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# Food Security level and Hunger Status of a NGO Supported Farmers' Families in Dinajpur, Bangladesh

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**Abstract:** This study was carried out to find food security level and hunger status of the beneficiary families supported by a NGO working in Dinajpur. It was also undertaken to identify the association between hunger status with selected socio-demographic and economic factors of the farmers' families. Socio-demographic, economic, food security level and hunger status related data were collected from the 165 estimated sampled families with simple random sampling method by using structured questionnaire. Analyses determined that only 21.2% households were food secured, while 78.8% households were insecure. Among the insecure families about 19.4% households were insecure in food without hunger, 20.6% households were food insecure with moderate hunger and 38.8% families were insecure in food with severe hunger. Overall 59.4% farmers' families were hunger and rest of them was not hunger (40.6%). But food insecurity level as well as hunger families were more prevalent among the families of landless farmers compared to marginal and small groups. Only 3.6% families give rich foods to the female child. Binary logistic regression analysis found that total land of the family, total family members and monthly family income were the significant contributing factors for determining hunger and not-hunger families.

**Keywords -** Food security, Hunger, Food deficit, Rich food, Farmers' community

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## I. INTRODUCTION

Bangladesh is one of the least developed countries of the world. In Bangladesh the per capita income is only $ 1,190 per month [1]. About 70% of its people live in the rural areas and majority of them are dependent on agriculture. About 31.5% of the people live under poverty level [2] and 48.0% depend on agriculture [3]. So a great majority of the rural poor farm households in Bangladesh are in short of required food supply almost round the year, as has been highlighted in the findings of different national nutrition surveys. Even though 75% food production comes from the rural areas, however due to landlessness and some associated factors, the small and marginal farmers in the rural areas are still deprived from their access to food [4]. Maximum marginal farmers were food insecured (56.67%), while 30% were moderately food secured and only 13% were food secured [5]. Bangladesh with a landmass of 147,570 square kilometers, inhabited by a population of 142.319 million [1] and has one of the highest population densities in the world i.e. about 964 populations per square kilometers [1].

Household food security has been defined as "Access to food, adequate in quantity and quality to fulfill all nutritional requirements of all household members throughout the year" [6]. Extensive research in the late 1980s in USA focused on understanding household food security, food insecurity, and hunger [7]. Among vulnerable rural societies such as small farmers, marginal farmers, agricultural labourers, landless labourers and rural artisans which show that most of the households of these societies were not secure regard food [8]. About 7% of households are facing acute suffering in accessing food regularly whereas up to 30% of the households encountered such conditions [9]. Among the rural Santal families in Dinajpur about 14% families are food secured and about 86% are food insecure in any form. The prevalence of hunger families are 52%, amongst 17% are severely and 35% are moderately hunger. [10].

However, national food security does not clearly resolve the problem of household food insecurity of the household members. Different vulnerable population groups for example landless, marginal, small farmers etc. are more prone to these situations and often experience hunger. Most of the Non-Governmental Organizations (NGOs) have been active in the field of rural Bangladesh to eradicate poverty elevation of small and marginal farmers' families and for the improvement of food security level. But these development workers

believe that the eradicating intense of poverty to these targeted groups caused by their development policies. The ActionAid Bangladesh a NGO claimed that they have great impact in the alleviation of food insecurity of the community [11]. Understanding the above literature of our country and with the general people's belief the proposed work aims at exploring the impact of development intervention by the beneficiaries of LRP 45 program, ActionAid Bangladesh working in Dinajpur on changes in food security level and hunger status of the landless, small and marginal farmers' community.

## II. METHODOLOGY

### 2.1 Location of the study

The study was carried out among the family members having children aged 6-59 months old of the NGO beneficiaries from LRP-45 program of ActionAid Bangladesh working in Dinajpur district, the north-western district of Bangladesh.

### 2.2 Sampling design and sample size

It is well known that like all NGO's working in Bangladesh, LRP-45 program of AAB has also working with invariant land size families (landless, marginal and small farmers) for their socio-demographic, economic and food security improvement [11]. Therefore considering the homogeneity of land sizes of the population, simple random sampling technique was followed for selecting the sampled families from these beneficiary populations in Dinajpur, Bangladesh. Among the total beneficiary families (4936), finally 165 randomly selected families were determined using appropriate sample size estimating formula (probability, p=0.05 and margin of error, m= 0.05) for this study.

