | 1.24 | 2.44 | 1.48 |
| 10000-50000 | 87.31 | 95.12 | 88.89 |
| 50001-100000 | 10.53 | 2.44 | 8.89 |
| Above-100000 | 0.93 | 0.00 | 0.74 |

Source: Primary data collected from the field.

To estimate the Gross annual income of the respondents the study considers the base of monthly income and calculates the gross income for the year. The calculation of gross income has been presented in table -4. The evidence of the data classifies that, most of the sample respondents were earning Rs.10000-50000 annually. Compared to 87 percent of PMAY beneficiaries much of the non- beneficiaries i.e. 95 percent of them were earning low gross income. It was also observed from the data in the higher income group of Rs.50000 to 100000 about 11 per of the beneficiary were earning this gross income for the year where as annual income, it was seen that only a 2.44 percent of non-beneficiaries could earn this much gross income. It was interesting to note that, above Rs.100000 no respondent from the non-beneficiary group was found in this group. Not only that, the percentage of not being able to earn any income or those who have no income was higher in the group of non-beneficiary in the sample.

Comparison of Observed Differences across the two Samples

This section compares the various aspects of the sample. Like, Social categories and educational differences, Livestock and Assets, differences for PMAY beneficiaries and non-beneficiaries in study area. The comparisons for various aspects are as follows.

Social Category and Level of Education

The present study consists of sample respondents from all major social categories, Viz; SC, ST, OBC, VJ/DT/NT, SBC, PH, and GENERAL Category, etc. The comparison of Social Categories and level of education has been shown in the Table 5 and 6. The attempt has been made to compare the educational impact in various social categories for IAY beneficiaries and non-beneficiaries in the study area.

Table 5

Social Category-wise Education Levels of PMAY Beneficiaries in Buldhana District

| Soc-Cat | General | OBC | PH | SBC | SC | ST | VJNT |
|------------|-------------|-------|------|------|-------|-------|------|
| Edu. | Beneficiary | | | | | | |
| PG | 0 | 0.25 | 0 | 0 | 2.96 | 0 | 0 |
| Degree | 0.25 | 1.48 | 0 | 0 | 3.46 | 25 | 0.49 |
| Diploma | 0.25 | 0.25 | 0.25 | 0 | 2.47 | 0 | 0.25 |
| HSC | 2.47 | 1.73 | 0.49 | 0.49 | 1.98 | 0 | 1.23 |
| SSC | 2.47 | 2.47 | 0 | 0 | 4.44 | 0.99 | 0.74 |
| Primary | 1.73 | 5.93 | 0.49 | 0 | 6.17 | 4.69 | 0.99 |
| Illiterate | 3.21 | 2.47 | 0.25 | 0.25 | 7.16 | 13.09 | 1.23 |
| Total | 10.37 | 14.57 | 1.48 | 0.74 | 28.64 | 19.1 | 4.94 |

Source: Primary data collected from the field.

The awareness of education in rural communities has been highlighted in Table 5. To measure the educational impact on various social categories the cross-tabulation was considered, across the educational data, it was found that 34.67 percent of beneficiary respondent households were illiterate of which the majority of them were SCs and STs. Whereas, other categories followed by a lower incidence of illiteracy in the sample. Our observation is that ST households were more backward in education. because no government scheme is reaching to them in a proper sense and there was lack of awareness is especially Adivasivillages, there was no school connectivity for Adivasivillages some respondents reacted in such a way that we do not have money to buy the cloths and school materials at the same time no money to pay daily bus fair and every day walking 7-14 km for the children is not possible therefore we are not sending them to school. On the contrary, study observed that among SC community there is better awareness about education and they think this as an important instrument for vertical mobility. The sample group also expressed this as an impact of Dr.B.R. Ambedkar's ideology which has made a positive impact on the SC community especially, Buddhist (Mahar) community in Buldhana District. However, in other communities we did not found such motivation and hence their representation in various levels of education was low.

