Livelihood Security of Women Agricultural Labourers in Erode District of Tamilnadu

G. Ramesh Pandi, B. Inayath Ahamed, A. Saravanan

Abstract - Aim: The main aims of the study is to identify the socio-economic characteristics of women agricultural labourer, to identify the determinants linked with economic, food, health, edification and empowerment as dissimilar domains of livelihood security of women agricultural labourers and to estimate the determinants of livelihood security of women agricultural labourers in Erode District of Tamil Nadu. Methods/Statistical analysis: The research has curbed in to a sample of 140 women agricultural workers households were selected from four villages of Bhavani taluk of Erode District in Tamil Nadu. A simple percentage analysis has been employed to identify the socio-economic characteristics and Multiple Regression equation method has fitted to the data to explore the effects of the explanatory variables on livelihood security of women agricultural labourers. Findings: Out of the 140 sample women agricultural labour households selected for the study, vast majority of the households registered as nuclear type of families; 52.86 percent with 2-4 members; 62.14 percent of the women agricultural workers were in the age cluster of 30-60 years; 33.57 percent of the respondents had education at secondary level; 33.57 percent labourers income falls in the income group of Rs.25000-Rs.50000/-,45.00 percent of the households selected for the study were with the asset group valued below Rs.2.5 lakhs. There was positive relationship of the explanatory variables with composite livelihood security index of agricultural women workers. Conclusions: Government intervention through legislation, planning and implementation must be stepped up to provide greater opportunity for the sustainable development of women livelihood security at all levels, so that the discriminatory practices of women and the gender related issues against women would be addressed.

Keywords: Livelihood security, women, Agricultural workers, Livelihood Security Index

I. INTRODUCTION

Women make up half of the world's population and one-third of the labour force, but get only one-tenth of world revenue and possess less than one percent of world assets. The process of economic development has caused several key changes in the structure of developing countries, including changes in the distribution of labour in various types of economic activity. The most important changes concern the involvement of women in economic actions. The main occupation of rural women is agriculture and related activities, which provide about three-quarters of the labour force needed for agricultural work. The prosperity and growth of not only the nation, but also the rest of the population

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depends on the status and development of its female population.

Women are the basis of the rural economy of India. Women engage in various livelihood activities, and the majority of rural women depend on agriculture, which is the main informal sector in India. Many of these landless labour resources have a lower socioeconomic status. The role and status of women are changing in the process of agrarian transformation due to growing technology. The impact of new technologies has benefited only rich farmers, not poor agricultural labor, and as a result, the gap between poor and rich has widened further, and agricultural labor has remained far behind.

II. REVIEW OF THE LITERATURE

Ganesh Kumar et al (2009) indicated that tsunamis devastated households, permanent crops, agricultural resources like seeds, feed and tools, livestock and poultry, their sheds, fish ponds, etc., on the elementary security of the livelihoods of citizens in Andaman. Rehabilitation measures taken by the government and NGOs enhanced their livelihoods, considerably vitalizing agriculture in the following years and developing employment openings in the different regions of agriculture and non-agricultural actions. Sanzidur Rahman and Shaheen Akter (2010) showed that five selected, like economics, food, health, security areas education or edification and empowerment, and indices were calculated based on a number of components. Studies have shown that economic security is the dominant component of the general livelihood, followed by food. Regardless of regional differences in opportunities, people in settlements look equally insecure. Marc Lindenberg (2012) concluded that the study seriously considers Jimmy Carter's idea of progress in the new millennium. Household livelihood approaches will help us directly focus on the needs and basic rights of a growing number of people who will live in absolute poverty in the coming decades. Dhanasree et al (2013) showed that a holistic approach is desirable for the success of tribal development and for a model of sustainable livelihoods, and a solid resource base is a necessary condition. It is most desirable to extend sustainable socioeconomic status, empower women, improve health care, programs aimed at improving nutrition, provide transportation communication for tribal households. Yishak Gecho et al (2014)indicates that the polynomial logit model is used to study the factors influencing the choice of household livelihoods. In this regard, a total of 19 explanatory variables were included in the empirical model, of which 11 variables, such as gender, education, farm size,

livestock ownership, participation in social leadership, annual cash income, fertilizer use, improved seed utilization, age and training, defined farmer's livelihood strategies.



