

A Comparative Study of Social Inclusion under Indira Awaas Yojana (IAY) in Maharashtra

Kailas Dharma Landge

Associate Professor, Department of Business Economics
Chetana's H.S. College of Commerce and Economics
Kusumtai Chaudhari College of Arts Bandra (East), Mumbai

Abstract

The present Paper is an analysis of A Comparative Study of Social Inclusion under Indira Awaas Yojana (IAY) in the state of Maharashtra. For measuring the impact of the IAY scheme secondary data during the year 2005-2015 has been used. This approach is relevant to study the outreach of inclusive growth for rural poor in Maharashtra. The data was obtained from the Ministry of Rural Development Government of Maharashtra. The Compounded Annual Growth Rate (CAGR), Correlation coefficient, Independent sample t-test, for various parameters were calculated to measure the performance of IAY in Maharashtra. The result from the Secondary Data revealed that there is negative relationship between IAY target achievement and spending pattern in the various divisions of Maharashtra. The finding of Independent sample t- test suggests that the social awareness of the SC/ST male rural poor than the rural Women hence there is male dominance for availing the benefit of IAY in study area. It was also found that from the Correlation analysis that there is statistically significant negative relationship between Compounded Annual Growth Rate (CAGR) of IAY target achievement and Unspent balance in study area. However, the results of the t-test also revealed that there is no statistically significant difference in physical target achievement and unspent funds of IAY in study area. Hence, the paper argues that the social assistance provided by the Government of India is still inadequate to fulfil the need of housing for the rural poor in Maharashtra. Our result concludes that the proactive strategy on the part of the government expands the coverage of IAY scheme, and strongly monitor and evaluate policy outcomes, to attain the social inclusion aspects in rural India.

Keywords: Rural development, Indira Awaas Yojana, Housing demand and supply, Oppressed classes, Social inclusion, Maharashtra Divisions.

JEL Codes: C23, D63, J71, O15, R21, Z18.

Introduction

Social protection is a significant aspect of recent inclusive growth theories in all underdeveloped welfare states. Because it provides support to community development and helps to prevent poverty. The basic reference in present-day literature concerned with social inclusion provides an account of social development in the World and India as well. The crucial assumption in World Bank (2011), study is that social development can be achieved with World Bank inclusive and rapid-paced growth is necessary to condition for sustainable poverty reduction and must be broad-based across sectors and inclusive of a large part of the countries labour force to be sustainable in long run. The senior advisor of UNDP, Prabhu

(2011), states that 'Inclusive growth is a multidimensional concept that focuses on poverty reduction, equity and regional equality. It covers social inclusion with respect to the employment rate. In Indian context, there are evidences of attempts made to analyse, empirically, convergence or divergence of social inclusion levels Indian states there is a still shortage of basic amenities in the various state of India, studies by The vision of 11th Five Year Plan (FYP) (2007-12), despite many efforts, the 2011 census shows that 833 million people are still living in rural areas in vulnerable condition. There is a need to have safeguards which guarantees protection from social injustice and all forms of exploitation. Further, 12th Five Year Plan (2012-17). The Ministry of Rural Development has formalized the vision for Rural Housing Ensure adequate and affordable housing for all and, facilitate development of sustainable and inclusive habitats in rural areas by expanding government support, Promoting community participation, self-help and Public-private partnership within the framework of Panchayati Raj".

The vision document of Twelfth plan states that to transform IAY into a larger habitat development programme, we need to ensure domestic water, sanitation, clean fuel and electricity with housing. This calls for deeper convergence across various flagship programmes. Hence in this position, it is hard to use standard methodologies to examine the inclusion hypothesis. Sarkar (2010), examined the inter-district disparities in the social sector and their impact of social development through cross-sectional data and inters –temporal analysis of 18 districts of West Bengal has been given for results. He noted that the development gap prevailing between the developing and developed districts should be systematically judiciously alleviated in order to achieve optimal socio-economic development. Some of the above studies found that, social discriminations in the process of social inclusion across the Indian states. Concurrently, there are some studies which examined the hypothesis convergence across India with reference to social inclusion. Indicating that, persistent social polarization has decelerating impact social inclusion and therefore, has no conditional convergence among the Indian States. However, these studies also lack uniformity among their results due to the adoption of different methodologies. For social inclusion, many social scientists got mixed results on social inclusion hypothesis in India. On the other hand, numbers of the studies have found no sign of absolute inclusion in the various Indian States. On the basis of above discussion it is noted that, Studies conducted for the performance of flagship programs shows the variations in performance across the India. Hence this study is taken up to compare the division wise performance of Indira Awaas Yojana (IAY), and to understand the socio-economic inclusion of the rural poor in Maharashtra. This study compares the performance of Indira AwaasYojana (IAY), in the six divisions of Maharashtra. The study observes that the divisions with high performance were yet to reach their highest possible level; as a result, they are in a transitional dynamic division, which does not allow a stable convergence across Maharashtra. The present study is different from previous studies in the sense that it focuses on the dynamics of inclusive growth of social convergence under the IAY Physical and financial performance across the various divisions of the Maharashtra state over time uses panel data method for 6 divisions for the period of almost 10 years e.g. from (2005-2015). The inter-division social inclusion analysis in the Indian context through the present study is a little bit addition to the existing literature on the subject. The specific research questions of the study are:

1. What has been the impact of Indira AwaasYojana (IAY) on target group in Maharashtra?
2. Has IAY played a significant role in physical target achievement in various divisions of Maharashtra?

Review of Literature

Several studies in the world and India have tried to analyse reasons and extent of interstate disparities in various macroeconomic indicators including socio-economic inequality and poverty. The objective of this section is to review these studies to get an insight into this issue of social inclusion and exclusion in socio-economic performances among Maharashtra divisions. A theoretical framework of this aspect of social development has been presented in this section to fill the gap of our study. The study of Ianchovichina and Lundström(2009), adds that Inclusive growth takes the long term view and focuses on raising the pace of growth on opportunity growth and enlarge the size of the economy while levelling the playing field for investment and increasing productive employment opportunity. Further, Saad-Filho (2010), Suggest that Inclusive growth paradigm, is essential to develop a new generation of pro-poor development strategies, responding to the imperatives of sustainability, equity, democracy and social justice, and fostering economic growth, mass employment, social Inclusion, satisfaction of basic needs and the provision of welfare for the vast majority. This is a difficult task, but its time has certainly arrived. Especially, Asian countries are facing the biggest policy challenge facing for sustaining rapid growth that is socially inclusive. Institutional weaknesses, poor regulatory instruments and poor governance undermine the incentive structures for promoting more equitable development strategies and policies. Some of the other studies have compared the incidence of social inclusion with worldwide experiences Palanivel (2011), the chief economist of UNDP states that many of the countries like China and India are now moving in the right direction with the main focus on inclusive growth in their five-year plans. India's National Rural Employment Guarantee Scheme, China's Minimum Livelihood Guarantee Scheme, and Thailand's Universal Health Insurance Scheme are good Examples of Social Protection for poor and vulnerable. Osmani (2008), examines the concept of inclusive growth, compares and contrasts it with related concepts such as pro-poor growth and equitable growth and analyses the recent experiences of south Asia through lens of this concept. Which suggests that a trade-off between poverty and inequality may not exist in South Asia after all? And the achievement of Inclusive growth will be possible. Klasen (2010), says that it is conceptually interesting for examining process, outcomes, and improvements in non-income episodes. Samans, Blanke, Corrigan, andDrzeniek(2015), A robust inclusive growth strategy is an agenda to boost social inclusion and economic efficiency through a stronger focus on policies. The world economic forum's initiative on economic growth and social inclusion released a beta version of an "Actionable framework "in 2015. The ultimate objective of national economic performance is broad-based and sustained progress in living standards. It should have a plan for removing economic and social deprivation across all regions, especially for socially disadvantaged sections of the society. Hirway(1987), notes that the developmental goals should be integrated within the development policy framework as its organic components and the approach should broaden the policy framework to include the excluded and the marginalized. Deshpande(2012), concludes that, in order to reap the benefit of economic growth, we need to make it inclusive because Inclusive Growth reflects on economic growth. However, to achieve the inclusive growth governments pro-active policies can make it possible and that is one of the biggest challenge faced by the Indian state.Drèze and Sen (1995), mentioned more successful countries, which have left India behind, have pursued very diverse economic policies, from market-oriented capitalism (South Korea, Taiwan, Thailand) to communist-party-led socialism. (Cuba, Vietnam, pro-reform China), and also various mixed system (Costa Rica, Jamaica and Sri Lanka). The African Development Bank (2012),has identified that inequality resulted due to unequal opportunity and that needs to address by inclusive