Table 6
Social Category-wise Education Levels of PMAY Non-beneficiaries in Buldhana District

| Soc-Cat | General | OBC | PH | SBC | SC | ST | VJNT |
|------------|---------|------|------|------|------|------|------|
| Edu | NB | NB | NB | NB | NB | NB | NB |
| PG | 0 | 0 | 0 | 0.25 | 0 | 0 | 0 |
| Degree | 0.25 | 0 | 0 | 0 | 0.25 | 0 | 0 |
| Diploma | 0 | 0 | 0 | 0 | 0.25 | 0 | 0 |
| HSC | 0.25 | 0 | 0 | 0 | 0.49 | 0 | 0 |
| SSC | 0.99 | 0.25 | 0.25 | 0.25 | 0.25 | 0 | 0 |
| Primary | 1.98 | 0.49 | 0 | 0.25 | 1.48 | 0.74 | 0.49 |
| Illiterate | 2.96 | 0 | 0.99 | 0 | 3.46 | 3.76 | 0.25 |
| Total | 6.42 | 0.74 | 1.23 | 0.74 | 6.17 | 4.20 | 0.74 |

Source: Primary data collected from the field.

The awareness of education in the non-beneficiary sample has been highlighted in Table 6. To measure the educational impact on various social categories the cross-tabulation was considered. Across the educational data, it was found that 54.88 percent of respondent households were illiterate of which the majority of them were SCs and STs. Followed by General category, physically handicapped, OBC, VJNT in study area.

Livestock and Productive Assets of PMAY Beneficiary and Non-beneficiary

The account of livestock in Buldhana District reveals that 63 percent of the PMAY beneficiaries and 42 percent of non-beneficiaries were not having the livestock. On the whole, the quality of livestock possessed by non-beneficiaries households also seems to be poor, given the lower value of livestock. Livestock is important for rural households as it provides them with draught power as well as milk, meat, eggs, and other products. Thus, in order to improve their living conditions, including nutritional standards, dairy and poultry form development programs need to be strengthened.

The following table 7 indicates asset ownership for the Beneficiary sample, it is observed that 87 percent of the beneficiaries and 89 percent of the PMAY non-beneficiaries were assets less in this sample. Non-beneficiary households also possess comparatively less modern household assets. Thus, except mobile phone possession of lower productive and modern household assets reflects the poor socio-economic conditions of the non-beneficiary households than beneficiary in the Buldhana District.

Table 7
Assets Holding of the Beneficiaries in Buldhana District

| Physic al/ Assets | Bulloc k- Carts | Cow s | Goat s | Buffal oes | Hen s | By- Cycl e | Moto r- Cycle | Tracto rs | Truc ks | Othe r |
|-------------------------|-----------------------|------------|------------|---------------|------------|------------------|---------------------|--------------|------------|------------|
| Yes | 18.27 | 16.5 4 | 25.6 8 | 13.09 | 37.2 8 | 50.3 7 | 36.05 | 0.00 | 0.00 | 2.47 |
| No | 81.73 | 83.4 6 | 74.3 2 | 86.92 | 62.7 2 | 49.6 3 | 63.95 | 100.00 | 100.0 0 | 97.5 3 |
| Total | 100.00 | 100. 00 | 100. 00 | 100.00 | 100. 00 | 100. 00 | 100.0 0 | 100.00 | 100.0 0 | 100. 00 |

Source: Primary data collected from the field.

The study prepared the account for the physical asset like Bullock-cart, Cows, Goats, Buffaloes, Hens, By-cycle, Motor-cycle, Tractor, Truck, and other assets, etc. for the PMAY beneficiary and it has been depicted in the table- 7. The data highlights that, majority of the beneficiaries were not having such type of assets. As far as livestock of animal is concern, it was obtained from the data in the range of 13-37 percent of beneficiaries were having the livestock of animals. It was interesting to note that, 63-87 percent of respondents were not having such type of stock. On the other hand for the day-to-day use, many of them were using the By-cycle (50 percent) and Motorcycles. (36 percent). At the same time for the expensive vehicles like Tractor, and Truck study noted that no PMAY beneficiary was having ownership of such types of vehicles in the sample area.