III. PROBLEMS OF THE STUDY

There are significant differences in the degree of mobility, degree of control when making decisions, the state of livelihood and values of women in communities, regions and countries. Women's contribution to agriculture and domestic activities is quite high, but not enough attention is paid to the various visible and invisible problems faced by women in rural areas. The heavy workload of women in rural areas has recently been aggravated by the considerable migration of men to and out of cities in search of better income-generating opportunities. Other common problems of rural women are their limited access to social services, loans and the distribution of agricultural products, The literacy rate of the population is low, and they have little control over resources. In addition, progress in improving the socio-economic situation and the living conditions of women, especially in rural areas, was very slow, because their uniqueness has inherited many myths and taboos. Such socio-economic conditions require policies and programmes of action to improve women's access to scarce and valuable resources in their societies (in particular, to their livelihoods and economic resources), to facilitate disproportionate household duties, to eliminate the legal and response spectrum of households and the sexual aspects of their daily lives and raising public awareness through effective programs. There is an urgent need for a focused understanding of the situation of women and participation in livelihoods for both women and the family as a whole. Keeping the crux of the above problems of women in view, the present study entitled "Livelihood Security of Women Agricultural Labourers in Erode District of Tamilnadu"is an attempt in this direction.

IV. AIM OF THE STUDY

The main aim of the study is to know the socio-economic characteristics of women agricultural labourers, the factors associated with economic, food, health, education and empowerment as different domains of livelihood security of women agricultural labourers and to estimate the determinants of livelihood security of women agricultural labourers in Erode District of Tamil Nadu.

V. METHODOLOGY

Erode district form the universe of study. The district has six taluks, Such as Anthiyur, Bhavani, Gobichettipalayam, Erode, Perundurai, and Sathyamangalam, of which Erode, Gobichettipalayam and SathyamangalamTaluks, of which Bhavani Taluk has selected for the study. The Purposive cum Multistage Random Sampling Technique was felt appropriate to choose villages and agricultural labourers respectively for the collection of data. For the purpose of data, 4 revenue villages were selected at random. A list of households in each revenue villages was obtained from the records available in the Village Administrative Office, of which 35 women agricultural labourers' households in each village (a total of 140 households) were selected at random.

For the objective evaluation of data relating to the various socio-economic characteristics of the study, statistical tools starting from simple tabular and percentage analysis to the multiple regression analyses were employed in the study. The Livelihood Security Index for each dimension viz., Economic Security Index (ECOSI), Food Security Index (FOOSI), Health Security Index (HEASI), Education Security Index (EDUSI) and Empowerment Index (EMPOI) were

constructed by using the Human Development Reports (also adopted by Hahn et al. 2009) formulation on Human Development Index;

$$zind_{j} = \frac{X_{ij} - Min(X_{i})}{Max(X_{i}) - Min(X_{i})}$$

Where,

 $zind_j$ = A Standardized indicator j X_{ij} = Actual score value of the indicator $Min(X_i)$ = Minimum score value of the indicator $Max(X_i)$ = Maximum score value of the indicator

Once each indicator representing a particular livelihood security domain is standardized, then the appropriate household livelihood security index for the particular domain has created by averaging the standardized indicators:

$$HLS_{j} = \frac{\sum_{j=1}^{J} zind_{j}}{J}$$

Where

 HLS_j = Household Livelihood Security Index J =the number of indicators

$$\sum_{j=1}^{J} zind_{j} = \text{sum of standardized indicator } j$$

Once each HLS index is created, then the composite overall Livelihood Security (LS) index for the agricultural labourer household is created for each taluk level data by using the formula in equation;

$$LS_{i} = \frac{\sum_{i=1}^{n} w_{i} HLS_{i}}{\sum_{i=1}^{n} w_{i}}$$

Where, w_i are the weights determined by the number of indicator employed to create each HLS index. Weights differed between households because of household level deviation in the number of indicators.

In order to estimate the determinants of livelihood security of women agricultural labourer in rural areas under the existing social structure in the district, a quantitative Multiple Regression Analysis of the following OLS method was used:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \varepsilon$$
Where

Where,

Y = composite overall Livelihood Security (LS) index

 α = Intercept

 $X_1, X_2,... X_n =$ Independent variables

 $\beta_{1...}\beta_n$ = are the parameters to be estimated ε = Random unobserved disturbance term, with the mean as zero and the variance as constant



VI. RESULTS AND DISCUSSION

A. Socio-Economic Characteristics of the Sample Households in Erode District

The important socio-economic characteristics identified for analysis in the study are number of male and female population, family type, family size, number of earners, number of dependent and dependent ratio, average age at respondent marriage, respondent age at present, difference between age at marriage and age at present, age group of the respondents, educational status of the respondent, occupational participation of the household heads, household income, household expenditure, assets, access to media and communication networks and political participation of the agricultural women in the rural areas of Erode district in Tamil Nadu and is presented in table-I.

