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Research Article

MULTIPLE REGRESSION ANALYSIS OF CHARACTERISTICS OF PANCHAYAT LEADERS AND ITS IMPACT ON THEIR ROLE PERFORMANCE

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Abstract- The future food production has to come from more difficult areas which are economically and ecologically at a disadvantage. Agricultural development programme however well planned and imaginative, cannot make an impact on rural life unless it is backed both by extension and research support. The Transfer of Technology model normally puts the researcher in the role of generating all new technologies and the farmer staying in the receiving end. A local leader who has adopted improved practices extends the same to others. The common man has much faith in the local leaders. The term "leader" implied a person who was clearly distinguished from other individuals in power, status, visibility and such traits of character as intelligence, integrity, courage, wisdom and judgement. In some societies the political leadership controls the economy; significant influence is exercised by them in the direction and rate in which changes take place in society. The 73rd Amendment provides for an elaborate system of establishing panchayats as units of self-government. A study was conducted in the purposively selected Rajnandgaon district of Chhattisgarh to ascertain the variation in performance of panchayat leaders caused by independent variables..In all (9 + 54 + 200) 263 panchayat leaders were considered as respondents for the study. An interview schedule was used as a tool for collecting primary data from the respondent panchayat leaders and all the 263 respondents were personally interviewed for collecting the raw information. The variables, caste, social participation, occupation, achievement motivation, information sources, time allocation for panchayat activities and political efficacy had positively significant contribution towards role performance at 0.05 level of probability. Whereas the remaining five variables *viz*., education, annual income, cosmopoliteness, extension participation and attitude towards panchayati raj institutions had positive and significant contribution towards role performance of gram panchayat leaders at 0.01 level of probability. The variables social participation, annual income, information sources and extension participation had positive and significant contribution towards the role performance of janpad and jila panchayat leaders at 0.05 level of probability and the variables education, achievement motivation and cosmopoliteness had positive and significant contribution on role performance of janpad and jila panchayat leaders at 0.01 of probability.

Keywords- Role Performance, Characteristics of Panchayat Leaders and Multiple Regression Analysis.

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Introduction

The impact of demographic pressure on reducing farm size further on the one hand and the need for longer or optimum sized farms to take more advantage of modern technology on the other hand would bring into sharper focus the growing contradiction in the farming sector. To meet this, farmers will progressively shift acreage away from food grains and take to agricultural diversification for growing more fruits and vegetables, poultry and dairy products, sugar and edible oils. The future food production has to come from more difficult areas which are economically and ecologically at a disadvantage. Agricultural development programme however well planned and imaginative, cannot make an impact on rural life unless it is backed both by extension and research support. The result of painstaking efforts of research scientists have been carried to the farmers by an army of more than 70,000 village extension workers in the major states where professional agricultural extension system is functioning. The Transfer of Technology model normally puts the researcher in the role of generating all new technologies and the farmer staying in the receiving end. A resource model of extension as suggested by Salmon, (1980) [1], puts farmers and researchers as equally important contributors. The function of extension is to transfer and nurture this pool of knowledge within the rural system. Thus, extension embraces all those who contribute knowledge or transfer it to farmers. It is difficult for any country to provide enough number of extension workers to reach each and every family for its social welfare programme. This problem can be solved to some extent through the use of local leaders. A local leader who has adopted improved practices extends the same to others. The common man has much faith in the local leaders. The term "leader" implied a person who was clearly distinguished from other individuals in power, status, visibility and such traits of character as intelligence, integrity, courage, wisdom and judgement. The concept, while recognising the importance of the environment, persisted in viewing leadership as a matter of specific traits and characteristics. Possession of these traits would thus (it was thought) somehow give the individual the role of leader in many if not most group situations. Recent studies have indicated that differences between leaders and other members of a group are not as sharply defined as were previously believed and have produced little evidence of universal character traits that would describe essential and distinguishing leadership qualities. Further, while leaders may share some relevant characteristics in similar situations, they also very likely differ in

others so that their total personalities are not alike. In addition, traits which are relevant to leadership roles are not rare but may be distributed widely in a population, making many individuals eligible for leadership positions. In other words, leadership abilities need not therefore be exclusively the possession of a small narrowly defined class or type of individual, nor is it necessary for leaders as a group to be alike or sharply different from "followers". With proper training, several persons can perform a wide variety of leadership functions [2].