### 2.3 Different food security levels

Food security – Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern.

Food insecurity without hunger – Food insecurity is evident in household members' concerns about adequacy of the food supply and in adjustments to household food management' including reduced quality of food and increased unusual coping patterns. Little or no reduction in members' food intake is reported.

Food insecurity with moderate hunger – Food intake for adults in the household has been reduced to an extent that implies that adults have repeatedly experienced the physical sensation of hunger. In most (but not all) food-insecure households with children, such reductions are not observed at this stage for children.

Food insecurity with severe hunger – At this level, all households with children have reduced the children's food intake to an extent indicating that the children have experienced hunger. For some other households with children, this already has occurred at an earlier stage of severity. Adults in households with and without children have repeatedly experienced more extensive reductions in food intake.

Hunger – Hunger is usually understood as an uncomfortable or painful sensation caused by insufficient food energy consumption. Scientifically, hunger is referred to as food deprivation. Simply put, all hungry people are food insecure, but not all food insecure people are hungry, as there are other causes of food insecurity, including those due to poor intake of micro-nutrients [12].

### 2.4 Measurement of food security status

A household's level of food insecurity or hunger is determined by obtaining information on a variety of specific conditions, experiences and behaviors that serve as indicators of the varying degrees of severity of the condition. Research over the past two decades has identified a particular set of this kind of condition, experience and behavior pattern that consistently characterizes the phenomenon of food insecurity and hunger [13]. Established questions for many of these potential indicators were included in the 1995 CPS Food Security Supplement, which became the basis for the food security scale measure that than was developed from the CPS data. The questions focus on whether the household has enough food or money to meet its basic food needs and on the normal behavioral and subjective responses to that condition, as these have been observed. The questions in the food security scale were finally setup on responses of 18 questions (Households with children) developed and food security levels were categorized by the reference used by Bickel et al. [7].

### 2.5 Statistical Analysis

Descriptive statistics includes computation of summary measures: means, variances, proportions, etc. Chi-square ($\chi 2$) test was used to test the significance of the associations between two categorical variables. Parametric method finds significance test of means and mean differences of food secured and food insecure

families and other quantitative variables. Binary logistic regression was use to find the significant contributing factors that affects the hunger status of farmers' families.

## III. RESULTS AND DISCUSSION

### 3.1 Socio- demographic and economic characteristics of the farmers' families

The average farmers' family was composed of 4.77 members and the mean number of earning members was 1.17. Mother's average age at marriage was 14.52 years indicated that the prevalence of early marriage (at child age) among the women in farmers' families was lower. Results found that there was large family size and low earning members in the farmers' families. The average monthly income of household heads was BDT 6,837 and average monthly expenditure was BDT 3,940.88. These imply that average monthly expenditure was half of average monthly income of household heads. There was saving tendency of lower income farmers' families to run families for future days or generations. In addition, the average monthly expenditure on food was found BDT 3,401 (50% of the total income and 86% of the total expenditure) and monthly expenditure on education was BDT 457.76 (7% of the total income and 12% of the total expenditure) respectively. About 32.7% families had monthly income BDT up to 4500. Regarding expenditure, about 34% families had monthly expenditure BDT < 3000, 40.6% families had monthly expenditure between BDT 3000-4500 and 25.5% families had monthly expenditure BDT greater than 4500 (from Table 1).

