

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 9; September 2024; Page No. 889-895

Received: 21-07-2024
Accepted: 02-09-2024

Indexed Journal
Peer Reviewed Journal

Livelihood strategies of farm households of lower Brahmaputra valley zone of Assam: An empirical study

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DOI: <https://doi.org/10.33545/26180723.2024.v7.i9l.1163>

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Abstract

Livelihood strategies are the range and combinations of different activities and choices that farm households carry out to achieve a livelihood outcome (DFID, 1999). Traditionally, the main source of farm households' income is agriculture in producing food and for generating income. It is particularly relevant for a developing country like India where still more than 54.6 per cent population is engaged in agriculture and allied activities for their livelihood (Annual Report, 2017-18). However, sole farming as a source of livelihood on its own is increasingly unable to provide a sufficient means of survival in rural areas.

The present study was conducted in Lower Brahmaputra Valley Zone of Assam to examine the livelihood pattern of farm households. Multistage stratified random sampling technique was used for selection of 500 numbers of farm households, 100 each from five districts selected for the study. Farm households were categorized into four size classes as marginal (<1.00 ha), small (1.00-2.00 ha), medium (2.00 – 4.00 ha) and large (4.00 ha and above). Primary as well as secondary information were collected for the study.

The study revealed that farm household on an average was principally dependent as an occupation on farm sector (45.60%) and non-farm sector (54.40%) for their livelihood. Income generated on average from farm sector was 59.12 per cent and non-farm sector 40.88 per cent. Out of total farm income, contribution of crop farming was (62.95%), livestock (18.01%) and fishery (19.03%). Similarly, in non-farm income, contributions were made by salary & wages (53.13%), non-farm business (29.89%) and remittance & govt. welfare scheme (16.99%). In absolute terms net income per farm per annum was found to be Rs. 80,167.32 of which, farm & non-farm income was Rs. 47,398.86 and Rs. 32,768.46, respectively. Proportionately, crop farming (37.22%), livestock farming (10.65%), fishery (11.25%), salary & wage (21.72%), non-farm business (12.22%) and remittance & govt. scheme (6.94%) contributed to the total net income annually, on average. Among allied enterprises 54.40 per cent households were found to practice dairy, followed by goatery & fishery (33.80%), poultry (37.40%) and piggy (10.40%).

Keywords: Income composition, farm households, sustainable, farm & non-farm sources

Introduction

Livelihood refers to adequate stock and flow of food and cash with a farm household to meet their basic needs. Whereas, livelihood strategies are the combinations of different income generating activities and choices that farm households adopt for achieving their livelihood goals. Traditionally, the main source of farm households' income is agriculture and allied activities in producing food and for generating income. It is particularly relevant for a developing country like India where still more than 54.6 per cent population is engaged in agriculture and allied activities for their livelihood. (Annual Report, 2017-18). However, sole farming as a source for decent livelihood on its own is increasingly unable to provide a sufficient means of survival in rural areas. According to Fuller (1991 cited in Subramanian, 2018) ^[18] "full-time farming is the aberration

and in the modern farming history multiple jobs holding among farm households is the norm". This is mainly due to continuous sub-division and fragmentation of holdings leading to continuous decrease in the average size of operational holdings, making it uneconomical for cultivation as a unit. Moreover, larger share of small and marginal farmers, constituting around 85 per cent of all agricultural households, have low agricultural productivity and find it difficult to attain sustainable livelihood from cultivation alone. Therefore, they latch on various income earning activities to ensure food security and escape poverty provided opportunity exists. Farm households generally combine a diverse set of income generating activities and construct a portfolio of livelihood activities for income enhancement for achieving livelihood security. However, the critical question is the proportion of income they

generate from different livelihood activities they practice. In rural areas particularly, the multi-faceted nature and composition of agricultural livelihoods, the dynamism of other income generating opportunities, temporality and seasonality, accessible capital assets, skill and capabilities of the members of the households play a crucial role in adopting different income generating activities for earning a decent livelihood for them for achieving food security and greater welfare of the family. Almost two-thirds of the world's poor people reside in the rural areas of low-income countries, mainly depending on subsistence farming and other natural resources for their livelihood (World Bank, 2015). However, low productivity in farming and limited accessibility to non-farm income sources have been increasing vulnerability of these people who are often poor and deprived with a minimum standard of life (Rigg, 2006 & Dixon *et al.*, 2001)^[15, 10].

