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SUSTAINABLE RURAL LIVELIHOOD: THE PATH TO FIGHT POVERTY

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ABSTRACT

Sustainable rural livelihood has been defined as a livelihood that comprises of the capabilities , assets (stores, resources, claims and access) and activities required for a means of living: A livelihood is sustainable than can cope with and recover from stress and shocks , maintain or enhance its capabilities and assets , and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term. Food is still the single most important commodity in the urban consumer's basket of goods and services, accounting for 55 percent of all expenditures. The volume of food intake in by an individual everyday is an indicator for assessing sustainable livelihood. With the rapid decrease of food availability per capita has been a serious concern towards attaining sustainable livelihood. It is concluded from the study that is the access to availability of food depends on yield performance, cropping intensity, holding size owned by the farmer. These all agro-economic variables have cumulatively amounted to higher access to food by the respondents. It has also found that two variables holding size(X_9) and spacing(X_{11}) have recorded a significant on regression impact on food intake value higher holding size means higher economic security and better purchase capability.

INTRODUCTION

Sustainable rural livelihood has been defined as a livelihood that comprises of the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: A livelihood is sustainable than can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term, (Robert Chambers and Gordon Conway, 1992). In sustainable livelihood, the support from different capitals is essential. Four types of capital are identified in the IDS (Institute for Development Studies) framework (which does not pretend to be an exhaustive list) which support and sustain livelihood, such as Natural Capital, Economic or Financial Capital, Human Capital and Social Capital Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration).

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Food is still the single most important commodity in the urban consumer's basket of goods and services, accounting for 55 percent of all expenditures. The volume of food intake in by an individual everyday is an indicator for assessing sustainable livelihood. With the rapid decrease of food availability per capita has been a serious concern towards attaining sustainable livelihood.

Over the last decades the decline of food availability has been to the term of 25-30 percent that has been made, the goal of attaining sustainable livelihood in India a move complex and vicious endeavour. Food and nutritional security are subsets of livelihood security; food needs are not necessarily more important than other basic needs or aspects of subsistence and survival within households. Food-insecure households juggle among a range of requirements, including immediate consumption and future capacity to produce.

Food security has an adverse effect on sustainable livelihood because Food securities somewhere sign of knowledge or literacy. And sustainable livelihood approach is applicable to reduction of poverty. So, it is interrelated. However, both are important for community or nation.

OBJECTIVES

The objectives of this study are

- To assess the level of sustainability of livelihood of the respondent farmers.
- To assess the interrelationship between food intake and the set of predictor variables of sustainable livelihood.

MATEIALS AND METHODS

The work was conducted with the following objectives and variables- Age-X_1, Education-X_2, Family Size-X_3, Family Statement with adult person-X_4, Functional Education Strata(FES)-X_5, Cropping Intensity-X_6, Irrigation status-X_7, Animal/Bird number-X_8, Holding Size-X_9, Income(Rs) per cottah-X_{10}, Spacing(%)-X_{11}, Fertilizer(%)-X_{12}, Irrigation(%)-X_{13}, Pesticide(%)-X_{14}, Yield(%)-X_{15}. Food intake value/g/day/head-Y, Purposive as well as simple random techniques was employed for selection of respondents. There are 134 families in the village Ghoragachha which constitute the total population of the study. Out of 134 families only 53 families have been interviewed.

RESULTS AND DISCUSSION

Table-1 is presenting the descriptive distribution of both independent and dependent variables.

In case of age (X_1), mean age of respondents of the study was 44.056 with a standard deviation of 8.155 for total distribution. The coefficient of variation of this age distribution of respondents was 18.510, which explained the higher level of consistency of the total distribution. The mean value of education (X_2) of respondents was 8.245 that were in primary and secondary school level. The S.D. of distribution was 3.720 with a coefficient of variation 45.128% which in turn reflected the medium level of consistency. In case of Holding size (X_9) and irrigated land (X_7) cottah, mean value of these two variables of respondents of the study wads 11.113 and 76.886 with a standard deviation 3.904 and 32.746 for total distribution.

