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 $4 \ {\rm April} \ 2023$

Online at https://mpra.ub.uni-muenchen.de/120255/ MPRA Paper No. 120255, posted 28 Feb 2024 03:02 UTC

Socio-Economic Status of an Irrigation Scheme's Beneficiaries with Non-Beneficiaries: A Comparative Study in Karnataka

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Abstract

India is predominantly an agriculture based country. Agriculture is the source of livelihood security for majority of the rural population. Among 30 states of India, Karnataka is a major state which contributes 8.2 percent in the financial year 2010-2011 and witnessed several transformations with implementations of schemes and programmes during the period of 1970-90. Ganga Kalyana Scheme is a programme which was implemented to uplift SC/STs communities by giving subsidised bore well facilities. So the study intended to compare the socio-economic status of beneficiaries with non-beneficiaries of GKS in Karnataka. The study framed multi-stage simple random sampling design to decide the sampling and collected information directly from the beneficiaries and non-beneficiaries by using proper questionnaire schedule with personal interview and analysed the data with Chi-square, t-test and Extension exposure scores. Finally, this programme has induced our benefitted farmers to have a better socio-economic condition compared to non-benefitted farmers of Ganga Kalyana Scheme.

Key Words: Socio-Economic, Beneficiaries, Non-beneficiaries, SC/ST, Subsidy.

Introduction

Agrarian India has been decreasing the means of farming decadal. The livelihood on farming was 72% in 1951 and it had expanded 71-78 percent according to 1981 and 1991 Agricultural Census. As per the 2011 Agriculture Census of India, an expected 61.5 percent of the populace is legitimately reliant on agriculture. A general commitment of the primary part was 45.78 percent from 1950-51 to before the New Economic Policy of 1990. The reliance has been declining to 50 percent and contributing just 17-18 percent to the GDP according to the Economic Survey of 2018-19. Because of structural changes in industries and the developing portion of the servicepart, it caused the modern upset and the gigantic commitment of a Production Pattern in accordance with the Demand Pattern" prompting a move in accentuation to other agrarian items like oilseed, organic product, and vegetables. Farmers were begun to utilizing improved strategies and advances in dairying, domesticated animals, and meeting the differentiated food needs of a developing population. Likewise, with rice, improved seeds and creative cultivating developments currently generally relies upon whether India creates the foundation, for example, water system

organizes, flood control frameworks, dependable power creation limit, cold stockpiling to forestall decay, modern retail, and serious purchasers of produce from Indian farmers. This is progressively the focal point of Indian farming strategy.

There are numerous explanations behind the lower commitment of the essential division regarding GDP. Therefore, Agricultural research has been the key to technological development and increased productivity in agriculture. There is a need to increase spending on agricultural research and extension to address the challenges such as achieving growth, improving resistance of crops to climate change, improving nutritional quality of food and improving resource use efficiency (**G.R. Chintala, Sept. 2020**). A large portion of the beneath neediness line population lies on the provincial district with joblessness and underemployment and furthermore, they have been experiencing numerous issues, for example, lack of finance, absence of knowledge and abilities, small landholdings, lack of irrigation, value changes related price, minimum support price issues, seasonal variations, the administration needs to focus on huge changes in the farming changes. So that, India's legislature presented numerous projects, plans, and ventures to build up the economy of the farming part.

Nonetheless, among 30 states of India, Karnataka is one of the most elevated development states with a normal GSDP (Gross State Domestic Product) development of 8.2 percent in the financial year 2010-2011. The slanted circulation of land possessions in Karnataka for the year 1955-56 and the year 1980-81 is very notable, that 30.8 percent of farmers involved 75.1 percent of the land and 19.6 percent of farmers involved 58.7 percent of the land respectively. Fundamentally, small and marginal landholders were expanded from 11.64 lakhs to 25.46 lakhs (more than twofold) and from 47.3 percent to 59.1 percent in a similar period (1955-56 to 1980-81). Likewise, the zone has expanded from 11.19 lakh hectors (10.3%) to 22.76 lakh hectors (19.4%) about twofold. Subsequently, enhancements in agronomic practices ought to be coordinated towards Small and marginal farmers.