TABLE-I: SOCIO-ECONOMIC CHARACTERISTICS OF THE SELECTED SAMPLE HOUSEHOLDS IN BHAVANI TALUK

	Variables	No. of women agricultur al labourers	Percent
Family Type	Nuclear	111	79.29
	Joint	29	20.71
Family size	Below 2 Members	23	16.43
	2 - 4 Members	74	52.86
	4 - 6 Members	29	20.71
	Above 6 Members	14	10.00
Age Group	Below 30 Years	38	27.14
	30 - 60 Years	87	62.14
	Above 60 Years	15	10.71
Educational Status	Illiterates	48	34.29
	Primary Level	29	20.71
	Secondary Level	47	33.57
	Higher Secondary and Above	16	11.43
Annual Income group	Below Rs.25000	37	26.43
	Rs.25000 - Rs. 50000	47	33.57
	Rs.50000- Rs. 75000	28	20.00
	Rs. 75000 - Rs. 100000	16	11.43
	Above Rs. 100000	12	8.57
Monthly Expenditure	Below Rs.4000	42	30.00
	Rs.4000 – Rs.8000	73	52.14
	Above Rs. 8000	25	17.86
Asset distribution	Below Rs.2.5 lakhs	63	45.00
	Rs.2.5 - Rs.5.0 lakhs	44	31.43
	Rs.5.0 - Rs.7.5 lakhs	16	11.43
	Rs.7.5 - Rs.10.0 lakhs	11	7.86
	Above Rs.10.0 lakhs	6	4.29
	Total	140	100.00

Source: Primary Data

The socio-economic characteristics of the sample women agricultural labourer households selected for the study revealed that out of the 140 sample women agricultural labourer households selected for the study, vast majority of the households were registered as nuclear type of families. The family size of the selected sample women agricultural labourer households revealed that out of the 140 sample households selected for the study from Bhavani taluk, 16.43 percent of the households had family size of below 2 members, 52.86 percent were with 2-4 members, 20.71 percent were with 4-6 members and 10.00 percent were with family size of more than 6 members. Out of the 140 sample women agricultural labourer households selected for the study, 62.14 percent of the respondents were in the age group of 30 - 60 years; while 27.14 percent were below the age of 30 years. From the point of view of the educational status of the respondents selected for the study, 33.57 percent of the respondents had education at secondary level; 20.71 percent and 11.43 percent had education at primary and higher secondary levels.

Out of the total sample women agricultural labourer households selected for the study, 26.43 percent of them were with the income group of below Rs.25000/- followed by 33.57 percent whose income falls in the income group of Rs.25000-Rs.50000/-, 20.00 percent of them were in the income group of Rs.50000-Rs.75000/-, 11.43 percent of them were in the income group of Rs.75000-Rs.100000/- and 8.57 percent were found in the income group of above Rs.100000/per annum. The asset distribution of the households showed that 45.00 percent of the households selected for the study were with the asset group valued below Rs.2.5 lakhs, 31.43 percent were recorded in the asset group worth of Rs. 2.5 - 5.0lakhs, 11.43 percent were in the asset group of Rs.5.0 - 7.5lakhs, 7.86 percent were in the asset group of Rs. 7.5 - 10.0 lakhs and 4.29 percent were in the asset group of above Rs.10.0 lakhs.

B. Descriptive Statistical Analysis on the Women Livelihood Security Variables

The primary data obtained from 140 sample women agricultural labourer households selected from4revenue villages of Erode District in Tamil Nadu were utilized for analysis. A simple descriptive statistical analysis based on mean, median, standard deviation, minimum and maximum were performed to work out the mean statistics of the variables included in the study. Proxies were used in the study for certain variables on the basis of scaling as detailed in the data description. The results of the descriptive statistics performed in the study presented in table-II showed the mean statistics of different livelihood security variables included in the study.