growth policies. In the case of Asia through rapid growth has resulted in a decline in poverty but it was not inclusive growth. Inclusive growth expects the benefits of growth is to be distributed among all layers of society. World Bank report on 'Social Protection for a Changing India' Targeted housing program i.e. Indira AwaasYojana (IAY) is one of the effective and significant activities to provide a safety net to the poor start in 1996. But this program needs a detailed study regarding better design and implementation. This kind of activities is significant in the context of the larger housing and habitat policy of the country Suryanarayana (2008), suggested that median consumption and inclusion co-efficient across the states in India was weak. The rural sector inclusion co-efficient was lowest in rural Kerala and highest in Bihar and Karnataka. At the same time, urban sector inclusion was highest in Bihar and lowest in the states like Chhattisgarh and Jharkhand during the time period of 1994-2005. Bhalla (2011), said that inclusive growth needs to address the problem of regional disparity by focusing on backward regions on a long term basis. Also, the growth experience of the last three decades (1980-2011), in India shows that poverty alleviating programs are ineffective to generate inclusive growth outcomes. In the case of caste and gender divide, the author suggests the examination of transition matrices of different social groups. Bhattacharya (1998), it was observed that the government's intervention housing policies under the five-year plans have poor achievement than their targets. The Author points out there is a lack of accountability by the State Governments to the Central Government with respect to the utilization of funds allocated is resulting in wastage or underutilization of funds. Hirway (2011), the study reveals that at the stage of implementation rural housing facing the problem like Assessing housing needs, old housing technology, and monitoring and evaluation, in short, the overall picture of rural housing is not positive. To deal with this situation the present housing conditions should be assessed and the nature and extent of the housing needs should be studied. Because the present housing policy and programmes are not adequate to meet the challenges of the rural housing sector in India. Indira AwaasYojanawas implemented in April 1989 as a sub-scheme of employment scheme i.e. Jawahar RojgarYojana (JRY). 1st January 1996, the central government granted separate status to this scheme and thereafter this scheme was implemented independently in rural parts of Maharashtra. JayaramandSandhu(1988), stated on rural housing and found that over two-thirds of our people do not have a permanent roof over their heads. Sharma, N. and Thakur D.S. (2004)Concludes that It has been observed that the poverty alleviation programmes have fallen short of their expectations in the rural areas of the selected district, because the empirical results clearly established the fact that through these programmes the better –of benefited the most and the least better- off benefited the least. Hashim (2007), evaluated the poverty alleviation programmes and empower the poor in India. He stated that Economic growth would certainly help the poor but the pattern of the growth has to be poor friendly and also people-centric approach is needed which relies on social mobilization and associating the poor with delivery mechanisms. Venkataiah (2008), observed that an examination of administrative structure devised for the implementation of the programmes reveals that the state government heavily depends on the PRIs at the grassroots level. The analysis reveals that rural bureaucracy has not succeeded in providing employment. From the above literature review we noted that there are certain gaps in the inclusive growth process. Our study fulfils the gaps as far as implementation of flagships programs and social inclusion of rural poor is concern.

Objectives and Hypothesis

The central objectives and hypothesis of the study were framed are as follows. We have also designed the material and methods section to examine the following primary objectives of present study. Main objectives of the study are:

1. To examine the Physical and Financial progress of IAY across the six divisions of Maharashtra.
2. To study the role of IAY in social sector development in Maharashtra.
3. To identify the association between physical progress and unspent balance of IAY in Maharashtra.

The *hypothesis* of the study were;

1. **H₀**: There are no differences between various divisions as far as physical and financial target achievement is concern in Maharashtra.
2. **H₀**: There are no difference between the physical target achievement of IAY for SC, ST beneficiaries and Women in Maharashtra.

Selected parameters of the study: Physical target of IAY, Expenditure on IAY, Education, Income, and Social awareness.

Analytical Framework

The analytical framework is derived from the existing theoretical arguments and empirical evidence. As mention in the earlier studies, NailaKabeer (2003), Neeraj Sharma, Dalip S. Thakur (2004), S.R. Hashim, (2007). Vulnerability and Poverty have social dimensions; social inequalities are associated with caste and gender in India and Bangladesh. So large scale social protection and pro-poor development policies are urgently needed in both countries. Poverty alleviation programs have fallen short of their expectations in rural areas of Hariyana State. There is an urgent need for well-designed Anti-poverty programs in the State. While evaluating the poverty alleviation programs and empowerment of the poor S.R. Hashim, (2007), observed that, there were complexities in the inclusive growth of education, health and housing needs, mostly poor are affected adversely in Uttar Pradesh. Further, he investigates that, SCs and STs were having a higher burden of poverty, therefore, growth has to be the poor friendly and people-centric approach to be accepted in delivery mechanisms, because of institutional weaknesses in the delivery system it has not been succeeded in the State. On the basis of earlier literature, it was noted that the poverty and inequality is there in existence. Hence there is huge demand for housing in the country .especially rural poor like, SC, ST and Women are excluded from the several flagships programme, As S. R. Hashim (2007), observed that, there were complexities in the inclusive growth of education, health and housing needs, mostly poor are affected adversely. Finally Neeraj Sharma (2007), concluded that, poor friendly and people-centric approach to be accepted in delivery mechanisms of flagship programme in the country, because the Poverty alleviation programs have fallen short of their expectations in rural areas. Given the emerging nature of Indian economy, there is a huge demand for housing in near future. So there is need to expand housing market and expansion of the market with the existing technologies is highly inefficient. As depicted in the analytical framework, the association between housing policies, physical target achievement and spending pattern of the IAY housing scheme in the country. There are many flagship programmes have been launch by Government of India, The program with larger size of budget are fulfilling the targets of the poor households. The budget of the program depends on the basis of coverage of the program. Consequently, such

programs are in a better position to achieve the given target. Therefore, it is argued that the association between IAY target achievement and utilization of funds is bidirectional.

