# Impoverishment and Vulnerability of The Farmers: A Harsh Reality

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## ABSTRACT

*After 72 years of independence India is still suffering from the malicious problem of and poverty. The farmers, who are providing food to our 1.31 billion population are in empty stomach and bare hands. 21.7 per cent of it's people are below the poverty line. According to National Crime Record Bureau, in the year 2015 the total numbers of farmers who have committed suicide is 5670. A survey of FAO reveals that nearly 75 per cent of food insecure and vulnerable people are directly or indirectly related to agriculture. Another report of FAO has revealed that about 78 per cent of the farmers are ready to quit agriculture. This is really alarming as well as distressing while we have made a call for complete digitization to create ICT driven modern India. Poverty can be measured in terms of income. In other way the other forms of poverty are educational starvation, cultural deprivation and social depletion. Silence can be perceived in terms of inability of a person to raise voices against discrimination, both social and economic atrocities as well as a decision to go silent whenever it needs to utter voices .On this preamble the present study was conducted in Beraberi GP under Nadia district of WB. 150 respondents were selected purposively and they were interviewed thoroughly with a structured interview schedule. In this study 21 independent variables were selected against a dependent variable poverty (Y). Here in this study it has been revealed that the most important aspects of impoverishment of the farming community are cropping intensity, communication variables, livestock possession and stress perception.*

*Key words: Cropping intensity; Communication; Livestock; Poverty; Vulnerability;*

**P**overty is the scarcity or the lack of a certain (variant) amount of material possessions or money. It is a multifaceted concept, which may include social, economic and political elements. Absolute poverty, extreme poverty, or destitution refers to the complete lack of the money necessary to meet basic personal needs such as food, clothing and shelter.

The threshold at which *absolute poverty* is defined is considered to be more or less same, independent of the person's permanent location or era. On the other hand, *relative poverty* occurs when a person who lives in a given country does not enjoy a certain minimum level of "living standards" as compared to the rest of the population of that very same country. Therefore, the threshold at which *relative poverty* is defined varies from one country to country or society to society.

Providing basic needs can be restricted by constraints on government's ability to deliver services, such as corruption, tax avoidance, debt and loan conditionality and by the brain drain of health care and educational professionals. Strategies of increasing income to make basic needs more affordable typically include welfare, economic freedoms and transparent governance.

*Martin Feldstein (1998)* in his study "Income Poverty and Inequality" argues that income inequality is not a problem in need of remedy. The common practice of interpreting a rise in the gini coefficient measure of inequality as a bad thing violates the Pareto principle and is equivalent to using a social welfare function that puts negative weight on increases in the income of high income individuals. The real distributional problem is not inequality but poverty. The similar result was also occurred in the study of *Chakraborty and Acharya (2018),* where they found that poverty and voice has certain interrelation in different socio- economic and socio-psychological parameters. The Objectives of the

study are as follwos:

i.   To delineate the present status of poverty as prevalent amongst the target research group.

ii.  To isolate the variables, dependent and independent in order to study their interactive relationship.

iii. To elucidate the contributory factors characterizing poverty and the perceived interdependence.

iv.  To generate a micro level policies for making appropriate interventions.

## METHODOLOGY

The present study was conducted in the Beraberi gram panchayat under Habra ii block in the district of Nadia, West Bengal. The village was selected purposively according to the convenience of the researcher. Then from this village 140 respondents (all women) were selected randomly and they were interviewed through a structured interview schedule. The statistical tools used in this study are correlation coefficient, step down regression, and factor analysis.

## RESULTS AND DISCUSSION

Table 1 presents the coefficient of correlation between poverty and all the independent variables which are mentioned above. It has been found that following variables viz. age (X1), risk orientation (X5), stress perception on hunger(X7) , livestock count (X12), livestock yield (X13), number of fragments(X17) and marketed surplus(X19) have recorded significant correlation with the dependent variable.

Age is significantly correlated with poverty. There in our study we have found many of the rural and agrarian old women who are physically unable to do their farming job and some of them are suffering from loneliness as their children has quit agriculture and migrated to the towns and cities. So they are subjected to poverty and living a life of destitute. As far as the risk orientation is concerned, lower the risk higher would be the resource mobility and income, which will affect the poverty significantly. If the income is less rather the people are poor then there would be a psychological stress on the stakeholders about their livelihood and bread earning. The source of resource generation like cropping intensity, livestock count and livestock yield would create on significant impact as far as the status of the poverty is concerned.