There is a need to empower the villagers, and not just supporting them by food subsidies, loan waivers which end up crippling those (**Shrinivas 2014**). Particularly, farming in Karnataka is intensely reliant on the southwest storm and just 26.5% of the planted territory (30,900km²) is exposed to irrigation. To give irrigation facility to the 74.6% land government has propelled numerous plans and projects. Among them, the 'Ganga Kalyana Yojana' is one of the most significant plan acquainted with the annihilation of the issues of the irrigation

system arrangement of the rural region of Karnataka by 1983. The state administration of Karnataka has targeted the Ganga Kalyana Yojana conspire concentrated on SCs and STs just who has a place with small and marginal landholdings in an at first in any case, to analyse social discrimination and its manifestation. "The demand of equality is not only an individual moral claim to respect as human being but also a political claim on the state of a citizen" (**Barbara Harrish and Aseem Prakash, 2008**). Inevitably, it has the social duty of the legislature of Karnataka to invigorate the small and marginal farmers having a place with others in other backward classes (OBC) and minority communities.

The analysis about SC/ST welfare activities of social welfare department of Karnataka state. Adequate funds are not spent on various socially beneficial activities by the department of social welfare and also found that, the contribution of central government is inadequate for the social empowerment of SC & ST population.(**Dr. B P Mahesh CGV Shanmugam & HS Shivaraju 2018).** A comparison among the social exclusion, caste and wealth. The linkages between caste and some health indicators show that poverty is a complex issue which needs to beaddressed with a multi-dimensionalparadigm. Minimizing the suffering from poverty and ill-health necessitates recognizing the complexity and adopting a perspective such as holistic epidemiology which can challenge pure techno centric approaches to achieve health status.(**K R Nayar, 2007**). The economic status of SC, ST and Other population reported that the percentage of STs living in permanent houses with better civic amenities is lower when compared to SCs and other population.(**Kumar & Prasad**).

As per the study the number of bore well sizes under the GKY scheme has increased at 10.59 percent and 25.59 percent during (2000-2014) in-state and (2000-2013) in Vijayapura district respectively. As a result of the GKY scheme there are drastic changes in asset and livestock generation, seasonal crops to commercial crop, non-institutional to institutional sources for credit, and market system is transformed as an organized one(Lakshmi k, June 2015). The Author studied that the impact of the GKY scheme on cropping patterns of minority farmers in Chikmagalur district, which finally resulted that 76% of the selected farmers were started to grow more than 2 crops of dissimilar which has improved their economic condition of life(Nijamuddin, Jan 2014).

No previous studies have been carried out on government schemes and programmes to estimate the economic value of irrigation water on different beneficiaries' categories. However, the issues on various aspects across the beneficiary's individual groupfrom the government schemes of India & Karnataka as well analysed. There is still huge difference among the beneficiaries to have the benefit with respect to the government scheme. Based on this, the present study purposes to deal the Impact of Ganga Kalyana Yojana among different categories with respect to their living standards. Numerous farmers have been as of now utilized the Ganga Kalyana scheme. All things considered, there has not been a dynamic report and improvement. Since it has some of the time possessed by the more extravagant of the general public and deludes by the regulates. Concerning this examination will check the devices and types of gear those gave by the legislature under plan alongside the financial profile by utilizing them of the recipients in Karnataka.

Objectives

To compare the impact of GKS on living standards between the beneficiaries and nonbeneficiaries of GKS.

Research Methodology of the Study

Sampling Design

The data has collected from the three districts of Karnataka namely Kalaburgi, Chitradurga and Belagavi which have the highest beneficiaries in the Karnataka since 2012 to 2018. By using multi-stage sampling design three taluks in each district has been chosen. Later where at least more than four beneficiaries available such four villages identified with the help of descending ordered beneficiaries village list and the beneficiaries (respondents) were taken by using simple random sampling method in each village. With respect to non-beneficiaries sampling design, for each beneficiary surroundings available same community featured six to eight non-benefitted farmers list prepared and among one respondent picked by lottery method. Therefore the study used the Multi-stage simple random sampling design for the research study.