Table 8
Assets Holding of the Non-beneficiaries

| Physic al/ Assets | Bulloc k- Carts | Cow s | Goat s | Buff aloes | Hens | By- Cycl e | Moto r- Cycle | Tracto rs | Truc ks | Othe r |
|-------------------------|-----------------------|------------|------------|---------------|--------|------------------|---------------------|--------------|------------|------------|
| Yes | 19.51 | 17.0 7 | 28.0 5 | 9.76 | 37.80 | 57.3 2 | 24.39 | 0.00 | 0.00 | 2.44 |
| No | 80.49 | 82.9 3 | 71.9 5 | 89.02 | 62.20 | 42.6 8 | 75.61 | 100.00 | 100.0 | 97.5 6 |
| Total | 100.00 | 100. 00 | 100. 00 | 100.0 0 | 100.00 | 100. 00 | 100.0 0 | 100.00 | 100.0 0 | 100. 00 |

Source: Primary data collected from the field.

The attempt has been made to take the account of Non-beneficiaries physical assets in the study area and the data has been presented in Table- 8. The data reveals that the

physical asset of Non-beneficiaries likes, Bullock-cart, Cows, Goats, Buffaloes, Hens, By-cycle, Motor-cycle, Tractor, Truck, and other assets, etc. The study has tried to compare the status of Non-beneficiaries in terms of assets with the PMAY beneficiary. The data highlights that, most of the Non-beneficiaries were not having such types of assets. The study found that comparatively, Non-beneficiaries were relatively poor than the PMAY beneficiaries in the study area.

On the basis of above cross tabulation it was noted that, the Control group was relatively poor than Case group in the study area, hence to meet our primary objective and hypotheses we have applied the statistical analysis.

Z test Analysis

This section deals with the statistical analysis of the study. To compare the two different means of the PMAY beneficiaries and non-beneficiary samples for Income, Education, Asset score we have run the z –test, and the result of the test have been shown in table below. Most of the Z scores are also statistically significant at a 95% confidence interval and 5% standard error as the key observations are given in the table 9 below.

Table 9
Comparison of Two Different Means Using the z test

| Parameters | Z score | DF | C.V. | P-value |
|-------------|---------|---------|------|---------|
| Income | - 0.262 | 322, 79 | 1.95 | 0.79 |
| Education | 4.07 | 322, 79 | 1.95 | 0.001 |
| Asset score | 1.66 | 322,79 | 1.95 | 0.09 |

Source: estimated from the primary data.

Income difference

The study fails to reject the Ho and hence alternative hypothesis has not been accepted. Because Z score (322, 79df) is less than the z critical two tails value and the p-value is greater than 0.05 i.e. 0.79. So, it is stated that there is no significant difference between the income levels of IAY beneficiaries and non-beneficiaries in the study area.

Education difference

The study rejects the Ho and hence accepts the alternative hypothesis. Because Z score (322, 79) is greater than the z critical value and p-value significant at less than 0.001. Hence, it is stated that there is a significant difference between the education levels of IAY beneficiaries and non-beneficiaries in the study area.

Assets Score

The asset score of each household is computed by taking into account assets such as livestock, Motor-cycle, Tractor, Truck, phones, mobile phones, etc. Equal weightage was given to assets in each category to make a composite index of assets possessed. The study fails to reject the H_0 and hence the alternative hypothesis has not been accepted. Because Z score (322, 79DF) is less than the z critical two tails value and the p-value is greater than that 0.05 i.e. 0.09 so, it is stated that, there is no significant difference between the Asset score of IAY beneficiaries and non-beneficiaries in the study area.