TABLE-II: DESCRIPTIVE STATISTICAL ANALYSIS ON THE WOMEN LIVELIHOOD SECURITY **VARIABLES**

VARIABLES								
Variables	Mean	Median	Std. Deviation	Minimum	Maximu m			
Economic Security Index	0.61	0.51	0.39	0.1	0.93			
Food Security Index	0.54	0.51	0.35	0.2 7	0.93			
Health Security Index	0.70	0.68	0.43	0.3	1.10			
Education Security Index	0.70	0.68	0.44	0.2 7	1.10			
Empowerment Index	0.72	0.68	0.43	0.1	1.10			
Cumulative Livelihood Security Index (CLSI)	0.65	0.65	0.30	0.2 8	0.91			
Family type [FAMILY]	1.44	1.18	0.62	1	2			
Number of Household Member [NOHM]	4.14	4.18	1.67	1	11			
Age of the respondent [AGER]	40.6 9	39.1 8	10.7 4	29	65			
Age difference between spouses [ADBS]	4.89	5.18	3.02	1	9			
No. of children in a family [NOCF]	2.10	2.18	1.53	1	6			
Educational status [REDL]	4.55	4.68	4.56	0	12			
Educational difference with spouse [EDWS]	1.39	0.18	4.21	-8	19			
Dependency ratio [DEPR]	0.74	0.78	0.43	0	1			
Access to Assets [ASSET]	0.42	0.18	0.61	0	1			
Access to media and communication [MEDIA]	0.77	1.18	0.67	0	1			
Access to Community / Political participation [POLT	0.39	0.18	0.67	0	1			
Log percapita income of the household [LOG-PINH]	9.95	9.90	2.23	2.6 8	13.7 8			

Source: Survey data

From the analysis that the total sample women agricultural labourer households (140) selected for the study, on an average only 38 percent of the households were joint families; while 62 percent were nuclear types. The average size of the family relating to the composite data was worked out to be 4.14 and varies between the minimum of 1 to the maximum of 11. The average age of the women agricultural workers for the data was 40.69 years and the average number of children below the age 6 years in a family of the selected households in the district was 1; lies between 29 and 65 years; while the mean age for their spouses was 45.48 years and ranges between 30 and 74 years. The mean age difference between the respondents and spouse was about 9 years. The average years of schooling by the women agricultural labour households was 4.55 years while it was 5.89 years for their spouses. The average educational difference between the respondents and their spouse was less than 1.39 years. The dependency ratio of the households selected for the study was worked out to be 0.74 percent in the district indicating the fact that majority of the family members in a household selected for the study were deemed to be the dependents, either in the form of children and or adults aged. On an average, 42 percent of the women respondents selected for the study have ownership access to household immovable assets. The percentage of women respondents who had political access to decision making was worked out to 39 percent indicating the fact that political awareness to the households in rural areas in

Erode district was dissemble. It was also seen from the estimates that the mean logarithmic value of the per-capita income worked out for the women households selected for the study was 9.95 percent and ranged between the minimum of 2.68 to the maximum of 13.78.

C. The Determinants of Livelihood Security of Women Agricultural Labourers and their Implications on the Status of Women

This part of the study deals with the significant determinants of livelihood security of women agricultural labourers in Erode district of Tamil Nadu based on the primary data collected from 140 women respondents selected for this purpose. Multiple Regression equation method was fitted to the data to explore the effects of the explanatory variables on livelihood security of women agricultural labourers. Thus, the dependent variable in the multiple regression analysis is the quantitative variable viz., Economic Security Index, Food Security Index, Health Security Index, Education Security Index, Empowerment Index and Cumulative Livelihood Security Index (CLSI), and the various explanatory variables that affect the level of livelihood security among agricultural labourer women in the district. The estimated results of the regression coefficients using the multiple regression models pertaining to the livelihood security variables included are presented in table-III.

TABLE-III: ESTIMATED RESULTS OF THE EXPLANATORY VARIABLES IN THE MULTIPLE **REGRESSION ANALYSIS**

Explanatory variables	Economic Security Index	Food Security Index	Health Security Index	Education Security Index	Empowermen t Index	Cumulative Livelihood Security Index
	β	β	β	β	β	β
Constant	0.426 (4.770)	0.425 (5.920)	0.676 (7.051)	0.505 (4.820)	0.664 (6.906)	0.539 (11.099)
FAMLY	0.111*	0.047*	-0.034 (-0.176	0.012	0.113*	0.035**
	(5.144)	(2.766))	(0.358)	(4.561)	(2.330)
NOHM	-0.101 (-0.385	-0.118* (-7.966	0.025* (-3.224	-0.037	-0.043* (-2.099	-0.013*
)))	(4.724))	(-3.349)
AGER	0.038*	0.026*	-0.100 (-1.099	0.021*	0.034*	0.027*
	(1.909)	(2.281)	` ((2.008)	(3.766)	(2.526)
ADBS	0.101	0.118	-0.016* (-4.099	-0.005* *	0.100	0.102
	(0.766)	(2.460))	(-1.349)	(0.349)	(1.599)
NOCE	-0.024*	-0.027*	0.116	0.110	-0.023*	-0.009* *
NOCF	(-3.528	(-4.599)	(1.988((1.321)	(-2.655	(-2.349)
REDL	0.041* (2.682)	0.021* (5.599)	0.018* (4.432)	0.017* (3.766)	0.042* (4.099)	0.049** (1.956)
EDWS	0.100 (0.599)	0.100 (0.599)	0.101 (0.766)	0.013* (4.432)	0.027* (2.176)	0.011** (1.932)
DEPR	0.148	-0.065* (-2.340	0.130	0.135	-0.093* (-2.262	-0.045*
	(1.460))	(0.820)	(0.899))	(-2.242)