Data Source

The study majorly focussed on primary data. The data gathered by the beneficiaries and nonbeneficiaries of Kalaburgi, Chitradurga and Belagavi districts of the Karnataka from the selected talukas to assess the effect of the Ganga Kalyana Yojana scheme. Total 432 sample size determined among 216 beneficiaries and 216 non-beneficiaries.

Data Tools & Techniques

This article used a systematic questionnaire schedule and personal interview & focus grouped observational methods were used for the collection of data. To evaluate post scheme standard

of living of beneficiaries, the study conducted experimental research technique for the beneficiaries as being them as controlled group with the non-beneficiaries. Along with these the study used extension exposure technique to know the awareness of beneficiaries and non-beneficiaries about the training programmes, visiting details of agricultural institutions for the sake of agricultural improvements.

Interpretation of Data

With the help of gathered data the article used Chi-square test to know the association between the beneficiary's living standards by utilizing GKS facility was compared with non-beneficiaries. Few important socio-economic variables transformed as quantifiable and applied t test to mean comparison between GKS beneficiaries and non-beneficiaries.

Results and Discussion

There are certain socioeconomic factors which could have their influence on the farmers' decision. After availing scheme comparison of the socioeconomic status of the farmers who have benefitted the Ganga Kalyana Scheme (GKS) and those who have not benefitted the scheme. The important variables used to compare of personal profile include Age of the respondents, Education level of the respondents, Extension Exposure of respondents and Caste category of respondents.

Denenciaries							
Variable	Category	Number of Farmers		Chi-square			
		Beneficiaries	Non-Beneficiaries	Value			
Gender of the Respondents	Male	184 (85.2)	188 (87.0)				
	Female	32 (14.8)	28 (13.0)	0.310			
	Total	216 (100)	216 (100)				
Age of the Respondents (Years)	30-45	39 (18.1)	35 (16.20)				
	46-60	110 (50.9)	95 (43.98)	3.673**			
	60>	67 (31.0)	86 (39.81)				
	Total	216 (100)	216 (100)				
Education level of the Respondents	Uneducated	57 (26.4)	85 (38.5)				
	Primary	120 (55.6)	115 (52.3)				
	Secondary	13 (6.0)	7 (3.2)	11.725*			
	College	26 (12.0)	13 (5.9)				
	Total	216 (100)	216 (100)				
Type of Family of the Respondents	Nuclear	71 (32.9)	85 (39.4)				
	Joint	145 (67.1)	131 (60.6)	1.97			
	Total	216 (100)	216 (100)				
Extension Exposure Score of the Respondents	Low	101 (46.8)	112 (51.85)				
	Medium	89 (41.2)	92 (42.59)	5.776**			
	High	26 (12.0)	12 (5.56)	5.770			
	Total	216 (100)	216 (100)				

Table-1.1: Personal Profile of the Ganga Kalyana Scheme Beneficiaries and Non-

Beneficiaries

Note: Figures in parenthesis are percentage to the total respondents of respective strata

* and ** indicate the significance at one and 5 percent probability levels respectively

The personal profile of the GKS beneficiaries and non-beneficiaries were consolidated and presented in Table 5.1. The gender of the respondents was classified male and female for comparing beneficiaries of GKS and non-beneficiaries. It can be noticed that majority of the respondents belonged to male for both beneficiaries (85.2%) as well as non-beneficiaries (87.0%) of GKS and followed by female respondents for both beneficiaries (14.8%) and non-beneficiaries (13.0%) of GKS across the study area. The association between gender of respondents and getting GKS benefits was examined by using chi-square test and its calculated value is shown in table 5.1. Calculated value of chi-square was 0.310 which was not greater than table value of chi-square at 1 degrees of freedom. Hence it could be concluded that gender of respondent and availing GKS scheme were not significantly associated. Therefore gender the respondents does not have any significant influence in decision making to availing Ganga Kalyana Scheme.