The MDPI, Its Partial Indices, and Sub-Indices

To meet our principle objective whether there is difference between the living standard of the Case and Control group, of PMAY scheme. To verify this fact we have constructed Multi-dimensional Poverty Index. The constructed MDPI⁷ is an index designed to measure acute poverty in the sample area. For the incidence/intensity, in the MDPI we have combined two key pieces of information to measure the acute poverty of the sample. The incidence of poverty is the proportion of people (within a given sample) who are identified as poor based on the multiple deprivations they experience. It is denoted H for headcount ratio. The intensity of poverty is the average proportion of (weighted) deprivations poor people experience-how poor people are on average. It is denoted A for average deprivation share. The MPI is the Product of both:

$$MPI = H \times A.$$

Where,

MPI= multi-dimensional poverty index, ($H = q/n$) H= number of poor, q= actual poor, n= total Sample. And $A = (\text{sum of } C)/q$, where, A= depth of poverty, C= weighted count of deprivation i.e. sum of each deprivation x by its weight, and q= Average proportion of indicators.

Finally, the study has calculated the MPI by multiplying the incidence of poverty by the average intensity across the poor ($H \times A$). In our sample, the respondent is identified as poor if he or she is deprived in at least one – third of the weighted indicators. It was noted, those who identified as ‘vulnerable to poverty’ are deprived in 20% to 33.33 % of weighted indicators, and those identified as being in ‘severe poverty’ are deprived in 50% or more of the dimensions.

⁷Alkire, S. and Santos, M.E (2010). Acute Multidimensional Poverty: A New Index for Developing Countries. OPHI Working Paper 38.

Table 10
Comparison of Social Deprivations between PMAY Beneficiaries and Non-beneficiaries

| Comparison of social deprivation | | Total | | Beneficiaries | Non-Beneficiaries |
|----------------------------------|---------|-------------|---|---------------|-------------------|
| H=q/n | 0.9760 | 97.5 997 | (97% of people Live in poor Households) | 0.9735 | 0.9848 |
| A= (Sum of C)/q | 65.9689 | 0.65 97 | (The average poor person is Deprived in 65.96% of the weighted indicators.) | 63.9583 | 72.8132 |
| MPI=H*A | 0.6439 | --- | --- | 0.6226 | 0.7170 |

Source: Computed from the primary data.

The comparison of PMAY beneficiaries and Non-beneficiaries for considering the social deprivation has been shown in the Table- 10. The above table gives the multi-dimensionality of poverty for both the group of the sample. The calculated figure reveals that there are very high incidence and intensity of poverty in Buldhana District. In this calculation, we have used the notations Where, H= incidence or headcount ratio or the number of poor's. It is the proportion of the population who are multi-dimensionally poor, q = actual number of poor, n = total sample respondents. Further, we have used the notation of A = the average intensity of their poverty- the average proportion of indicators in which poor people are deprived. C = weighted count of deprivation which is the sum of each deprivation multiplied by its weight has been considered. And q = total deprived respondents. At the last, the study has calculated the Multidimensional Poverty Index (MPI) by multiplying the incidence of poverty by the average intensity across the poor (H x A). In this sample, the respondent was identified as poor if he or she is deprived in at least one – third of the weighted indicators. Finally, it was estimated that those who identified as 'vulnerable to poverty' are deprived in 20% to 33.33 % of weighted indicators, and those identified as being in 'severe poverty' are deprived in 50% or more of the dimensions.

MPI score among the PMAY non-beneficiaries was greater i.e. 72 percent than the PMAY beneficiaries of 62 percent. Non-beneficiaries MPI score =72 % > 62% MPI score

of PMAY beneficiaries. Hence the study suggest that the Control group along with Case group must be given priority in the upcoming social welfare policies in the study area.