The coefficient of variation of this holding size and irrigated land (cottah) distribution of respondents was 35.137 and 42.590 which explained the medium level of consistency of the total distribution. The mean value of Cropping Intensity (X_6) and Income (Rs) per cottah (X_{10}) was 295.396 and 608.490 with standard deviation 17,794 and 78.749 respectively. The coefficient variation was 6.024 and 12.941 respectively, which depicted the level of consistency. In case of Spacing(%)(X_{11}), Fertilizer(%)(X_{12}), Irrigation(X_{13}), applied Pesticide(X_{14}) and Yield(%)(X_{15}) mean value of these variables of respondents of the study was81.854, 96.886, 91.556, 81.47, 91.566 and 73.094 with a standard deviation 8.866, 8.924, 7.152, 8.129 and 7.915 for total distribution.

Table 1. General behavioural description of variables in terms of Mean, S.D. and C.V

Variables		Mean	SD	Coefficient of variables (%)
X_1	Age	44.0566	8.155135	18.51059
X_2	Education	8.245283	3.720954	45.12827
X_3	Family Size	9.283019	2.88377	31.065
X_4	Family Statement with adult person	49.56604	11.0103	11.2134
X_5	Functional Education Strata(FES)	2.150943	1.257374	58.45687
X_6	Cropping Intensity (%)	295.3962	17.79478	6.024039
X_7	Irrigation status	76.88679	32.7464	42.59041
X_8	Animal/Bird number	5.924528	3.52805	59.54988
X_9	Holding Size	11.11321	3.904909	35.13756
X_{10}	Income(Rs) per cottah	608.4906	78.74957	12.94179
X_{11}	Spacing (%)	81.58491	8.8668	10.86819
X_{12}	Fertilizer (%)	96.88679	8.924548	9.211316
X_{13}	Irrigation (%)	81.4717	7.152263	8.778831
X_{14}	Pesticide (%)	91.56604	8.219878	8.976994
X_{15}	Yield (%)	73.09434	7.915269	10.82884
Y	Food intake value/g/day/head	103.4528	19.70975	19.05192

Table 2. Coefficient of correlation between Food intake value (Y) and 15 independent variables

Variables		Correlation coefficient
X_1	Age	-0.064
X_2	Education	0.063
X_3	Family Size	-0.076
X_4	Family Statement with adult person	-0.217
X_5	Functional Education Strata(FES)	0.024
X_6	Cropping Intensity (%)	0.333*
X_7	Irrigation status	0.415**
X_8	Animal/Bird number	-0.122
X_9	Holding Size	0.636**
X_{10}	Income(Rs) per cottah	0.276*
X_{11}	Spacing (%)	0.328*
X_{12}	Fertilizer (%)	-0.154
X_{13}	Irrigation (%)	-0.044
X_{14}	Pesticide (%)	-0.008
X_{15}	Yield (%)	0.234

*Significant at 0.05 level
** Significant at 0.01 level

Table 3. Regression analysis for selecting most significant variables having prominent regression impact on consequent variables Food Intake value(Y)

Variables			ß	T	R^2
Food intake value(Y)	X_9	Holding Size	0.63	6.34	R^2=0.51
	X_{11}	Spacing (%)	0.32	3.21	

Factor value for R^2=0.51 with 37 df
*Significant at 0.05 level
** Significant at 0.01 level

The coefficient of variation of these variables distribution of respondents was 10.868, 9.211, 8.778, 8.976 and 10.82 which explained the high level of consistency of the total distribution.

Spacing helps a critical intercalated operation through engagement of optimum labour utilization and these two casual variables have explained 51% variable of consequent variable.

Analysis of Direction

Table-4 presents the path analysis to decompose the total effect into direct, indirect and residual effect of the exogenous variables on the variable food intake value(Y). It has been found that the variable holding size(X_9) has recorded the highest direct effect on food intake value(Y). In the domain of food security, income generation and livelihood security, holding size is still a strong provider.