**Table 1. Coefficient of correlation (r): poverty vs. all independent variables for the linear co relation between poverty and the independent variables**

| Variables | Coefficient of correlation (r) |
| --- | --- |
| age | 0.035** |
| education | -0.168 |
| Family size | 0.066 |
| Economic motivation | 0.150 |
| Risk orientation | -0.081* |
| Management orientation | -0.090 |
| Stress perception on hunger | 0.042** |
| Stress perception on poverty | 0.443 |
| Stress perception on voice | 0.051 |
| Size of holding | -0.177 |
| Cropping intensity | -0.041* |
| Livestock count | -0.038* |
| Livestock yield | 0.053** |
| Pond and fish | -0.062 |
| Total crop yield | -0.159 |
| Cost of cultivation | -0.179 |
| No. of fragments | 0.001* |
| Communication variables | 0.030 |
| Marketed surplus | -0.130** |
| Energy consumption | 0.040 |
| BMI | 0.068 |

*Significant at 5% and                    **Significant at 1% level

Table 2 presents the multiple regression analysis between exogenous variable poverty vs. 21 causal variables. It has been found that the variable cropping intensity (X11), cost of cultivation (X16) and communication variables (X18) has contributed to the substantive variance embedded with the consequent variable poverty.

The $R^2$ value being 0.445, it is to infer that 44.50 per cent of variants in the consequent variable has been explained by the combination of these 21 causal variables.

Table 3 presents the step wise regression and it has been depicted that the 3 causal variables that are cropping intensity (X11), cost of cultivation(X16) and communication variables (X18) have been retained at the last step.

The $R^2$ value being 0.283, it is to infer that 28.30 per cent of variants in the consequent variable has been explained by the combination of these 3 causal variables.

So, from this step down regression analysis we can clearly say that three independent variables those are cropping intensity, cost of cultivation and communication variables are the most important causes of poverty as

**Table 2. Step down regression analysis, poverty vs all causal variables**

| Variables | Beta value | B value | Std. error | t value |
|---|---|---|---|---|
| Age | 0.165 | 89.429 | 87.971 | 1.017 |
| Education | -0.056 | -74.454 | 213.638 | -0.349 |
| Family size | 0.178 | 840.511 | 678.739 | 1.238 |
| Eco. motivation | 0.037 | 391.392 | 1728.638 | 0.226 |
| Risk orientation | 0.054 | 1365.982 | 3416.982 | 0.400 |
| Management orientation | -0.039 | -77.472 | 275.235 | -0.281 |
| Stress on hunger | 0.034 | 87.900 | 340.206 | 0.258 |
| Stress on poverty | 0.002 | 4.599 | 272.606 | 0.017 |
| Stress on voice | -0.307 | -1312.316 | 552.998 | -2.373 |
| Size of holding | -0.611 | -988.995 | 564.719 | -1.751 |
| Cropping intensity | 0.080 | 5.278 | 10.629 | 0.497 |
| Livestock count | 0.182 | 986.282 | 755.781 | 1.305 |
| Livestock yield | 0.102 | 265.207 | 322.371 | 0.823 |
| Pond and fish | 0.246 | 7173.616 | 4315.766 | 1.662 |
| Total crop yield | -0.606 | -0.207 | 0.172 | -1.201 |
| Cost of cultivation | 1.327 | 0.064 | 0.025 | 2.560 |
| No. of fragments | 0.103 | 137.591 | 283.418 | 0.485 |
| Communication variables | 0.350 | 1331.124 | 453.612 | 2.934 |
| Marketed surplus | 0.153 | 23.774 | 28.642 | 0.830 |
| Energy consumption | -0.053 | -111.592 | 300.456 | -0.371 |
| BMI | -0.093 | -101.389 | 149.647 | -0.678 |

$R^2$ value 44.5 per cent; SE - 0.20

**Table 3. Regression analysis, poverty vs cropping intensity, cost of cultivation and communication variables**

| Variables | Beta value | B value | Std. error | t value |
|---|---|---|---|---|
| Cropping intensity | 0.223 | 1211.547 | 570.409 | 2.124 |
| Cost of cultivation | 0.375 | 0.018 | 0.005 | 3.600 |
| Communication variables | 0.206 | 785.422 | 399.821 | 1.964 |

$R^2$ value - 28.3 per cent; SE - 0.25

far as the locality is concerned. Higher the cropping intensity, higher would be the benefit cost ratio and as the benefit cost ratio is high, if the farmers invest much in their farming they would be hopefully getting higher return. Henceforth the big farmers would be getting more benefit than the small farmers. Communication variables are also playing a big role here. The farm women who are more cosmopolite and communicative are getting more relevant information about farming and related aspects and this is beneficial to their livelihood and income (Table 3).