The age of the respondents was classified into three categories for comparing beneficiaries and non-beneficiaries of GKS across the study area. It can be noticed that majority of the respondents belonged to the age group 46-60 years for both beneficiaries (50.9%) as well as non-beneficiaries (43.98%) of GKS, followed by age group of respondents above 60 years for both GKS beneficiaries (31.0%) and non-beneficiaries (39.81%). The least number of farmers about 18.1% of beneficiaries and 16.20% of non-beneficiary farmers of GKS were found in the age group between 30-45 year. The association between Age of respondents and availing GKS was examined by using chi-square test and its calculated value is shown in table 5.1. Calculated value of chi-square was 3.673 which was greater than table value at 5% level of significance of chi-square at 2 degrees of freedom. Hence it could be concluded that Age of respondent and having GKS benefit were significantly associated. Therefore age of the respondents has significant influence in decision making to get Ganga Kalyana Yojana benefits.

Another variable of personal profile of benefitted and non-benefitted farmers taken for this purpose is Education level which was classified as Uneducated, primary education, secondary education and college education on the basis of number of years of schooling. It could be observed that percentage of non-beneficiaries (38.5%) with uneducated was considerably more compared to beneficiaries (26.45%). Similarly among beneficiaries (55.6%) of the respondents were completed their primary education whereas the corresponding figure for non-beneficiaries was 52.3%. under the category of secondary education beneficiaries (12.0%) were found high percentage and non-beneficiaries (3.2%) found low, whereas higher education i.e., college education was also more among beneficiaries (12.0%) and non-beneficiaries (5.9%). It means that there were more number of respondents in secondary and college education among beneficiaries of GKS was high compared to non-beneficiaries. The chi-square value taken to assess the association between education level of the farmers and availing GKS 11.725 was found to be statistically significant at 1% probability level. Hence Education level of farmer has significant influence on getting Ganga Kalyana Yojana.

With addition to that next type of the respondent family and GKS beneficiaries and non-beneficiaries were compared. The type of the family was divided as nuclear and joint families, most of respondents families appeared in joint families under joint family category for both beneficiaries (67.1%) and non-beneficiaries (60.6%) and noticed that GKS benefitted respondents are highly living together compared to non-beneficiaries. Under nuclear families beneficiaries (32.9%) and non-beneficiaries (39.4) were found, there most of the non-benefited farmers are living as nuclear families relatively beneficiaries. The association between type of family of respondents and getting GKS benefits was examined by using chi-square test. Calculated value of chi-square was 1.97 which was not greater than table value of chi-square at 1 degrees of freedom. Hence it could be concluded that type of family of respondents does not have any significant. Therefore type of the family of the respondents does not have any significant influence in decision making of availing Ganga Kalyana Scheme.

Extension exposure of respondents was another important variable considered under personal profile. Extension exposure activities of farmers were graded as low level of extension exposure, medium level of extension exposure and high level of extension exposure on the basis of extension exposure score for beneficiaries and non-beneficiaries of GKS. The data shows that percentage of respondents belonging to high level of extension exposure under GKS beneficiaries is high compared to their counterparts. Also farmers with low extension exposure were less among beneficiaries compared to non-beneficiaries category. It means that receiving GKS benefit increases with increase in the extension exposure of beneficiaries compared to non-beneficiaries of GKS. Chi-square value calculated for this purpose (5.776) was found to be significant statistically at 5% probability level. Therefore it could be inferred that extension exposure of respondents is highly significant for receiving Ganga Kalyana Scheme.

Demographic Profile of the Households of Ganga Kalyana Scheme Beneficiaries and Non-Beneficiaries

Demographic variables like size of the family, age, and occupational composition of the family as well as extent of involvement of family members in agricultural activities are having greater influence on receiving any benefits and subsidies in agriculture. In addition to these variables it is not only the education of the head of the family that influence to get GKS benefits in the farm family but also the education of other members in the family is also expected to have greater influence on it. Therefore some of the important demographic variables have been selected and the arithmetic mean values of these demographic variables have been computed separately for GKS beneficiaries and non-beneficiaries and the results were given in table 5.2. The values of these variables are presented per hundred families to avoid the fractional values.