It is the type of leadership in rural areas and those in power who influence the rate of adoption of agricultural technology. The assessment of those who wield power in respect of the existing social situation, technological and non-technological changes and opportunities for such development and change, is of considerably more significance than the assessment of those who do not have power in society. In some societies the political leadership controls the economy; significant influence is exercised by them in the direction and rate in which changes take place in society. The 73rd Amendment provides for an elaborate system of establishing panchayats as units of self-government. For the first time in the constitutional history of India, the constitution of panchayat, the duration of their term, their membership, the constitution of Finance Commission to review their financial position is detailed. Conceptually, panchayats are elected rural local bodies responsible for local government functions. There are more than two lakh panchayats across the country represented by more than 30 lakh of elected leaders at all three levels. Out of them, more than six lakh SC/ST's and more than ten lakh women have been holding the office of the members and chairpersons at different tiers of the panchayats [3]. Under these circumstances it was deemed necessary to undertake a research with the following objectives :

1. To predict the variation in performance of panchayat leaders caused by independent variables.

Materials & Methods

Genuine decentralisation through adequate devolution of powers and resources to Panchayati Raj Institutions is an essential pre-requisite, with appropriate capacity building efforts to bring about empowerment of people, particularly the disadvantaged sections such as SC/ST, landless and marginal farmers and women. Under Eleventh Schedule of the Constitution which contains 29 items, the first item - agriculture, including agricultural extension is of specific relevance (apart from the other associated items on the list). A study was conducted in the purposively selected Rajnandgaon district of Chhattisgarh to ascertain the variation in performance of panchayat leaders caused by independent variables. Out of total 21 members of the Jila Panchayat including the president, 9 members who presided over the different standing committees were purposively selected as respondents from the first-tier panchayat. Similarly, out of the total 182 members of the 9 Janpad panchayats, 6 members from each Janpad (9 x 6 = 54) presiding over the standing committees were purposively selected as respondents from second tier panchayats [4].

In all there are 696 gram panchayats in 9 blocks/Janpads of Rajnandgaon district. Approximately seven percent gram panchayats were randomly selected from each Janpad and four members presiding over the standing committees from each selected gram panchayat (50 x 4 = 200) were purposively chosen as respondents from the third-tier panchayats. Thus, in all (9 + 54 + 200) 263 panchayat leaders were considered as respondents for the study. An interview schedule was used as a tool for collecting primary data from the respondent panchayat leaders and all the 263 respondents were personally interviewed for collecting the raw information. The psychological object for this study was conceptualised as the panchayati raj institutions [5].

Multiple Regression Analysis was done to know the combined effect of all the independent variables in explaining the variation on the dependent variable. Significant variables were isolated on the basis of significant t values to ascertain their contribution in explaining the variation in the dependent variables. The formula used was:

$$y = a \square b_1 x_1 \square b_2 x_2 \square b_3 x_3 \square \ldots \square b_n x_n$$

Where,

a = Constant

y = Dependent variable

$x_1 \ldots x_n$ = Independent variable

$b_1 \ldots b_n$ = Regression coefficient for respective variables

Results

Table-1 *Multiple regression analysis of independent variables with role performance of gram panchayat leaders*