*Factor Analysis :* Factor analysis is mainly done to club the similar variables into one factor and this factor is renamed according to the overall variability and pattern of the variables. Here in this paper all the 21 variables are separated and conglomerated into 5 factors. The factors like education, cropping intensity, number of fragments, marketed surplus etc. are very closely related to each other (as their factor loading values are not so different) and these are purely gone into the efficiency of the farm and the farmer. So, these 8 variables are clubbed together and renamed as farm efficiency. Similarly in case of factor 2, 3 , 4 and 5 the factor loading values of those variables which are closed to each other are picked up, clubbed together and renamed according to their behaviour as well as pattern of movement.

**Table 4. Factor Analysis: The conglomeration of all the independent variables into five dominant factors**

| Variables | Factor loading | (% of variance | cumulative % |
|---|---|---|---|
| *Factor 1 (farm efficiency)* | - | 24.162 | 24.162 |
| Education(X2) | 0.890 | | |
| Stress perception on poverty (X8) | -0.787 | | |
| Size of holding (X10) | 0.907 | | |
| Cropping intensity (X11) | 0.650 | | |
| Total crop yield (X15) | 0.850 | | |
| Cost of cultivation (X16) | 0.888 | | |
| No. Of fragments (x17) | 0.805 | | |
| Marketed surplus (X19) | 0.781 | | |
| *Factor 2 (family efficiency)* | - | 12.694 | 36.856 |
| Age(X1) | 0.570 | | |
| Family size(X3) | -0.506 | | |
| Economic motivation(X4) | -0.535 | | |
| Management orientation(X6) | -0.556 | | |
| Pond and fish(X14) | 0.674 | | |
| Communication variables(X18) | -0.447 | | |
| Energy consumption(X20) | 0.518 | | |
| *Factor 3  (livestock economy)* | - | 10.030 | 36.856 |
| Livestock count(X12) | -0.706 | | |
| Livestock yield(X13) | -0.766 | | |
| *Factor 4 (stress psychology)* | - | 6.632 | 61.960 |
| Risk orientation(X5) | 0.663 | | |
| Stress perception on hunger(X7) | 0.717 | | |
| *Factor 5 (psychosomatic communication)* | - | 6.081 | 68.042 |
| Stress perception on voice (X9) | 0.798 | | |
| BMI(X21) | 0.679 | | |

Table 4 present the factor analysis, wherein 21 numbers of independent variables have been conglomerated into 5 dominant factors.

Factor one is consisting of eight variables those

are education (X2), stress perception on poverty (X8), size of holding (X10), cropping intensity (X11), total crop yield (X15), cost of cultivation (X16), no. of fragments (X17) and marketed surplus (X19) and is renamed as *farm efficiency.*

Factor two is consisting of seven variables those are Age (X1), Family size (X3), Economic motivation (X4), Management orientation (X6), Pond and fish (X14), Communication variables (X18) and Energy consumption (X20) and is renamed as *family efficiency.*

Factor three is consisting of two variables those are Livestock count (X12) and Livestock yield (X13) and is renamed as *livestock economy.*

Factor four is consisting of two variables those are Risk orientation(X5) and Stress perception on hunger (X7) and is renamed as *stress psychology.*

Factor five is consisting of two variables those are stress perception on voice(X9) and BMI (X21) and is renamed as *psychosomatic communication.*

Henceforth and onwards these 21 variables can be operationally conceived in five factors which inputs offers a strategic conglomeration of apparently different variables into strategic constellation of five factors.

Factor analysis offers a data reduction process wherein the sprawling variables are brought under small homogeneous groups of variables called factors. These conglomeration is based on varimax rotation for reducing the standard error and Eigen values for enhancing the integrations amongst variables. Factor analysis offers immense strategic importance for an efficient management of different variables, dimensions, characters and variance, putting them all into a commonality of interactions.

## CONCLUSION

This study considers three sources of poverty and asks what if anything might be done about each of them: unemployment; a low level of earning capacity and individual choice. On this path of research, this paper is also reflecting the fact that the remedy of farmers' poverty is to increase their income. This may be from livestock and allied sources also. A new finding which this study has revealed is the importance of communication variables in reducing farm women's stress and increasing their day to day income. More informative the farmers become, more they would be empowered and able to income more.

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