The present study seeks to examine various income generating activities and their proportionate contribution towards family income of the farm households across size groups for securing their livelihoods in Lower Assam. The understanding of dynamism of livelihood is important for policy makers to target the areas of concern for providing much needed relief to the farming community through policy formulation. The economy of the Assam depends primarily on agriculture and allied sector. As per the 2011 Population Census, 85.90 per cent of its population lives in rural areas, and 51 per cent of the workforce is engaged in agriculture. Similar findings were reported by Priscilla *et al.* (2021)^[14]. The share of agriculture and allied sector in the total gross state domestic product (GSDP) is 16.79 per cent in 2017-18 at current prices, although the dependence of population on this sector is still high. The agriculture sector in Assam is characterized as subsistence occupational practice due to various inherent factors like slow economic growth, low input-low output, and technologically lagged mixed farming system (Birthal *et al.*, 2006; Kumar *et al.*, 2007)^[6, 12] culminating to higher population below poverty line at 33.89 per cent as compared to 25.70 per cent of India as a whole. (Statistical Handbook of Assam, 2018).

Methodology

Description of Study Area

The study was undertaken in Lower Brahmaputra Valley Zone (LBVZ) of Assam. The zone is composed of 12 (twelve) districts and located in the western most part of Assam sharing border with Bhutan and Arunachal Pradesh in the North, Bangladesh and Meghalaya in the south, Central Assam in the East and West Bengal in the West covering a geographical area of 20163 square kilometers, which is 25.84 per cent of total area of Assam. The topography is mainly plain with some undulating areas, comprising of hills and *hillocks*. The zone has plenty of water resources, the river Brahmaputra flowing through the valley from East to West with few major tributaries flowing from north to south in the zone (Department of Environment, Govt. of Assam, 2015). Total population of the zone is 11.25 million, which is 36.60 per cent of the total population of Assam (Agricultural Census, 2010-11, GOI). Being situated in sub-tropics, the climate of LBVZ zone as well as of Assam is humid, sub-tropical, characterized by warm humid summers and cool dry winters. LBVZ is

situated in the high rainfall zone with annual average rainfall of 1700 mm. The zone receives 66 per cent of annual rainfall during the southwest monsoon season only. The maximum temperature rises up to 36 °C in July-August and minimum falls to 10 °C in January. Soils of this zone consist of new alluvium on both the banks of the Brahmaputra and old alluvium towards the foothills. Soils are mostly sandy and sandy loam in texture. Soils of the zone are generally acidic in nature, though a large area is also covered by nearly neutral soils. Winter paddy, summer paddy, autumn paddy, pulses, rapeseed and mustard, jute, vegetables, sugarcane, banana, Assam lemon, arecanut, coconut, etc. are the major crops of the zone.

Sampling Design

Multistage stratified random sampling design was followed in the study. Districts, blocks, villages and households sequentially are the different stages of sampling. Five districts from the study area and two blocks from each district were selected at random. Five villages from each block and 10 households from each village were then selected. In total, 500 households were ultimately selected with a ratio of 4:3:2:1 representing marginal, small, medium and large size groups of farm households. Farm households were stratified into four distinct size groups on the basis of operational holding as per the stratification given by Agricultural Census, India, 2010-11, Department of Agriculture & Co-operation, Ministry of Agriculture, Government of India, with slight modifications to suite and justify the needs of the study area. The operational holding of marginal size group is below 1.0 ha, followed by small (1.0-2.0 ha), medium (2.0 – 4.0 ha) and large (4.0 ha and above).

Data Source

Primary information from individual farm households were collected for demographic pattern, workforce employment, land use pattern, farm (crops and allied activities) and non-farm (salary & wage, non-farm business and remittance & govt. scheme payout) activities undertaken by the farm households for the period of study.

Period of Study

The field investigation was started in the first week of November, 2020 and was completed by the end of October, 2021. The data collected pertains to the agricultural year 2020-21 (July, 2020 to June 2021).

Data Collection Technique

For collecting data pretested survey schedule was used to gather information from individual farm households. Personal interview was done devoting 30-40 minutes per household. Focused group discussions were undertaken for better understanding of the critical filed situations and overall assessment of the agricultural occupation as a whole. To estimate net income from farm and non-farm occupations for sampled 500 farm households worked out by deducting total expenses from total income for the study. Descriptive statistical tools were used to present the results of the investigation.

Classification of Livelihood Source

The income sources have been broadly classified into two major groups in order to present the results regarding the income generated by different occupations by farm households. They are – Farm Sector income (Agri. and Allied) & Non-farm Sector income. Farm Sector consists of (1) Crop enterprises or crop farming; (2) Allied enterprises consisting of Livestock and Fishery enterprises. Similarly, Non-farm sector comprises of (1) Salary and Wage income; (2) Non-farm Business income; and (3) Remittance and Government welfare schemes payout income.

Definitions

Farm Household

The farm household is defined as “a household those operates some land and is engaged in agricultural activities during the previous year”. Thus, a household qualifies to be a farm household if (i) they possess some land (either owned or leased in or otherwise possessed) and (ii) is engaged in some agricultural activities on that land during the previous year.