S. No.	Independent Variables	Regression Coefficient "*b*"		"t" values
1	Age	- 0.775	*	2.428
2	Gender	- 1.605		0.629
3	Caste	1.523	*	1.990
4	Education	9.787	**	5.307
5	Family size	0.009		0.015
6	Social participation	1.058	*	2.498
7	Occupation	0.632	*	1.993
8	Annual Income	0.911	**	2.662
9	Size of land holding	0.172		0.245
10	Material possession	0.271		0.2404
11	Socio economic status	0.166		0.249
12	Achievement motivation	0.938	*	2.223
13	Cosmopoliteness	0.669	**	2.719
14	Job satisfaction	0.006		0.031
15	Information sources	0.328	*	2.537
16	Extension participation	2.100	**	4.542
17	Time allocation for panchayat activities	0.498	*	1.995
18	Experience	0.103		0.286
19	Training need	- 0.102		0.556
20	Political affiliation	0.237		0.178
21	Political ideology	0.237		0.430
22	Political efficacy	1.113	*	1.977
23	Attitude towards panchayati raj institutions	1.195	**	5.309

** Significant at 0.05 level of probability* $R^2 = 0.8610$

*** Significant at 0.01 level of probability* *F value = 47.41*

[Table-1] represents the results of multiple regression analysis of independent variables with role performance of gram panchayat leaders. Multiple regression analysis was carried out to ascertain the contribution of different independent variables under study on the dependent variable *i.e.*, role performance of gram panchayat leaders. Comparisons were made between obtained "t" values and table values of "t" to know which independent variable made significant contribution towards role performance and which independent variable did not make any significant contribution towards role performance of gram panchayat leaders. The regression coefficient "b" showed the extent of contribution the independent variables had on the role performance of gram panchayat leaders [6].

It is observed that the variables gender, family size, size of land holding, material possession, socio economic status, job satisfaction, experience, training need, political affiliation and political ideology had non-significant contribution towards role performance of gram panchayat leaders. This indicates that any increase or decrease in the above independent variables would not contribute significantly in the increase or decrease of role performance of gram panchayat leaders. Only one variable *i.e.*, age had negatively significant contribution on role performance of gram panchayat leaders. Negatively significant contribution means that one unit increase in age would have 0.775 unit decrease in role performance of gram panchayat leaders or one unit decrease in age would have 0.775 unit increase in role performance of gram panchayat leaders.

However, the variables, caste, social participation, occupation, achievement motivation, information sources, time allocation for panchayat activities and political efficacy had positively significant contribution towards role performance at 0.05 level of probability. Whereas the remaining five variables *viz.*, education, annual income, cosmopoliteness, extension participation and attitude towards panchayati raj institutions had positive and significant contribution towards role

performance of gram panchayat leaders at 0.01 level of probability. From the positive and significant contribution we may infer that one unit increase in the independent variables caste, education, social participation, occupation, annual income, achievement motivation, cosmopoliteness, information sources, extension participation, time allocation for panchayat activities, political efficacy and attitude towards panchayati raj institutions would increase the role performance of gram panchayat leaders by 1.523, 9.787, 1.058, 0.632, 0.911, 0.938, 0.669, 0.328, 2.100, 0.498, 1.113 and 1.195 units respectively. The R-square value of 0.8610 also indicates that all the 23 variables jointly contributed towards role performance of gram panchayat leaders to the extent of 86.10 percent [7].

Table-2 *Multiple regression analysis of independent variables with role performance of Janpad and Jila panchayat leaders*

S. No.	Independent Variables	Regression Coefficient "*b*"		"t" values
1	Age	- 0.219	*	2.565
2	Gender	3.033		0.610
3	Caste	- 0.782		0.200
4	Education	6.605	**	2.668
5	Family size	1.447		1.077
6	Social participation	1.937	*	2.164
7	Occupation	1.969		0.955
8	Annual Income	0.954	*	2.334
9	Size of land holding	1.037		0.695
10	Material possession	0.730		0.503
11	Socio economic status	0.836		0.577
12	Achievement motivation	3.282	**	2.676
13	Cosmopoliteness	1.518	**	2.719
14	Job satisfaction	0.061		0.165
15	Information sources	0.235	*	2.462
16	Extension participation	1.693	*	2.531
17	Time allocation for panchayat activities	1.299		0.739
18	Experience	0.452		0.851
19	Training need	- 0.245		0.547
20	Political affiliation	2.146		0.411
21	Political ideology	1.398		0.921
22	Political efficacy	0.869		0.609
23	Attitude towards panchayati raj institutions	0.387		0.521