**Table 1:** Mean, standard error, mean difference and P-values of some selected socio demographic and economic characteristics of the selected farmers' families having children (aged 6-59 months old) in Dinajpur.

| Variables | Mean ± SE | | | Mean difference | P value |
|---|---|---|---|---|---|
| | All | Landless | Marginal and small | | |
| Weight of children at the time born (kg) | 2.84 ±0.02 | 2.81 ± 0.02 | 2.90 ± 0.04 | -0.09* | 0.05 |
| Child breast feeding period (months) | 22.05 ±0.86 | 23.29 ± 1.03 | 18.91 ± 1.51 | 4.38* | 0.02 |
| Age of father (year) | 33.86 ±0.55 | 34.12 ± 0.67 | 33.21 ± 0.93 | 0.91 | 0.46 |
| Age of mother (year) | 25.49 ±0.42 | 25.47 ± 0.51 | 25.55 ± 0.76 | -0.08 | 0.93 |
| Height of mother (cm) | 149.16 ±0.54 | 149.12 ± 0.63 | 149.25 ± 1.07 | -0.13 | 0.92 |
| Weight of mother (kg) | 45.10 ±0.61 | 44.15 ± 0.71 | 47.49 ± 1.08 | -3.34** | 0.01 |
| Age of mother at the time of marriage (years) | 14.52 ±0.18 | 14.30 ± 0.19 | 15.09 ± 0.40 | -0.79* | 0.05 |
| Age of mother at the time of child born (years) | 17.14 ±0.21 | 16.97 ± 0.25 | 17.57 ± 0.39 | -0.6 | 0.20 |
| Total family member of families | 4.77 ±0.11 | 4.67 ± 0.10 | 5.02 ± 0.30 | -0.35 | 0.16 |
| Total earning family members in families | 1.17 ±0.03 | 1.16 ± 0.04 | 1.19 ± 0.07 | -0.03 | 0.68 |
| Total monthly income of families | 6,837.24 ±355.84 | 5,997.33 ± 298.28 | 8,945.96 ± 938.87 | -2948.63** | 0.00 |
| Monthly expenditure on food of families (BDT) | 3,401.04 ±125.16 | 3,123.35 ± 77.81 | 4,098.20 ± 377.66 | -974.85** | 0.00 |
| Monthly expenditure on education purpose (BDT) | 457.76 ±101.96 | 245.25 ± 42.81 | 991.28 ± 331.30 | -746.03* | 0.03 |
| Monthly expenditure of families (BDT) | 3,940.88 ±213.11 | 3,398.57 ± 92.82 | 5,302.40 ± 676.07 | -1903.83** | 0.00 |
| Level of significance: *P<0.05, **P<0.01. | | | | | |

Results also summarized that average monthly income, total monthly expenditure, monthly expenditure on food and monthly expenditure on education were significantly higher for marginal and small farmers' families compared to landless farmers' families. Regarding education of mother (from Table 2), about 54% mothers were found to be illiterate, 29% mothers got primary education and 17% mothers attended at high school. In case of education of father, about 33% fathers were found to be illiterate, 23% fathers got primary education and 44% fathers attended at high school. These figures clearly mean that most of the mothers were

illiterate and their educational qualifications were lower than their husbands, as it is general scenario in Bangladesh. About total earning family member, about 85% households had only one person and 15% households had two and above. About 98% children had breastfeed. Results also showed that about 87% mothers' marriage time was at child age (upto eighteen years). From table 2, landless farmers' family members were more illiterate and parents' education level was low compared to marginal and small farmers' families.

**Table 2:** Association between socio-demographic, economic and household characteristics with farm categories of selected farmers' families in Dinajpur.

