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# Livelihood Status of Small Holder Farmers in Rural India

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*Abstract* – **Small farmers in India are characterised by fragmented small land holdings with fewer numbers of live stocks, limited capitals and assets and prone to migration and vulnerable to natural hazards. Their livelihood is dependent on off season off and none farm alternative income generating activities. This study focused to investigate the livelihood status of small holder farmers in Raipur district of Chhattisgarh, India with the objective of investigating the determinant variables in the livelihood status of small holder farmers in rural India. In this framework the study was conducted among sixty small farmers from six villages of the district during the year 2012. Personal interview, group discussion and observation methods were applied for data collection.**

**The findings of the study elucidated that majority of the small farmers in the survey area have 68.8 per cent livelihood status. The majority (71.7%) of them in the surveyed area belonged to medium level. Only 23.3 per cent of the small farmers belonged to high level. The correlation analysis reflected that the only seven of the variables out of the total sixteen variables under study have shown strong and positive significant relationship with livelihood.**

**Finally, majority of the respondents pointed out that they were primarily facing lack of infrastructure, particularly good road and transportation facilities as well as lack of veterinary facilities in the village.**

*Keywords* – **Livelihood Status, Determinant, Small Holder Farmers.**

## I. INTRODUCTION

The rural poor are often disadvantaged when they try to access basic services and such as shelter, drinking water, sanitation, health services and education that enable to build capitals. They live in geographical isolation and remote marginal lands in rural areas with inadequate or non-existent transport, electric supply and access to information. They are exposed to environmental hazards and are vulnerable to epidemics, floods, famine and pollution (UN, 2007). This situation is acute particularly among farming communities in developing countries.

Majority of the population in developing countries reside in the rural area and their major source of income and means of livelihood is agriculture. They belong to the agrarian society and they are marginalized from the external world due to limited infrastructures and facilities in developing world. Most of the agrarian society or farmers are peasants that are characterised by small fragmented land holdings; prone to seasonal migration in search of off and none farm income generating activities and are vulnerable to hazards. Peasants or small holder farmers' livelihood is unsustainable that is characterised by its fragility. These groups of farmers are highly dependent on rain fed agriculture, which is becoming highly sensitive to erratic rain fall and floods, draughts and disease and pest infestation. Likewise, the small holder farmers of India have similar characteristics and they are also facing similar challenges. 'India lives in its villages' - this proverb seems true at the current era as it was when the country became independent 60 years ago.

In this study suitable modification has been made for the livelihood capitals from the DFID model and the chambers and Conway 1992 definitions. These include: human capital (availability of medical institutions for treatment, access to health institutions, means of transport in case of emergency, nutrition, education and labour availability), physical capital (affordable transport, type of house/residence, materials available in the house, adequate water supply and sanitation, source of energy for house hold/domestic purpose and material possessions that enable people to pursue livelihoods); social capital (social networks, relationships of trust) upon which people draw in pursuit of livelihoods), financial capital (the financial resources which are available to people credits and savings which provide them with different livelihood options), natural capital (the natural resource stocks from which resource flows useful for livelihoods are derived that includes type of irrigation facilities and livestock compositions are taken in to account), IC capital (under this capital ownership of mass Medias and ICTs and extent of mass medias and ICTs utilization are included), political capital (In this capital membership in political organizations and benefits realized from participation are taken in to account). Two capitals precisely information communication capital that enables the farmers in pursuit of their livelihood; current global scenario is highly dependent on the availability and utilization of information and communication besides we are under the era of information and communication; therefore, neglecting this capital makes the study partial to some degree. Moreover, political capital has great significance to the livelihood of the rural farmers directly or indirectly typically in a country like India where agriculture is the base of the economy. In addition, the policies led by governments and international institutions like WTO have direct and indirect impact for the countries like India where the majority of the population lives under the agrarian society.

Finally, understanding the livelihood systems as well as the constraints associated with the different livelihoods strategies will contribute to potent planning, monitoring and evaluation made by planners, policy makers, administrators, executives, extension workers and voluntary organisations who are concerned with promoting rural welfare in the villages while implementing local agricultural extension & rural development programs & Policies.

*Objective of the study:*

- To investigate the livelihood status of small holder farmers in Rural India
- To identify the determinant variables affecting livelihood status of farmers.