The remainder of the article is as follows. The review of literature, objectives of the study, hypothesis, analytical framework and plan of the study is presented in *Section II*. While data and methodology is depicted in *Section III*. And the sub-sections of results have been presented in *Section IV*. Finally, discussion of the results and conclusions have been highlighted in the *section V*.

Data and Methodology

This section focuses on material and methods of the study. The proposed study attempts to make an in-depth analysis of the division wise performance of the six divisions in Maharashtra, with especial reference to Indira Awaas Yojana (IAY). On the basis of backwardness in HDI and Poverty Index the Maharashtra State was selected for the study. Maharashtra– HDR, 2019. According to the Socio-Economic review, Government of Maharashtra (2018), the trend of homelessness observed in the state. The majority of the homeless population is found in rural areas. Hence, the robustness of claims that the benefit of (IAY) successfully alleviates poverty, empowers rural poor (BPLs), and above all fulfils the demand of housing for better quality of life, must be scrutinized more carefully. Hence this study has made an attempt to examine the evidence of IAY performance. The material and methods section is designed to examine the following primary objective of the present research study: The present study has been initiated in the year 2017-18, and the primary data was collected during April to June 2019. The descriptive research design has been applied in this study.

The study is predominantly based on secondary sources of data. The main data sources used include state time series data obtained from the Rural Development and Water Conservation Department IRDP/IAY Government of Maharashtra, Directorate of Economics and Statistics Government of Maharashtra, Census (2011), Human Development Report of Maharashtra 2016, Various Economic Surveys Government of Maharashtra, and annual reports on rural housing ministry of rural development Government of Maharashtra, for the year (2005-06 to 2014-15). The data on the physical and financial progress of 6 divisions were taken into account for testing the social inclusion across divisions. The choice of statistical tools for data analysis depends on the objectives of the study.

Two sets of analysis have been conducted initially, to compare the division wise physical and financial performance of IAY we have used the Compounded Annual Growth Rate (CAGR) Method. Which highlights the comparative progress of the six divisions in Maharashtra. The calculation of Compounded Annual Growth Rate (CAGR) presented in this study is expressed by the following equation:

$$\text{CAGR} = (\text{Final Value}/\text{Initial Value})^{\frac{1}{N}} - 1$$

The study also conducts the correlation analysis, to see the association between CAGR of Housing target achievement and Unspent balance of IAY funds. The attempt have also been made to compare the two sample mean in the present research. To compare the two sample means like, SC/ST Population and Women also CAGR of physical target achievement and Unspent balance of IAY funds we have applied the t. test analysis. *T-tests* are a type of hypothesis test that allows comparing means or testing equality of means. The t distribution is

used when the population variance is unknown. They are called t-tests because each t-test¹⁰ boils the ample data down to one number, the t-value. An independent sample t-test evaluates if two populations have equal means on some variables. The independent samples t-test is used when two separate sets of independent and identically distributed samples are obtained, one from each of the two populations being compared.

The two distributions of present study have the same variance (Homogeneity assumption): The Homogeneity assumption is needed when sample sizes are unequal. In this study the sample sizes differ, hence Levene's test for equality of variances was conducted.

The t statistic to test whether the means are different can be calculated as follows

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_p \sqrt{\frac{2}{n}}}$$

Where, $S_p = \frac{\sqrt{s_{X_1}^2 + s_{X_2}^2}}{2}$

Here S_p is the pooled standard deviation for $n = n_1 = n_2$ and $s_{X_1}^2$ and $s_{X_2}^2$ are the unbiased estimators of the variances of the two samples. The denominator of t is the standard error of the difference between two means. For significance testing, the degrees of freedom for this test are $2n-2$ where n is the number of participants in each group. In the present study, independent samples t -test compares the means between two unrelated groups (IAY SC/ST beneficiary and Women beneficiary). And also it compares the means of CAGR of physical target achievement and unspent funds of IAY in study area. Homogeneity of variances across the two groups is a crucial condition for the independent samples t -tests. Therefore, whenever the independent samples t -test is run, SPSS essentially includes Levene's test which is for homogeneity of variances. The results of the t -test analysis have been shown in the result section below. All the statistical analysis has taken place with the help of Microsoft excel and SPSS software 22 in present research.