| Variables | Categories | Farmers category | | Total |
|---|---|---|---|---|
| | | Landless | Marginal and small | |
| Age of father (years) | 20-29 | 28.8 | 23.4 | 27.3 |
| | 30-39 | 50.8 | 53.2 | 51.5 |
| | 40 and above | 20.3 | 23.4 | 21.2 |
| $\chi^2$ Value | | $0.5^{NS}$ | | |
| Age of mother (years) | 16-20 | 20.3 | 19.1 | 20.0 |
| | 21-25 | 36.4 | 38.3 | 37.0 |
| | 26-30 | 28.0 | 21.3 | 26.1 |
| | 30 and above | 15.3 | 21.3 | 17.0 |
| $\chi^2$ Value | | $1.943^{NS}$ | | |
| Education of father | Illiterate | 59.3 | 40.4 | 33.3 |
| | Primary | 26.3 | 36.2 | 23.0 |
| | School and above | 14.4 | 23.4 | 43.6 |
| $\chi^2$ Value | | $4.9^{NS}$ | | |
| Education of mother | Illiterate | 34.7 | 29.8 | 53.9 |
| | Primary | 28.8 | 8.5 | 29.1 |
| | School and above | 36.4 | 61.7 | 17.0 |
| $\chi^2$ Value | | 0.1** | | |
| Age of mother at the time of marriage (Year) | 9-14 | 59.3 | 55.3 | 58.2 |
| | 15-17 | 28.8 | 29.8 | 29.1 |
| | 18 and above | 11.9 | 14.9 | 12.7 |
| $\chi^2$ Value | | $0.3^{NS}$ | | |
| Total family members in families | Small (1-3) | 12.7 | 25.5 | 16.4 |
| | Medium (4-5) | 68.6 | 40.4 | 60.6 |
| | Large (6 and above) | 18.6 | 34.0 | 23.0 |
| $\chi^2$ Value | | 11.2** | | |
| Total earning family members in families | 1 person | 85.6 | 83.0 | 84.8 |
| | 2 and above | 14.4 | 17.0 | 15.2 |
| $\chi^2$ Value | | $0.2^{NS}$ | | |
| Monthly income of families(BDT) | Up to 4500 | 34.7 | 27.7 | 32.7 |
| | 4501 to 6500 | 37.3 | 17.0 | 31.5 |
| | 6501 to above | 28.0 | 55.3 | 35.8 |
| $\chi^2$ Value | | 11.9** | | |
| Monthly expenditure of families (BDT) | Less than 3000 | 39.8 | 19.1 | 33.9 |
| | 3000-4500 | 42.4 | 36.2 | 40.6 |
| | More than 4500 | 17.8 | 44.7 | 25.5 |
| $\chi^2$ Value | | 14.1** | | |
| Food security status of families | Food secured | 4. 2 | 63.8 | 21.2 |
| | Food insecure without hunger | 16.9 | 25.5 | 19.4 |

| | | | | |
|---|---|---|---|---|
| | Food insecure with moderate hunger | 27.1 | 4.3 | 20.6 |
| | Food insecure with severe hunger | 51.7 | 6.4 | 38.8 |
| $\chi^2$ Value | | 83.8** | | |
| Note: Level of significance: *P<0.05, **P<0.01, ***P<0.10, NS= Not Significant. | | | | |

**3.2 Food security and hunger status of farmers' families and identification of causal factors**

This study regarding to household's level food security status of the selected farmers' community in Dinajpur revealed that only 21.2% households were food secured, while 78.8% households were food insecure. Among the food insecure families, about 19.4% households were food insecure without hunger, 20.6% households were food insecure with moderate hunger and 38.8% households were food insecure with severe hunger (from Fig. 1).