## II. Research Methodology

Six villages selected from two blocks of Raipur district of Chhattisgarh state. Lists of small farmers of the selected villages were obtained from the Department of Agriculture and 10 farmers were selected randomly from each village. Thus, a total 60 farmers ((10 ×6) =60) were interviewed for the study.

| Independent Variables | | |
|---|---|---|
| **Socio-Personal** | **Socio-Economic** | **Psychological** |
| -Chronological Age | -Occupation | -Achievement & Economic motivations |
| -Caste | -Annual Income | -Risk orientation |
| -Education level | -Expenditure pattern | **Communicational** |
| -Size of family | -Cropping intensity | -Source of information |
| -Farming experience | -Land holdings | -Extension contact |
| **Technological variable** | | |
| -Technology utilization | | |
| **Dependent Variable** | | |
| livelihood of respondents | | |

*Measurement of independent variables*

The operational concepts of each of the selected variables were analysed by developing measurement scales that are compatible, valid and reliable. However, formulas and index have been applied for cropping intensity and Technology/innovation utilization pattern.

Cropping Intensity = (Gross cropped area/ Net cropped area) X 100

Technology/innovation utilization/adoption index was worked out by using the following formula:

$TUi/AIi = Oi/S \times 100$

Where, TUi/AIi = Technology utilization/adoption index for ith respondent.

Oi = Total score obtained by ith respondent.

S = Total obtainable score

*Measurement of dependent variable (livelihood)*

To analyze the livelihood of respondents, a separate index for each selected capital of livelihood was worked out and presented individually.

In addition, sum of total scores obtained from all the seven capitals are summed up to obtain the average total livelihood score of the respondents. The livelihood index is the ratio of total actual score obtained by the respondent from all the capitals and maximum possible scores of all the seven capitals. The following formula was applied to calculate livelihood index:

Livelihood index (SLI) =

$$\frac{\text{Total score obtained by the respondent under the 7 capitals of livelihood}}{\text{Maximum possible score of all the 7 capitals}} \times 100$$

On the basis of livelihood index (SLI), the respondents were categorised in to the following categories:

*Data processing and statistical framework used for data analysis.*

The data collected was analyzed through excel spread sheet and SAS (Statistical analysis software). The statistics used include percentages, frequency, mean, standard deviation, coefficient of correlation.

*Pearson's coefficient of correlation*

This technique was used to find out the relationship between two variables. The formula used was as follows:

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{N\sum x^2 - (\sum x)^2 \cdot N\sum y^2 - (\sum y)^2}}$$

Where,

r = Correlation coefficient

x = Score of independent variable

y = Score of dependent variable

n = Number of observation

## III. Results and Discussion

*Livelihood*

Under this heading the summarised result of all the seven capitals is calculated and analysed.

Table 1 and fig. 1 below presents the overall livelihood of the respondents as well as the distribution of small farmers according to their livelihood status, respectively.

Table 1: Existing status of the small holder farmers according to livelihood

| **Particulars** | **Average maximum obtainable scores** | **Small holder farmers (n=60)** | | **Gap %** |
|---|---|---|---|---|
| | | **obtained score** | **Status (%)** | |
| Human capital | 66 | 47.23 | 71.6 | 28.4 |
| Physical capital | 66 | 46.4 | 70.3 | 29.7 |
| Natural capital | 21 | 17.6 | 83.81 | 16.29 |
| Social capital | 29 | 20.4 | 70.3 | 29.7 |
| Financial capital | 16 | 7.14 | 44.7 | 54.3 |
| Information communication capital | 24 | 16.83 | 70.12 | 29.98 |
| Political capital | 9 | 3.32 | 36.9 | 63.1 |
| **livelihood** | **231** | **158.82** | **68.8** | **32.2** |

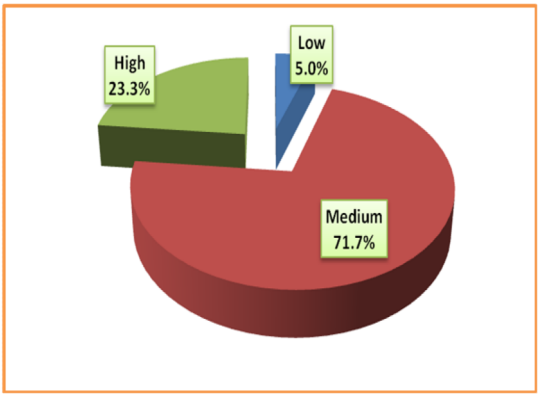


Fig.1. Distribution of small farmers according to their livelihood

As it is possible to see from table 1, about of small holder farmers have 68.8 percent livelihood status. This means that they belong to the medium status of livelihood. The figure reflects they are very prone to hazards that mean they do not have sufficient capitals and finances if unexpected hazards occurred. Their livelihood cannot be said it was sustainable. The physical capitals and financial capitals status of the farmers confirms the statement above.

Nevertheless, the result implies that the respondents were in a **sound livelihood** condition, relatively **as a third world country**; though some of the capitals like financial capital and political capital of the farmers; were relatively low level. May be this is due to the **boost up of the Indian economy** in general. Besides, the gap of existing status of livelihood was at a considerable level i.e. 32.2 per cent. Hence, improving these preceding capitals may upgrade the livelihood condition of the farmers to the desired level (may reduce the gap to a considerable level).