Results

This section examines the functioning of the IAY in the study area. And also produces the comparative results for six divisions of Maharashtra state. On the basis of data provided by Rural Development and Water Conservation Department Government of Maharashtra for Indira Awaas Yojana we have compared the Division wise physical and financial performance of IAY in Maharashtra. Some of the observed facts regarding the physical and financial progress of the scheme have been given below in this section.

Table 1: Physical target achievement of IAY for SCs, STs and Women in Maharashtra during 2005-06 to 2014-15.

Years	Annual Target	Housed Completed	Percentage Completed	SCs	STs	Women's
2005-06	78478	70336	90	34.04	27.75	23.44
2006-07	83430	72766	87	33.61	29.02	19.06
2007-08	115879	125241	108	34.81	25.54	16.86
2008-09	115869	113945	98	29.66	29.34	17.66
2009-10	223653	223460	92.02	23.38	28.38	14.50
2010-11	155052	158027	101.92	24.41	28.19	14.57

¹⁰ The t-test is any statistical test in which the test statistic follows a Student's t- distribution under the null hypothesis

2011-12	151063	153185	101.40	21.94	36.06	16.60
2012-13	166106	145764	87.8	10.78	43.47	15.15
2013-14	137314	128135	93.32	6.62	68.04	12.40
2014-15	171722	100870	58.74	41.75	77.67	17.29

Source: Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY.

The physical progress of IAY across the various divisions of Maharashtra for SC, ST and women has been indicated in the Table 1. The main objective of Indira Awaas Yojana (IAY) is to target the vulnerable section of the society by providing them housing benefit so that, they can improve the socio-economic status in the society. This study tries to verify the basic motto of IAY in Maharashtra State. To meet the facts of IAY the attempt have been made to calculate the actual shares of benefit for the SCs, STs and Women's out of total achievement of IAY in Maharashtra during the study period (2005-06 to 2014-15). It seems to be very clear from the Table 1. That the overall growth rate of housing under IAY or the percentage of target achievement has declined during this decade in Maharashtra. The study also calculates the actual shares of SC, ST, and women and it is noted from the trends of targeted beneficiaries from the various groups of the backward class, the shares of SCs are fluctuating in the states, whereas the shares of STs are increasing steadily. It highlights that STs are getting more attention than SCs and Women's as far as housing allocation is a concern. At the same time, women are not getting significant shares of IAY house houses in Maharashtra. Hence, we decided to compare the means of these two samples with the help of independent *t-test* analysis.

Division-wise comparative CAGR of SC, ST and Women beneficiaries in Maharashtra during 2005-06 to 2014-15.

The account of SC/ST and Women IAY beneficiaries regarding Compounded Annual Growth Rate (CAGR) have been presented in the Table 2 below.

Table 2: Division-wise comparative CAGR of SC, ST, and women IAY beneficiaries in Maharashtra during 2005-06 to 2014-15. (Figures in per cent)

Divisions	Beneficiaries	CAGR (Per cent)
Konkan	SCs	-2.49
	STs	0.6
	Women	-1.78
Nashik	SCs	8.66
	STs	17.6
	Women	5.68
Pune	SCs	-19.03
	STs	-100
	Women	-4.71
Aurangabad	SCs	-9.17
	STs	-0.61
	Women	0.03
Amravati	SCs	14.38
	STs	25.28
	Women	4.89
Nagpur	SCs	10.42
	STs	17.25
	Women	0.81

Source: Computed by the author on the basis of Secondary data obtained from Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY.

On the basis of calculated various CAGRs, the study also makes an attempt to compare the Division wise actual growth rate of beneficiaries in the state. It was noted that the calculated

Division wise CAGR of IAY beneficiaries which clarifies the sustained growth of backward class beneficiaries i.e. SCs, STs, and Women in the state. It was found that Amravati division is performing well as far as the shares of SC, ST, and Women beneficiaries are a concern. Followed by Nashik, and Nagpur. Whereas as usual Pune division shown negative growth followed by Aurangabad and Konkan Division in Maharashtra. This Study has also noticed that as per 2011 population census the SC population is more than ST population in the state but as per data more allocation of IAY houses was there for STs in the state and SCs are being excluded from the benefit of IAY. It suggests that the allocation of houses should be as per the percentage of SC, ST population in the State. Otherwise, it is a violation of IAY guidelines (2013). As per these guidelines, 60 percent allocation out of total should be for SC/ST group. But it has been found that among this group STs were more benefited than SCs. under IAY. So, more attention is needed for SCs in the state. Further, special attention is needed for women beneficiaries in the state so that they can get ownership of the house which will enhance the Socio-economic equality among the male and female beneficiaries in the state, as mention in the Table 2.