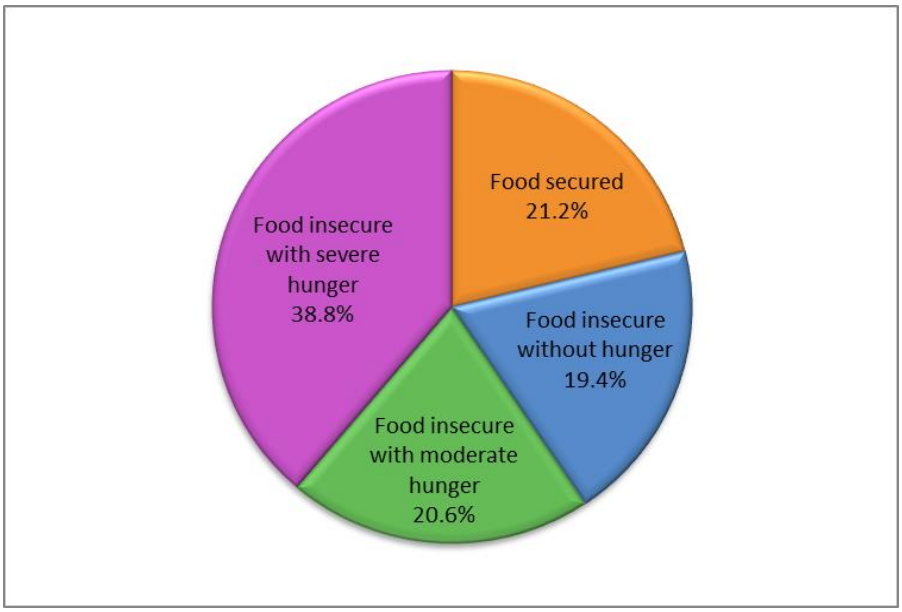


**Fig. 1.** Prevalence of households level food security status of selected farmer's families in Dinajpur.

These figures clearly shows that around 59.4% farmers' families were hunger and rest of them were not hunger (40.6%) (from Fig. 2). This is a very critical situation in terms of food security level and hunger status of farmers' families.

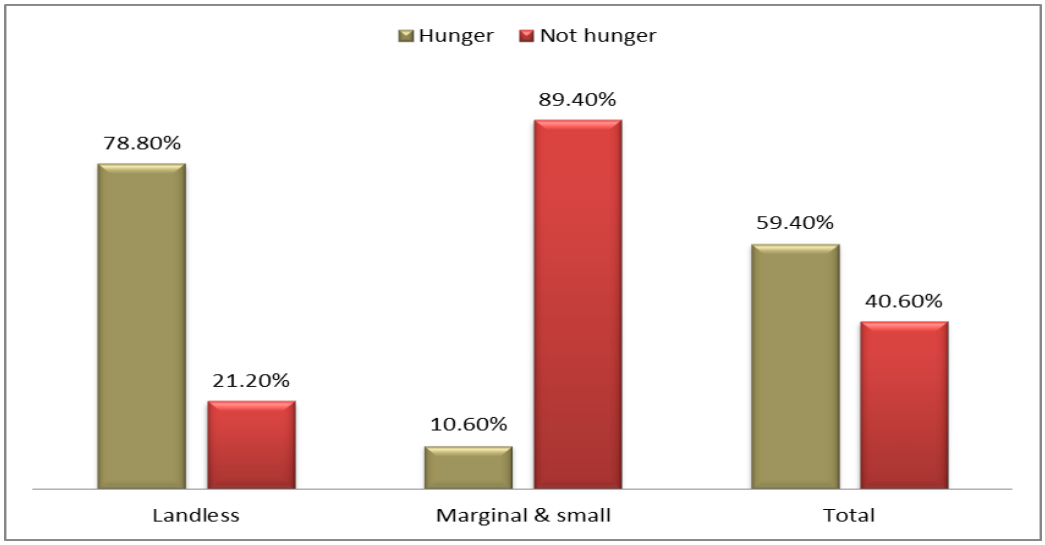


Fig**. 2.** Hunger status of the selected farmers' families according to farm category.

The variables like child breast feeding period, total land, total monthly income, monthly expenditure on food, monthly expenditure on education and total monthly expenditure of families were significantly dependent between food insecure and food secured families (from Table 3). The average land of households among food insecure families was 20.74 decimals and among the food secured families this was 168.29 decimals. The average breast feeding period of child for the food insecure families were 23.03 months and food secured families was 18.4 months. The average monthly income among food insecure families was BDT 6214.53 and among food secured families was BDT 9150.16. The average monthly expenditure on food among food insecure families was BDT 3135.35 and among food secured families was BDT 4387.86. The average monthly expenditure on education among food insecure families was BDT 298.31 and among food secured families was BDT 1050.00. The average monthly expenditure among food insecure families was BDT 3511.69 and among food secured families was BDT 5535.01 (from Table 3).