The mean value of number of male members in the family was computed separately for GKS beneficiaries and non-beneficiaries in the study area. For example mean number of males in the family for GKS beneficiaries was 3.2 and it was 2.9 for mom-beneficiaries. So in order to avoid such fractional values, the mean values were converted for hundred families by multiplying mean values by hundred for all the values. Therefore all the values pertaining to demographic variables were considered for hundred families. The statistical significance in the difference between the mean values of GKS beneficiaries and non-beneficiaries was tested by computing t values for various demographic variables and presented in the table.

First of all let us consider size of the family of the respondents. Size of the family is one of the important variables that influence on the agronomic practices at the farms. The arithmetic mean value of total members in the family and also male and female members per hundred families was computed and given in the table. It was observed that the mean number of male members per 100 families among GKS beneficiaries (473) was found to be considerably more than the number of males in the non-beneficiaries families (437). The t value calculated to test the significant difference between the mean numbers of males among GKS beneficiaries and non-beneficiaries was 1.993. It means the number of males among the families of GKS at 5% probability level and such statistical significant difference could not be found for female members among GKS beneficiaries and non-beneficiaries. Even the

total number of family members was not found to be statistically significant among GKS beneficiaries and non-beneficiaries.

and Non-Denenctaries							
		Number of Farmers					
Variable	Category	Beneficiaries	Non-	t value			
			Beneficiaries				
Size of the Family	Male	473	437	1.993**			
(Average numbers	Female	458	433	1.365			
per 100 Family)	Total	931	870	1.792			
Age-Composition of the Family (Average numbers per 100 Family)	Children (<15)	245	263	-1.233			
	Working Age (15 to 60)	579	531	2.71*			
	Old Age (60 +)	107	76	3.398*			
	Total	931	870	1.818			
Education of Adult members of the Family (Average numbers per 100 family)	Uneducated	134	184	-3.86			
	Primary	277	273	0.260			
	Secondary	305	235	5.450*			
	College	217	187	2.499**			
	Total	931	870	1.899			
Occupation of Family Members (Average numbers per 100 Family)	Agriculture	228	170	7.526*			
	Agriculture Labour	30	72	-7.041			
	Business	40	11	6.250*			
	Self-Employ	53	40	2.126*			
	Govt-Employ	23	10	3.049*			
	Others	54	45	1.674			
	Total	429	350	4.398*			
Participation in Agriculture activities (Average numbers per 100 Family)	Full time	188	137	7.482*			
	Part time	210	193	2.113**			
	Not Involved	289	312	-1.165			
	Total	687	642	1.683			

Table-1.2: Demographic Profile of the Households of Ganga Kalyana Scheme Beneficiaries and Non-Beneficiaries

Note: Figures in parenthesis are percentage to the total respondents of respective strata * and ** indicate the significance at one and 5 percent probability levels respectively

Age-Composition is another important variable which could influence on the agricultural activities in the family. Age composition of the family is categorized into three classes as children whose age is less than 15 years, old age people whose age is 60 plus and middle age group between 15 years to 60 years that is working age population. In the study area it was found that majority of the farmers were found working in the fields up to 65 years of age and hence working age of farmers was fixed as 15 to 60 years in the study area. It was found that the number of working age population among GKS beneficiaries (579) was considerably more compared to the number of working age population among the non-beneficiaries (531) of GKS and this difference was statistically significant at one percent

probability level. Whereas the total number of family members in the old age group of GKS beneficiaries (107) and non-beneficiaries (76), found more among GKS beneficiaries compared to Non-beneficiaries. It can be noticed that there is statistical significant difference between working age group of GKS beneficiaries and non-beneficiaries and it could be found there is no statistical difference among the children age group of less than 15 between GKS beneficiaries and non-beneficiaries. So that it is concluded that working age group and old age group population are relatively more among GKS beneficiaries than that of non-beneficiaries compared to other age group members of the family. Even the total number of family members was not found to be statistically significant among GKS beneficiaries and non-beneficiaries and non-beneficiaries.