Financial achievement: Utilization of funds in Maharashtra.

The attempt has been made to calculate the financial performance of IAY in Maharashtra. Financial trends of the scheme have been shown in the Appendix - 2. The present study calculates the financial performance of Indira AwaasYojana in Maharashtra It was noted from the above table, there is positive relationship between Annual growth rate of housing in Maharashtra and utilization of available funds, as seen earlier the overall financial trend goes declining which has been resulted in increasing trend for unspent balance of IAY funding in the State. Utilization of funds declined from 94 to 87.11 per cent during the study period. Therefore, the study recommends that Government should focus on optimum use of resources so that homelessness which has been found during the study in the various divisions of Maharashtra can be removed from the rural part of the State and Country as well.

Comparison between CAGR of Physical achievement and Funds utilization of IAY across the six divisions in Maharashtra.

The calculated values of Compounded Annual Growth Rate (CAGR) for the six divisions in the Physical target achievement and utilization of funds have been presented in the table 3.

Table 3: Division-wise comparison between CAGR of Physical target achievement and Utilization of Funds in Maharashtra during 2005-06 to 2014-15.

Divisions	CAGR, of Physical achievement	CAGR, of funds utilization
	Indira Awaas Yojana (IAY)	Indira Awaas Yojana (IAY)
Konkan	0.3984	15.94
Nashik	12.46	-0.586
Pune	-4.88	21.32
Aurangabad	11.12	8.79
Amravati	16.42	6.29
Nagpur	9.79	-14.84

Source: Computed by the author on the basis of Secondary data obtained from Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY

To understand the actual Division wise physical progress of IAY in the state we calculated the Division wise Compounded Annual Growth Rate (CAGR) of Housing under IAY in Maharashtra. On the basis of calculated CAGR, the study ranked the Divisions as per their

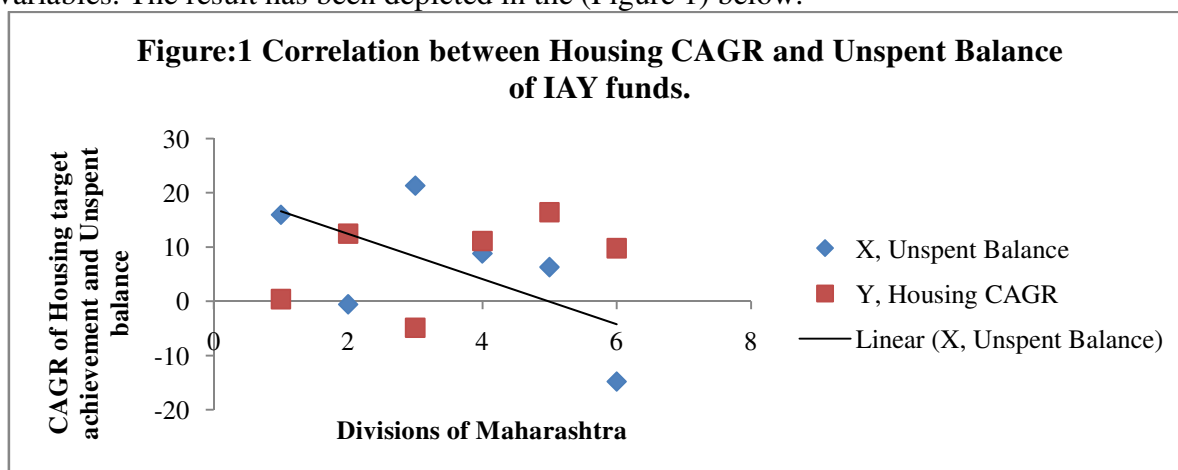
performance in the state; this calculation gives us more clarification about the ranks of the divisions. It is noted from the above calculation Amravati Division looks better to compare to other divisions followed by Nashik, Aurangabad, Nagpur, Konkan, and Pune. It has been observed from the data there were wide fluctuations in the six divisions of Maharashtra. It has been obtained from the data that, Amravati Division was performing well, as far as target achievement is concern. And Pune division shown the worst performance in Maharashtra as mention in Table 3. Therefore, it was suggested that Overall growth rate of IAY housing should improve with immediate effect so that, exclusion of rural poor will be eliminated and maximum needy people from the vulnerable section can fulfil the dream of houses under IAY in Maharashtra. It is important to note that, immediate guidelines to be given to the Pune Panchayati Raj Institutions so that BPL families from this division will get the housing benefit for which they are waiting for a long time. The study recommends that there is an urgent need to tighten the IAY administration in the Pune, Konkan, and Nagpur Divisions in the State. As far as the comparison of Physical progress and Funds utilization CAGR is concern, it was noted that from the Table 3, Amravati division has first rank for physical target achievement in Maharashtra. On the other hand Pune division has worst position in the six divisions of Maharashtra. We have also verified this with the help of Correlation analysis. The result of correlation between the CAGR of physical target achievement and unspent funds of IAY shown the negative relationship between these two parameters.