Discussion and Conclusions

The Pradhan Mantri Awas Yojana (PMAY-G) provides shelter to the rural poor, the scheme is helping to improve the living conditions of poor but still there is lack of certain basic necessities. Letting rural people live in houses also contribute to the social development and eradicates the incidence of poverty, it is very important for a developing country like India. On the other hand the basic human right of the people of the country to get house as a basic need to stay, even then the certain bulk of the rural poor is still excluded from the benefit that is the Control group of this study. Government should extend the benefit of PMAY housing scheme to the Control group so that the socio-economic inequalities can be reduced and living standard of the non-beneficiaries can also be improved. This widening scope of the scheme will be good contributor for the socio-economic developmental process of the country.

With the help of this comparison, between Case and Control group of PMAY, we could understand many aspects of the impact of the Yojana on public housing in rural areas the study has gone beyond the housing and has captured the far-reaching impact of the Yojana on various dimensions of social development in the district and the country. We observed from the Z test result that, there are no differences between Case and Control group as far as their income profile and Asset score is concern, but the in the case of Education it was noted that there are significant differences between the groups. Hence the Null hypotheses was rejected. Finally, Our Multi-dimensional Poverty Index indicated that, socially marginal section who were non-beneficiaries of the scheme are enjoying the lower living standard than the average. The MDPI score for beneficiary is 72 percent whereas for non-beneficiaries 62 percent. It shows clear-cut difference in living standard for both the samples in study area.

The current study has few limitations. It is an attempt to evaluate the performance of (PMAY) i.e. housing policy interventions for the beneficiary and non-beneficiaries sample in Buldhana district. At the outset, it can be said that the study is limited by the scope in itself assist is just restricted to housing policy intervention. In reality, the public housing interventions are comprehensive and have a wider scope which goes beyond SC/ST BPLs. The study focused on rural areas where scheme like, PMAY is operational on a very large scale and does not cover urban area under this research.

This study will be useful task to undertake such study for the entire state for framing policy framework for improving housing status and reducing inequalities for rural poor at the state level. It should be noted that there are very few attempts of applying comparative analysis in the evaluation of housing policy intervention in Buldhana district and therefore it is expected that this study will pave the path for further research by applying this approach for the evaluation of housing and other policy interventions in Maharashtra and India as well.

References

AbhiroopMukhopadhyay, and Indira, Rajaraman. (2012). Impact housing schemes in rural India. *Economics and Political Weekly*, vol. XL VII, No.12 pp, 38-52.

Alkire, S. and Santos, M. E. (2010). Acute Multidimensional Poverty: *A New Index for Developing Countries*. OPHI Working Paper 38.

Anand, P. (2017). Housing for poor and the impact of IAY in Rural India: Present Context, *International Journal of Humanities and Social Science Research*. pp, 44-51.

D,Kumunda. (2011). Performace of Indira Awaas Yojana (IAY) and Rural Development in India. *Indian Journal of Applied Research*, vol. 4, no.8, pp, 115-117.

Datt, Rudda. (1998). National Housing Policy fails to assure shelter for Economically Weaker Section, *Southern Economist*, vol. 37, Oct, 1. pp, 9-10.

District Rural Development Agency. (DRDA). Buldhana District, *Documents of Indira AwaasYojana* (2010-2019).

G,Sudharshnam, and M.,Ajantha Kumar. (2005). Rural Housing for Weaker Section- A Study of Indira AwaasYojana. *Indian Journal of Public Administration* vol. 1 pp. 28-32.

Human Development Report, (2019). Buldhana District, Presented by, *YashwantraoChavan Academy of Development Administration (YASHADA)*, Pune.

IAY Guidelines, (2013). Ministry of Rural Development, *KrishiBhavan, GOI*, New Delhi.

Maharashtra Human Development Report, (2019). *Government of Maharashtra*, Mumbai.

Sahota, Avatar Singh (2005), "Schemes on Rural Housing", *Kurukshetra*, Vol. 53. pp, 4-8.

Twelfth Five Year Plan (2012). Working Group on Rural Housing, *Ministry of Rural Development*.KrishiBharan New Delhi.

www.maha.gov.in

www.nhb.org (Report on Trends and Progress of Housing in India -2019).

www.rural.nic.in