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	0.145*	0.054*	-0.139	0.079*	0.047*	0.030**
ASSET			(-1.699			
	(7.004)	(3.275))	(3.259)	(2.016)	(2.599)
	-0.106	0.118	0.092*	-0.105	0.105	0.101
MEDIA	(-0.488)					
)	(1.366)	(4.480)	(-0.372)	(0.385)	(0.299)
	-0.109	-0.103	0.043*	0.044**	0.115	0.100
POLT	(-0.655	(-0.366				
))	(2.054)	(2.012)	(0.826)	(0.190)
LOG-PIN	0.016*	0.034*	0.025*	0.046*	0.057*	0.012**
Н	(3.699)	(3.099)	(5.766)	(2.766)	(4.882)	(2.432)
R	0.807	0.844	0.754	0.763	0.893	0.728
R^2	0.778	0.818	0.711	0.741	0.846	0.710
Adjusted R ²	0.770	0.811	0.702	0.732	0.839	0.701
F	3.066	4.913	2.496	3.079	3.411	3.137
N	140	140	140	140	140	140
* Significant at 1 % layer ** Significant at 5 % layer *** Significant at 10						

^{*} Significant at 1 % level, ** Significant at 5 % level, *** Significant at 10 % level

The estimated regression co-efficients pertaining to the composite data presented in table-III indicated the fact that the fitted regression equation is statistically significant according to the livelihood security perception made in the study and The R² values of multiple regression models explained 71 percent variation respectively in livelihood security which is due to the explanatory variables and depicts a moderate goodness of fit. The F values of the models are highly found significant and indicate that systematic variation in the livelihood security variables are considerably larger. The positive signs registered for the explanatory variables namely family type, age, education, educational difference between spouse, access to ownership of assets, access to media and communication, access to political participation and log percapita income are those factors whose impact might make guidance and direct the policy makers and the institutions involved in the livelihood security process to enhance the women livelihood security programmes across the country.

The negative signs registered for the explanatory variables viz., number of household members, number of children in a family and dependency ratio have indicated for negative relationship with livelihood security of women. In other words, according to the livelihood security perception, joint family respondents are lesser would be the livelihood security; more is the family size less is the livelihood security of women as they could not spare adequate time to know things. Greater is the age difference with spouse lesser is the scope for women livelihood security. Similarly, more is the number of children's in a family less is the livelihood security of women. Greater is the educational difference with spouse more is the livelihood security of women. Larger the dependency ratio, more is the amount spent for the household therefore less would be the livelihood security of women.

The positive signs of the estimated regression co-efficient pertaining to the composite data are indicative of the positive relationship of the explanatory variables with composite livelihood security index of agriculture labourer women. In other words, more is the respondents age greater is the livelihood security of women, higher the educational status of the respondents more would be the livelihood security. When the respondent of the households is nuclear more is the scope for livelihood security of women. Similarly, greater is the respondent access to asset ownership and log per-capita income of the household, higher is the livelihood security of women. The results obtained from the study therefore clearly depicts the fact that women livelihood security in rural areas of the one selected for the study has some distinct requirements viz., age maturity, increasing the level of

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education, ownership access to assets and higher log percapita income.

VII. CONCLUSIONS

The study was concluded that the standard of living of women engaged in agriculture in rural areas of Erode County is far from satisfactory. Despite the many development programs initiated by the government over the years, the socio-economic institutions that impede the welfare of women in the district continue to play an important role in the slow progress in raising the living standards of women in the districts. Rural women access to income, access to property, political participation, access to education, meeting health needs, decision-making opportunities at the family level, etc. D. D. It has not yet been reached by stakeholders. The situation of rural women in these areas is even today considered secondary, and they are not given any importance. Domestic violence, harassment, infanticide among women, beating of wives, divorces, and psychological torture still continue, which has serious cumulative negative consequences for the health and quality of life of women.

Therefore, in order to move towards the goals of women's empowerment initiatives and programs that are active in the country, the study suggests some concrete steps in which all implementing agencies should be involved, namely government organizations, non-governmental organizations, women involved in development Organizations and all other stakeholders and civil society must effectively stimulate the lives of women. Government intervention must be strengthened through legislation, planning and implementation so as to provide greater opportunities for sustainable development, women's livelihood at all levels, so that women's discriminatory practices and gender issues are addressed to women.

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