**Table 3:** Mean, standard error of mean values of different socio-demographic and economic variables according to food security status of selected farmers' families in Dinajpur, Bangladesh.

| Variables | Mean ± S.E | | t value |
|---|---|---|---|
| | Food insecure | Food secured | |
| Age gap between two child (years) | 3.35 ± 0.24 | 3.07 ± 0.49 | 0.533 (0.595) |
| Weight of children at the time of born (kg) | 2.83 ± 0.03 | 2.84 ± 0.04 | -0.154 (0.878) |
| Child breast feeding period (months) | 23.03 ± 0.99 | 18.40 ± 1.68 | 2.213$^{*}$ (0.028) |
| Age of father (year) | 34.05 ± 0.63 | 33.14 ± 1.10 | 0.680 (0.497) |
| Total land of families (decimals) | 20.74 ± 2.68 | 168.29 ± 27.27 | -9.868$^{**}$ (0.000) |
| Total family member of families | 4.69 ± 0.11 | 5.06 ± 0.36 | -1.323 (0.188) |
| Total earning family members in families | 1.15 ± 0.04 | 1.23 ± 0.08 | -0.929 (0.354) |
| Total monthly income of families | 6214.53 ± 361.64 | 9150.16 ± 914.58 | -3.485$^{**}$ (0.001) |
| Monthly expenditure on food (BDT) | 3135.35 ± 76.45 | 4387.86 ± 487.32 | -4.304$^{**}$ (0.000) |
| Monthly expenditure on education (BDT) | 298.31 ± 47.68 | 1050.00 ± 437.33 | -3.092$^{**}$ (0.002) |
| Monthly expenditure of families (BDT) | 3511.69 ± 101.09 | 5535.01 ± 890.98 | -4.060$^{**}$ (0.000) |
| Parenthesis indicate P values. Level of significance: $^{*}$P<0.05, $^{**}$P<0.01. | | | |

From Fig. 3, general food deficit period in the selected farmers' families found that 26.1% farmers' households did not face food deficit round the year, but 21.8% farmers households faced year round food deficit, about 26.1% farmers households faced food deficit in the month of Falgoon/Chaitra, 23.0% farmers households faced food deficit in the month of Kartik/Agrayan and only 3.0% farmers households faced food deficit in the month of Ashar/Shravan. This might be due to the fact that Ashar/Shravan or Kartik/Agrayan or Falgoon/Chaitr and 26.1% farmers' households had no work (called leaned period) and so their families had to face food deficit. Some farmers' family had to face year round food deficit because of their low income.