* *Significant at 0.05 level of probability* $R^2 = 0.7725$
** *Significant at 0.01 level of probability* *F value = 5.76*

The data pertaining to multiple regression analysis of independent variables with role performance of Janpad and Jila panchayat leaders is presented in [Table-2]. The variables social participation, annual income, information sources and extension participation had positive and significant contribution towards the role performance of Janpad and Jila panchayat leaders at 0.05 level of probability and the variables education, achievement motivation and cosmopoliteness had positive and significant contribution on role performance of Janpad and Jila panchayat leaders at 0.01 of probability [8].

Thus for 1 unit increase in education, social participation, annual income, achievement motivation, cosmopoliteness, information sources and extension participation there would be 6.605, 1.937, 0.954, 3.282, 1.518, 0.235 and 1.693 units increase in the role performance of Janpad and Jila panchayat leaders correspondingly. Only age showed negatively significant contribution towards role performance of Janpad and Jila panchayat leaders at 0.05 level of probability. This indicates that 1 unit increase in age would have 0.219 unit decrease in role performance of Janpad and Jila panchayat leader and vice versa. The remaining fifteen independent variables *viz.,* gender, caste, family size, occupation, size of land holding, material possession, socio economic status, job satisfaction, time allocation for panchayat activities, experience, training need, political affiliation, political ideology, political efficacy and attitude towards panchayati raj institutions had non-significant contribution towards role performance of Janpad and Jila panchayat leaders. The R-square value of 0.7725 indicates that all the twenty-three independent variables jointly contributed towards role performance of Janpad and Jila panchayat leaders to the extent of 77.25 percent.

Conclusion

It is observed that the variables gender, family size, size of land holding, material possession, socio-economic status, job satisfaction, experience, training need, political affiliation and political ideology had non-significant contribution towards role performance of gram panchayat leaders. Only one variable *i.e.*, age had negatively significant contribution on role performance of gram panchayat leaders. However, the variables, caste, social participation, occupation, achievement motivation, information sources, time allocation for panchayat activities and political efficacy had positively significant contribution towards role performance at 0.05 level of probability. Whereas the remaining five variables *viz.*, education, annual income, cosmopoliteness, extension participation and attitude towards panchayati raj institutions had positive and significant contribution towards role performance of gram panchayat leaders at 0.01 level of probability. The R-square value of 0.8610 also indicates that all the 23 variables jointly contributed towards role performance of gram panchayat leaders to the extent of 86.10 per cent.

The variables social participation, annual income, information sources and extension participation had positive and significant contribution towards the role performance of Janpad and Jila panchayat leaders at 0.05 level of probability and the variables education, achievement motivation and cosmopoliteness had positive and significant contribution on role performance of Janpad and Jila panchayat leaders at 0.01 of probability.

Only age showed negatively significant contribution towards role performance of Janpad and Jila panchayat leaders at 0.05 level of probability. The remaining fifteen independent variables had non-significant contribution towards role performance of Janpad and Jila panchayat leaders. The R-square value of 0.7725 indicates that all the twenty-three independent variables jointly contributed towards role performance of Janpad and Jila panchayat leaders to the extent of 77.25 per cent.

Application of research

The present research would be useful to policy makers as well as other researchers in giving policy directions as the study dwells on the factors responsible for the performance of grass root level leaders. It is these leaders who are the torch bearers of change specifically in the field of agriculture technology adoption.

Research category: Exploratory Social Research

Abbreviations

SC=Scheduled Caste, ST=Scheduled Tribe, JNKVV=Jawaharlal Nehru Krishi Vishva Vidyalaya, IGKV=Indira Gandhi Krishi Vishvavidyalaya.

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