Statistical Analysis

This subsection deals with the statistical analysis of the study. On the basis of above facts it was noted that, there are variations in the physical and financial performance of IAY. Hence, to meet our primary objectives and hypothesis we have applied the statistical analysis.

Correlation Coefficient

We have tested the correlation coefficient across the various divisions in Maharashtra by using the CAGR values of Unspent balance and housing growth under Indira Awaas Yojana in Maharashtra. And this study observed that there is no significant relationship between two variables. The result has been depicted in the (Figure 1) below.



Source: Computed by author on the basis of Secondary data obtained from Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY (Note: The table for figure is given in Appendix.)

Which shows that there is strong negative relationship between these factors with the correlation coefficient value (-0.63462). We noted that, whichever division has highest amount of unspent balance which has resulted the lower target achievement under IAY in the state. On the other hand, minimum unspent balance of funds shows efficient target achievement in the state under IAY. Which means there is strong negative correlation in above two variables? Finally, it is noted that, faster decline in the unspent balance shown increasing trends in housing target achievement under Indira Awaas Yojana in Maharashtra. Since there is negative relationship between CAGR of physical target achievement and Utilization of funds of IAY in Maharashtra. Hence, we reject the null hypothesis,

1. **H₀**: There are no differences between various divisions as far as physical financial target achievement is concern in Maharashtra. Therefore we accept the alternative hypothesis there are valid differences between the various divisions of Maharashtra as far as IAY physical target achievement is concern.

T-Test analysis

To meet our objective and second hypotheses of the study,

2. There are no differences between the physical target achievement of IAY for SC, ST beneficiaries and Women in Maharashtra. To test this hypothesis we have run the Independent *t*-test.

Table 4: *T-test: Two samples SC/ST and Women assuming unequal variances.*

	SC/ST	Women
Mean	32.723	16.753
Variance	266.7540958	9.171534444
Observations	20	10
Hypothesized Mean Difference	0	
df	21	
t Stat	4.229835374	
P(T<=t) one-tail	0.000187514	
t Critical one-tail	1.720742871	
P(T<=t) two-tail	0.000375028	
t Critical two-tail	2.079613837	

Source: estimated by the author from secondary data.

An independent-samples t-test was conducted to compare the two means i.e. physical target achievement of SC/ST male and the target achievement of the beneficiary female and it is found that the mean of SC/ST male was 32.72 and for female it was 16.75. There was a significant difference in the scores of beneficiaries male and female. The noted score of Male (M=32.72, VAR= 266.75) and female (M=16.75, VAR= 9.17) conditions; $t(21) = 4.22$, $p < 0.001$ and t critical value is 2.07 which is less than t -statistics 4.22. These results suggest that there are differences between the physical target achievements of IAY for these two categories SC/ST male and female in study area. Hence, we reject H₀ and accept alternative hypotheses, i.e. there are differences between the physical target achievement of SC/ST households and females in the study area.

Discussion and Conclusions

This section discusses the results of the study, it also highlights the comparisons and contrast with other studies in this field. Finally, the section presents the findings of the study and few concluding remarks. The Indira Awaas Yojana (IAY) provides shelter to the rural poor, the scheme is helping to improve the living conditions of poor but still there are lacunas in the implementation and gap between housing demand and supply of housing units in Maharashtra. 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 of IAY. Therefore, Government should extend the benefit of IAY housing scheme as suggested many other studies our study also supports to findings of earlier studies. A study conducted by D. Kumunda states that, there are gaps in the implementation of the scheme which includes, 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. Kumunda, 2011).

This widening scope of the scheme will be good contributor for the socio-economic developmental process of the country. With the help of comparison, between CAGR of physical target achievement and utilization of funds, 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 Maharashtra. From the result of an independent-samples t-test it was observed that the CAGR of physical target achievement and unspent funds of IAY in study area. The result of the test indicates that, the score of physical target achievement ($M=7.55$, $VAR= 65.23$) and for the unspent funds ($M=6.15$, $VAR= 163.78$) conditions; $t(8) = 0.22$, p value is 0.82, and t -critical value is 2.30 which is greater than t -statistics i.e. 0.22. These results suggest that there are no difference between the physical target achievements of IAY and unspent funds, it indicates that higher the utilization of funds shows high level of target achievement in the study area.