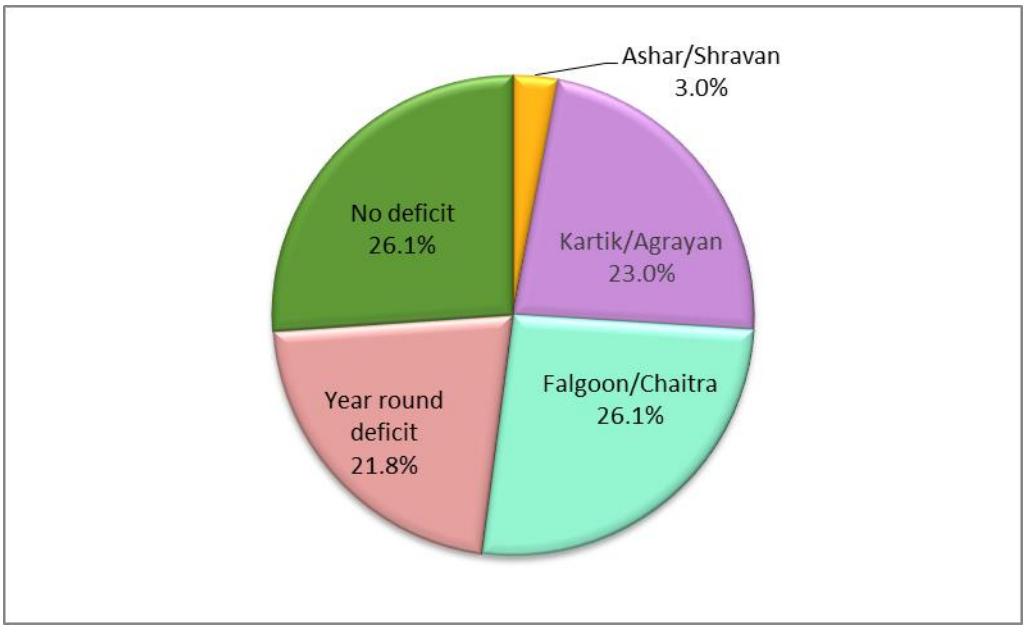


**Fig. 3.** Food deficit period in the selected farmers' families in Dinajpur, Bangladesh.

Regarding preferences in allocation of rich food items to the family members, results showed that most of the families (67.3%) were eaten equal food items of rich foods. In about 19.4% families, rich foods were given more to the earning male member, 9.7% families were given more food to the male child and only 3.6% farmers' families were given more rich foods to the female child (from Fig. 4). Results clearly mean that maximum farmer' family ate equal foods when available of rich foods. The proportion of eating more food for availability of rich food was low for female child than male child and earning family members.

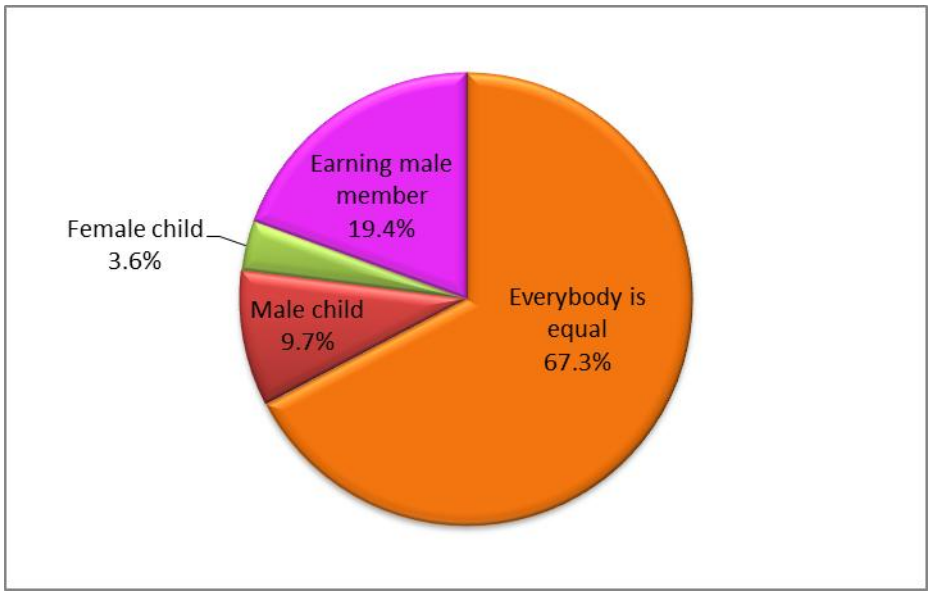


**Fig. 4.** Rich food items consumption preferences of the selected farmers' families in Dinajpur, Bangladesh.

Table 4 describe the significant risk factors such as total land, total family members and total monthly income of families were found statistically significant for hunger status of families. Landless farmers' families were found 9.94 times higher risk of being hunger than the marginal and small farmers' families. It means that the risk of number of hunger families increased with the increase of land sizes of families. Households of large family size (6+) were 6.75 times higher risk of being hunger families than households of small family size (1-3 members). It indicates the risk of hunger reduced among the farmers families with decrease of their family sizes. Households having monthly income upto BDT 4500 were 2.85 times higher risk of being hunger than the households having monthly income BDT 6501 and above. These imply that the risk of number of hunger families reduced with the increase of their monthly family income.

**Table 4:** Results of binary logistic regression analysis of significant studied variables for hunger among selected farmers' families having children aged 6-59 months old in Dinajpur, Bangladesh.

| Variables | Level | B | S.E. | P value | Odds Ratio (OR) | 95% C.I. for OR | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower | Upper |
| Total land (decimals) | Landless | 2.30 | 0.43 | 0.03 | 9.94* | 4.29 | 23.16 |
| | Marginal and small (RC) | - | - | - | 1.00 | - | - |
| Total family members | Small (1-3) (RC) | - | - | - | 1.00 | - | - |
| | Medium (4-5) | 1.30 | 0.42 | 0.07 | 3.66 | 1.61 | 8.36 |
| | Large (6 and above) | 1.91 | 0.64 | 0.03 | 6.75* | 1.93 | 23.67 |
| Monthly income of family (BDT) | Up to 4500 | 1.05 | 0.61 | 0.04 | 2.85* | 0.86 | 9.45 |
| | 4501 to 6500 | 0.77 | 0.69 | 0.16 | 2.172 | 0.55 | 8.53 |
| | 6501 to above (RC) | | | | 1.00 | | |

Note: RC-Reference category; Level of significance: *P<0.05, **P<0.01.