Principal and Secondary occupation

The occupation from where farm households generate highest proportionate income among all other occupations for the year has been termed as their principal occupation. Similarly, the occupations other than the principal one the farm households engage themselves in order to earn additional income to improve their livelihood security has termed as the secondary occupation.

Results and Discussion

Land utilization pattern

Land holding of average household was found to be 1.54 ha per farm, consisting of 93.22 per cent owned land, 14.56 per cent leased in land and 7.79 per cent leased out land. Large farm households had the highest proportion of owned land, while small farm households had the highest proportion of leased-in land and medium farm households had the highest proportion of leased-out land. Smaller household's resorts to taking land on lease for making their farming into a viable unit economically to generate sufficient income for their families provided supply exists. The operational holding of sample farm households (1.54 ha) was found to be higher than the national average of 1.08 ha (Source: Agricultural Census, 2015-16), which may be because of selection bias to include farm households only in this study to that of overall households considered while calculating national average. The majority share of the operational holdings (83.77%) was used for growing field crops, while fruit and plantation crops covered 6.49 per cent, homestead and fishery occupied 6.49 per cent and 3.25 per cent respectively. Large farm households had an average 3.81 ha, followed by medium, small and marginal farm households with 2.51 ha, 1.54 ha and 0.53 ha, respectively as their operational holding.

Livelihood Composition of Sample Farm Households

It is universally known that farm household in the rural landscape derive their income from different sources. The study reveals that households generate their income from crop farming, livestock farming, salaried job both in public or private sector that are permanent or temporary in nature,

wage earning in farm as well as non-farm sector, business income from shops, trading, commission earning jobs, renting, earnings from village and cottage industry, handicrafts, tailoring etc. Moreover, remittance income of households generated by family member working outside mainly belonging to landless and marginalized households. Furthermore, recently implemented direct benefit transfer of government welfare schemes such as centrally sponsored PM Kisan Yojana and Arunodoi Yojana of Assam government sizably contributing to the family income of beneficiary households covered by those schemes, which generally covers marginal and small size class of households.

Workforce engagement in principal occupation

Farm households, regardless of the size class, generally have a principal occupation as a source for generating income for their livelihood. Additionally, the available work force of those households was found to engage themselves in various other occupations other than the principal one in order to earn additional income to improve their livelihood security. This trend was very prominent in small and marginal farm households or in those households that didn't have a permanent and yearlong occupation like permanent service or established businesses. While analyzing principal source of livelihood on pooled basis, it can be seen that (Table 1) the highest proportion of farm households (54.40%) derive their livelihood principally from non-farm sector as compared to farm sector (45.60%). Among non-farm occupation, salary and wage-earning group has the highest proportion (33.20%) of households deriving income as the principal occupation source, followed by non-farm business income group (12.20%) and remittance income group (9%).

The household's dependence on farm income as a principal source of livelihood was divided into two major groups: crop farming and allied farming. The proportion of household principally dependent on crop farming was 39.00 per cent, whereas in allied farming it was 6.60 per cent. It can be seen that (Table 1) 69.95 per cent households of marginal size class was engaged in non-farm occupation as their principal source of livelihood, which was highest among all size classes, and it tends to decline as the size class progresses with slight exception in large size class. It was followed by small (59.61%), large (35.42%) and medium (23.47%) size classes of farm household. In case of farm income, opposite was the case, marginal size class had the lowest number of household (30.05%) generating livelihood from farm sector followed by small (40.39%), large (64.58%) and highest by medium (76.53%) size class of farm households. This trend was found because smaller size classes of farm households have less operational land holding as compared to their larger peers, leading to the income pattern as found. To generate income throughout the year for supporting their livelihood, the work force belonging to the smaller size classes engaged themselves in other non-farm income generating activities in a greater number as compared to their larger peers. Smaller operational holding could not fully engage the work force in productive employment throughout the year in farm activity because of smaller land holding and unsuitability of land resources for production of crops in different seasons and

other related issues and constraints associated with farming. Sharma *et al.* (2022) ^[16] reported from NSSO data that 68.27% household's practices more than one occupation for their livelihood in Assam indicating majority practice two or more income generating activity for supporting their livelihood.

Workforce Engagement In Secondary Occupation

The workforce found to practice one or more occupation of secondary nature based on availability, seasonality, etc. factors. It was observed that 84.37 per cent practice one or more secondary occupation to that of people engaged in principal occupation of the sampled population. Out of the total people involved in secondary occupation, 43.07 per cent was found to be involved in farm sector and rest in the non-farm sector. In the farm sector, involvement of female work force was more at 46.94 per cent compared to the male

counterpart (38.94%). Individuals practicing non-farm business as their secondary occupation was found to be 20.78 per cent, where involvement of male (20.25%) and female (21.28%) was almost same. In salary and wage sector, involvement of individuals was seen at 32.68 per cent overall, with male (33.64%) was slightly ahead of the female (31.78%). In remittance income sector, no involvement of female work force was found. Altogether 7.17 per cent of the male work force was found to generate income from work outside their village to support their family's livelihood. The female work force was found to surpass the male counterpart in proportion of involvement in different occupations of secondary nature across size class of farm household. This was probably found because women in rural landscape generally support their husband, father or the family head in almost all occupational avenues they used to practice as a family unit.