Table 4. Path analysis for deriving direct, indirect and residual effect of exogenous variables on consequent variables (Food intake value (Y) vs 15 antecedent variables

Variables		Total effect (r)	Direct effect (d)	Indirect effect (r-d)	Substantial Indirect effect		
					i	ii	iii
X_1	Age	-0.064	0.07	-0.135	-0.355(X_9)	0.221(X_3)	0.072(X_{11})
X_2	Education	0.063	0.061	0.002	0.253(X_9)	-0.135(X_3)	-0.093(X_{15})
X_3	Family Size	-0.076	0.307	-0.383	-0.276(X_7)	-0.180(X_9)	0.051(X_1)
X_4	Family Statement with adult person	-0.217	-0.152	-0.065	0.144(X_{15})	-0.108(X_{11})	-0.076(X_{10})
X_5	Functional Education Strata(FES)	0.024	-0.108	0.132	0.263(X_9)	-0.174(X_{15})	0.100(X_{10})
X_6	Cropping Intensity (%)	0.333	0.245	0.088	-0.428(X_{15})	0.346(X_9)	0.240(X_{10})
X_7	Irrigation status	0.415	-0.474	0.889	0.670(X_9)	0.179(X_3)	0.077(X_6)
X_8	Animal/Bird number	-0.122	-0.168	0.046	-0.009(X_7)	0.090(X_3)	0.055(X_9)
X_9	Holding Size	0.636	1.039	-0.403	-0.306(X_7)	-0.100(X_{15})	0.082(X_6)
X_{10}	Income(Rs) per cottah	0.276	0.360	-0.084	-0.513(X_{15})	0.163(X_6)	0.126(X_9)
X_{11}	Spacing (%)	0.238	0.288	0.04	-0.246(X_{15})	0.144(X_{10})	0.072(X_6)
X_{12}	Fertilizer (%)	-0.154	0.042	-0.196	-0.179(X_9)	0.088(X_7)	-0.080(X_{11})
X_{13}	Irrigation (%)	-0.044	-0.043	-0.001	0.173(X_9)	-0.082(X_{11})	-0.033(X_3)
X_{14}	Pesticide (%)	-0.008	0.097	-0.105	-0.135(X_7)	0.113(X_3)	0.059(X_8)
X_{15}	Yield (%)	0.234	-0.563	0.797	0.326(X_{10})	0.186(X_6)	0.185(X_9)

Residual effect 0.058

The mean value of Functional education strata (X_5) and Animal/Bird number (X_8) of respondents was 2.150943 and 5.924528 that were in low level. The S.D. of distribution was 1.257 and 3.528 with a coefficient of variation 58.456 and 59.549 which in turn reflected the low level of consistency. In case of Food intake value/g/day/head (Y) mean value of these two variables of respondents of the study was 103.452 with a standard deviation 19.709 for total distribution.

The co efficient variation of Food intake value/g/day/head distribution of respondents was 19.051 which explained the medium level of consistency of the total distribution. From the Table-2 it has been found that the following variables Cropping Intensity (%)(X_6), Irrigated land(cottah)(X_7), Income(X_{10}), Spacing(X_{11}) have recorded significant and positive correlation food intake value(Y) of the respondent. The access to availability of food depends on yield performance, cropping intensity followed, holding size possess by the farmers.

These all agro economic variables have cumulatively amounted to higher access to food by the respondents. Table-3 presents multiple regression analysis presents the magnitude of regressional impact on the consequent factor i.e. Food intake value(Y). It has been found that two variables holding size(X_9) and Spacing(X_{11}) have recorded a significant on regression impact on food intake value higher holding size means higher economic security and better purchase capability.

The other way we can say that land is still uncontrolled factor in rural economy.

Conclusion

It is concluded from the study that is the access to availability of food depends on yield performance, cropping intensity, holding size owned by the farmer. These all agro-economic variables have cumulatively amounted to higher access to food by the respondents. It has also found that two variables holding size(X_9) and spacing(X_{11}) have recorded a significant on regression impact on food intake value higher holding size means higher economic security and better purchase capability. Spacing helps a critical intercultural operation through engagement of optimum labour utilization and these two casual variables have explained 51% variable of the consequent variable.

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