Even though, ***currently India is getting in to one of the significant emerging economies;*** the Indian government, national and international bilateral and multilateral organizations, the global community for poverty reduction and sustainable livelihood and the United Nations and its agencies have to give immediate priority focus to improve the livelihood of the small farmers in India through their development policies, strategies, programs and projects.

Similarly, Fig 1 elucidates that the majority (71.7%) of small holder farmers in the survey area belonged to medium level. Only 23.3 per cent of the small farmers belonged to high level. (Low: Greater than 25% to 50%, Medium: Greater than 50% to 75% and High: Greater than 75%).

The results are supported by the findings of Lucas (1997), Laximicant (2001), Reddy (2001), De Hann (2002), Sarma (2004), Molla (2004), Dolli (2006), Francesca (2006), Rathod (2007), Biradar (2008) and Wilson (2009).

*Correlation analysis of independent variables with livelihood*

In order to identify the relationship among independent variables with livelihood of the respondents, coefficient of correlation analysis was worked out and presented in Table 2.

Table 2 reflects the correlation among independent variables with livelihood of small farmers. The results indicated that age, education and size of family, occupation, cropping intensity, achievement motivation, economic motivation, risk orientation, sources of information and extension contact have positive and significant relationship with livelihood of small farmers. This imply that the small holder farmers significantly and positively influenced by these variables to sustain the status of their livelihood. An educated young motivated farmer with a small family size who is active to get information and engaged in various off-farm occupations obviously will have a good status of livelihood. In addition if the farmer is having frequent extension contact, he will get the opportunity of moving himself towards being innovative farmer and diversify his farming system and increase his cropping intensity and have good status of livelihood. It is in line with theoretical point of view that such variables have a direct positive relationship with the status of livelihood of the rural poor. On the other hand variables that have negative relationship with livelihood of farmers is primarily due to their fragmented small plots; including land holding and farming experience that have very week positive relationship. Caste may not have any relation with livelihood. Other than annual income, all the remaining variables that have negative relationship influence the cost of production and living standard. Thus, they cannot have a positive impact to improve the status of rural poor livelihoods. Since, annual income has direct relationship with landholding; the result and its implication holds true.

Table 2: Correlation analysis of independent variables with livelihood.

| # | Independent Variables | Relationship with Livelihood |
|---|---|---|
| 1. | Age | 0.1099* |
| 2. | Caste | -0.0038 |
| 3. | Education | 0.144* |
| 4. | Size of family | 0.140* |
| 5. | Farming experience | 0.0954 |
| 6. | Occupation | 0.267* |
| 7. | Land holding | -0.014 |
| 8. | Annual income | -0.101 |
| 9. | Expenditure pattern | -0.064 |
| 10. | Cropping intensity | 0.263* |
| 11. | Achievement motivation | 0.3295* |
| 12. | Economic motivation | 0.322* |
| 13. | Risk orientation | 0.387* |
| 14. | Sources of information | 0.2564* |
| 15. | Extension contact | 0.432* |
| 16. | Technology utilization | -0.134 |

*Positive Significant Relationships

## IV. CONCLUSION

The result depicted that small farmers in the survey area have 68.8 per cent livelihood status, respectively. The gap of existing status of livelihood of respondents was at a considerable level that was 32.2 per cent. The majority (71.7%) of them in the survey area belonged to medium level. Only 23.3 per cent of the small farmers belonged to high level.

Moreover, the correlation analysis reflected that the only seven of the variables out of the total sixteen variables under study shows strong significant relation with livelihood.

Finally, majority of the respondents, marginal and small farmers pointed out that they were facing lack of good road and transportation facilities primarily; followed by lack of veterinary facilities in the village, difficult bank loan procedure, limited skill development trainings, lack of hospital facilities and lack of public toilet and others as major constraints.

All in all, from the results obtained from the research and the experience gained, we can suggest the following points for future work.

1. Similar study should be conducted in large area with more number of respondents.
2. Only some socio-personal, socio-economic, socio-psychological, communicational and technological characteristics of the farmers were selected for this research. The attributes that are considered in the study may be limited to determine the livelihood status of the respondents. Hence some additional variables may be added to make the study more comprehensive.
3. Financial capital and political capital for farmers; are relatively at low level. Therefore, a farmer perspective study should be designed for enhancement in financial and political capital for improvement in livelihood status of small farmers.

Sustainable livelihood development policies, strategies, programs and projects should be designed and implemented by the governments, national and international bilateral and multilateral organizations, the global community for poverty reduction and the United Nations and its agencies to end poverty and their alleviate the extent of susceptibility to external shocks and sustain the livelihood of the rural poor farmers.

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