Education of adult family members is another most important variable which has greater influence on GKS beneficiaries and motivates them to avail the benefits in their agronomic practices. Adult members of the family correspond to the age group 15-55 years. This is the age group which is playing important role in taking major decisions regarding agronomic practices in the family. The education level of adult members of the family was classified into four different categories as Uneducated group who have not gone to school, Primary education who have studied between first standard and seventh standard, Secondary education who have studied between eight standard to tenth standard and College education for those who have education of eleventh standard and above. The mean number of education of adult members for hundred families was computed and presented in the table.

It was noticed that the mean number of adult members of the family with primary, secondary and college education was more among GKS beneficiaries compared to nonbeneficiaries of GKS and the differences in secondary and college education mean values was statistically significant. The difference in mean GKS beneficiaries was statistically significant for secondary education level of adult family members at one percent probability level where as it was significant at five percent probability level for college education of the respondents. The arithmetic mean of primary education had no difference and uneducated adults of the family was found to be more among non-beneficiaries of GKS compared to GKS beneficiaries however the difference in mean values was found to be statistically insignificant.

Occupation of the family members is another important variable which indicate the economic status of family. Occupation of the family members has been classified into six categories as

Agriculture, Agriculture labour, business, self-employ, government employ and others. Agriculture category is the group where prime occupation of the respondents is agriculture. Similarly agriculture labour was those who spend majority of their time in agricultural activities for the purpose of wage earning. The frequency distribution of family members involved in various occupations has been computed separately for Even the total number of family members was not found to be statistically significant among GKS beneficiaries and non-beneficiaries for hundred household was given in the table. The t value calculated to test the significance difference between GKS beneficiaries and non-beneficiaries among different occupation of family members was statistically significant with most of the occupational structures such as namely agriculture dependency, business oriented families, self-employ and government employ families and even the total number of family members was found to be statistically significant among. This indicates that occupational status of the family members does have significant influence on availing benefits from the scheme.

Participation in agriculture activities is another variable which plays a vital role in performance of farm activities. Participation of family members in agricultural activities is classified on the basis of extent of participation as fulltime, part time and not involved. If the family members participate in agricultural activities for the entire day or during the working period regularly then it is fulltime participation. Some of the family members working as labour at other fields and involved in other jobs at other places but participate occasionally in their own farms during the peak season were considered as part time participation and other members of the family who do not participate in agricultural activities were considered as not involved in agricultural activities.

The mean number of family members per hundred families involved in agriculture activities on full time were 188 among GKS beneficiaries and it was only 137 among nonbeneficiaries of GKS. It means that there was more number of fulltime participation of family members in agricultural activities among GKS beneficiaries compared to non-beneficiaries of GKS and the difference in their mean values were statistically significant at one percent probability level. We could find that the number of family members involved in agriculture activities on part time basis were more among beneficiaries of GKS compared to non-beneficiaries and the difference in their mean values were statistically significant at five percent level of significance. Important thing is people in the working age group of family members who involved in agricultural activities on full time basis was more for GKS. beneficiaries compared to the non-beneficiaries group. This may be because BCT is labour intensive activity.

The availability of more number of family members for farming activities and more family members participating on full time work may promote them and encourage them to avail scheme benefit from the Government corporations. Therefore we could find significant difference in the demographic variables among adopters of GKS beneficiaries and nonbeneficiaries.

Conclusion

Every programmes and schemes which introduced to uplift welfare and eradication of poverty may performed well among the beneficiaries. Ganga Kalyana scheme is a scheme that implemented to overcome irrigational problems among SC/ST farmers since more than three decades. So far benefitted farmers have improved standard of living compared to non-benefitted farmers. It is very essential to cover extent population belongs SC/ST SMFs yet to comprehensive betterment of social welfare.

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