## IV. CONCLUSION

Most of the mothers were illiterate and their educational qualifications were lower than their husbands. Early marriage and early pregnancy was prevalent among the women of beneficiary families. The average monthly income, total monthly expenditure, monthly expenditure on food and monthly expenditure on education were significantly higher for marginal and small farmers' families compare to landless farmers families. Only one of fifth of the families was food secured and rests (four of fifth HHs) of them were food insecure of the beneficiary families. But food insecurity level as well as hunger families were more prevalent among the families of landless farmers compared to marginal and small groups. The authorities of the program LRP-45, ActionAid Bangladesh or other agencies should undertake the issues. The months of Falgoon/Chaitra and Kartwik/Agrahayan were the most vulnerable months for the farmers considered as lean period regarding food production. The proportions of eating more rich food items were low for female child than male child and earning male family members. For increasing household level food security, households' income level and agricultural production should be increased. In this regard, family members should be involved in different income generating activities including crop production.

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## REFERENCES

[1]. BBS, (2011). Population and Housing census 2011. Bangladesh Bureau of Statistics Ministry of Planning, Dhaka, Bangladesh.
[2]. World Bank, (2010). Report of the World Bank. http://siteresources.worldbank.org/EXTANNREP2010/Resources/WorldBank-AnnualReport2010.pdf.
[3]. MoA, (2010). Report of Ministry of Agriculture, Dhaka. http://www.moa.gov.bd.
[4]. Chowdhury, M. I., (2009). Impact of Increasing Landlessness on Access to Food: Experience of Small and Marginal Farmers in Rural Bangladesh. Unnayan Onneshan, Bangladesh.
[5]. Uddin, M. E., (2012). Household Food Security Status of Marginal Farmers in Selected Storm Surge Prone Coastal Area of Bangladesh. The Agriculturists 10 (1): 98-103 (2012) ISSN-1729-521.
[6]. Jonsson, U., and D. Toole (1991). Household food security and nutrition: a conceptual analysis. mimeo, UNICEF, New York.
[7]. Bickel, Gary, Nord, M., Price, C., Hamilton, W. and Cook, J., (2000). Guide to Measuring Household Food Security, Revised 2000. U. S. Department of Agriculture, Food and Nutrition Service, Alexandria VA.
[8]. Gomatee and Ashraf, D. S. W. A., (2013). An Empirical Analysis of Status of Food Security among Vulnerable Rural Classes of Bulandshahr District. International Journal of Agriculture and Food Science Technology, ISSN 2249-3050, Volume 4, Number 8 (2013), pp. 751-762.
[9]. Mozdalifa, J., (2012). Poverty And Food Security. Unnayan Onneshan, Bangladesh.

[10]. Majumder, U. K., Roy, L. N., Dey, R., Rahman, M. M. and Hassan, M. Z., (2011). Socioeconomic and Demographic Determinants: Malnutrition of 6-59 Months Old Rural Santal Children and Food Security Status of Their Families in Dinajpur. South Asian Journal of Population and Health, ISSN 1560-4373 Vol 4.
[11]. Barkat, A., Hoque, M., Ara, R., Chowdhury, Z. H. and Zahid, F. M., (2010). External Review of ActionAid Bangladesh's Country Strategy Paper-III. ActionAid Bangladesh, Human Development Research Centre, Dhaka.
[12]. FAO, (2008). An Introduction to the Basic Concepts of Food Security. Food security information for action practical guides. http://www.fao.org/docrep/013/al936e/ al936e00 pdf.
[13]. Derrickson, J., (2000). Face Validity of the Core Food Security Module with Asians and Pacific Islanders. Journal of Nutrition Education, v.32 no.1:21-30.

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