Findings of the study

- There are valid differences in the physical target achievement of IAY between the various i.e. six divisions of Maharashtra namely, Konkan, Nashik, Pune, Aurangabad, Amravati and Nagpur. However, Amravati division looks good in target achievement and Pune division is the worst division in physical target achievement and funds utilization is concern.
- There are valid differences between the physical target achievement for SC/ST and Women in study area. Male beneficiaries are benefited more than the female from the IAY scheme in the study area.
- The study calculates the correlation coefficient across the various divisions in Maharashtra by using the CAGR values of Unspent balance and housing growth under Indira AwaasYojana in Maharashtra. And the study observes that there is no significant relationship between two variables. In a nutshell, it was noted that the correlated significant values i.e. CAGR of housing and unspent balance of IAY scheme and found the negative correlation between these values. The result clearly showed that across the state there was a negative sign of social inclusion which shows

correlation coefficient value (-0.63462). The problem was intensified by the inverse relationship between the growth rate of houses and Utilizations of funds under IAY in Maharashtra. It is also noted that, the division which has underutilization of resources that had been resulted in the lower target achievement of housing under IAY in the State and vice-versa. It seems to be noted that, the worst performance of divisions because of various reasons like low Illiteracy, Ignorance, Poverty, Poor governance, political will, bureaucratic apathy, poor planning, and political instability. Therefore, the present study suggests that there is an urgent need to take the special effort by the government for the efficient implementation of the scheme so that, maximum social inclusion will take place under IAY. (As mention in Table-1). Which was recently renamed as, Pradhan Mantri Awaas Yojana (PMAY) for the rural poor in India.

- The result of *t-test* for the physical target achievement and utilization of funds indicates that, higher the utilization of funds shows higher target achievement in the study area and vise-versa.

Conclusions

The present study was undertaken with the main objective of analysing the inter-division Physical and Financial progress of Indira Awaas Yojana in Maharashtra, during the year (2005-06 to 2014-15). The collected data from the authentic sources revealed that there were inter-division disparities in the housing target achievement and Utilization of funds. It has been observed from the data there were wide variations with respect to Physical target achievement and spending pattern of IAY in Maharashtra. To understand the housing growth under IAY the Compounded Annual Growth Rate (CAGR) of 6 divisions was calculated in Maharashtra, It has also been calculated the IAY Funds utilization as well and the Shares of SC/ ST and Women to know the performance of IAY in Maharashtra. The present study tests the framed hypothesis for 6 divisions in Maharashtra, using correlation and t-test analysis for the decade e.g. (2005-2015). To find out the significant relations between the various component of IAY the CAGR and Correlation coefficient were calculated, we observed that social inclusion was stronger in Amravati division; However Pune division remains weak in social inclusion. It is supported by the results of Correlation analysis, and Independent *t-test* analysis for the more understanding of the research problem.

The current study has few limitations. It is an attempt to evaluate the performance of (IAY) i.e. housing policy interventions for six divisions of Maharashtra. 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, IAY 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 country 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 Maharashtra state 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 other states and entire Country as well.

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Appendix

Appendix 1

Division wise physical progress of IAY in Maharashtra during 2005-06 to 2014-15. (Figures in Per cent)

Year	Konkan	Nashik	Pune	A. bad	Amravati	Nagpur
2005-06	83	84	85	89	104	109
2006-07	109	88	98	59	98	70
2007-08	103	110	106	128	109	83
2008-09	102.20	94.68	103.46	104.29	94.33	87.16
2009-10	99.40	94.02	89.75	96.20	93.88	74.88
2010-11	106.56	96.63	107.45	106.35	93.70	98.15
2011-12	103.0	95.3	102.7	95.0	96.2	124.2
2012-13	89.6	96.8	70.9	89.4	77.4	96.2
2013-14	88.8	90.2	179.1	105.9	77.9	81.3
2014-15	98.1	47.1	171.0	49.9	60.4	43.6

Source: Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY

Appendix 2

Annual funds utilization of Indira Awaas Yojana in Maharashtra during 2005-06 to 2014-15.

Years	Total fund	Utilization	Percentage
2005-06	21122	20045	94.00
2006-07	26172	24239	93.61
2007-08	38620	36321	94.05
2008-09	50617	48774	96.36
2009-10	132012	125001	94.69
2010-11	114885	109102	94.97
2011-12	109344	103666	94.81
2012-13	122241	110754	90.60
2013-14	150620	134097	89.00
2014-15	157051	136808	87.11

Source: Rural Development & Water Conservation Department Government of Maharashtra. IRDP/IAY.