Table 1: Principal sources of livelihood of the sample farm households across size class (in Numbers)

Principal livelihood sources	Marginal	Small	Medium	Large	Pooled
Farm Occupation					
Crop enterprises	48 (23.64)	54(35.76)	67(68.36)	26 (56.25)	195 (39.00)
Livestock enterprises	13 (6.40)	3 (1.99)	-	-	16 (3.20)
Fishery enterprises	-	4 (2.65)	8 (8.16)	5 (10.42)	17 (3.40)
Allied enterprises	13 (6.40)	7 (4.64)	8 (8.16)	5 (10.42)	33 (6.60)
Sub-total (Agri. & Allied)	61 (30.05)	61 (40.39)	75 (76.53)	31(64.58)	228 (45.60)
Non-Farm Occupation					
Salary & Wage Income	89 (43.84)	40 (26.49)	21 (21.43)	16 (33.33)	166 (33.20)
Non-Farm Business Income	25 (12.32)	33 (21.85)	2 (2.04)	1 (2.08)	61 (12.2)
Remittance & Govt. welfare scheme	28 (13.79)	17(11.26)	-	-	45 (9.00)
Sub-total	142 (69.95)	90 (59.61)	23 (23.47)	17 (35.42)	272 (54.40)
Grand total	203 (100)	151 (100)	98 (100)	48 (100)	500(100)
Figures within parentheses indicate percentage of total of that particular size class					

Income Generated From Various Occupations

The net income considering both principal and secondary income sources is presented in Table 2. It can be found that the average annual income of a farm household across size class was Rs. 80,167.32. Priscilla *et al.* (2021) ^[14] reported that average net annual income per household was Rs. 89,270.00 for the entire North-East India. The farm sector contributed Rs. 47,398.86 (59.12%) and non-farm sector contributed Rs. 32768.46 (40.88%) of net annual income. Farm income was found to be lowest in marginal size class (46.79%), followed by small (57.93%), large (68.21%), and highest by medium (68.76%) size class. In absolute terms, net income per farm per annum from farm sector was Rs. 23,841.40, Rs. 45,010.84, Rs. 76,705.78 and Rs. 1,13,026.02 respectively for marginal, small, medium and large size classes of farm households. Non-farm sector was found to be a significant source of livelihood for the smaller farm households. Marginal farm households proportionately generated highest income from this source with 53.21 per cent of total annual income and its share declined as the size category of farm household increased. In absolute terms, it was Rs. 27,113.05 in marginal households followed by small with Rs. 32,684.38 (42.07%), medium with Rs. 34,856.52 (31.24%) and lastly by large group with Rs.

52,687.50 (31.79%) of the total income per farm per annum. There was an inverse relationship between non-farm income farm size category, which was also been reported by Adams (2001) ^[11] and Micevska and Rahut (2008) ^[13].

Income From Crop Farming

Field crops were found to be grown in three seasons namely *summer*, *kharif* and *rabi*. The tree, plantation and horticultural crops, creepers, vines etc. that exist in the homestead and elsewhere in the farm land and the income derived from them were also considered under crop enterprises. The net income from crop farming is presented in Table 2. Considering proportionate contribution, it could be seen that medium size class of farm households derived highest proportionate income (48.92%) from crop farming, followed by large (39.66%), small (38.78%) and marginal (26.56%) groups. In absolute terms, the large farm households generated Rs. 65,726.51 followed by medium (Rs. 54,577.41), small (Rs. 30,129.36), and marginal (Rs. 13,531.24). Income from crop farming was found to be lower in the smaller farm households as compared to their larger peers, with an average proportionate contribution of 37.22 per cent of the average annual net income of the farm household at Rs. 29,840.82.

Table 2: Net income per farm per year from different livelihood sources across size class (in ₹)

Income sources	Marginal	Small	Medium	Large	Pooled
Farm Income					
Crop enterprises	13531.24 (26.56)	30129.36 (38.78)	54577.41 (48.92)	65726.51 (39.66)	29840.82 (37.22)
Livestock enterprises	7988.85 (15.68)	9568.19 (12.32)	8097.18 (7.26)	8514.54 (5.14)	8537.51 (10.65)
Fishery enterprises	2321.31 (4.56)	5313.29 (6.84)	14031.18 (12.58)	38784.97 (23.40)	9020.53 (11.25)
Allied enterprises	10310.16 (20.23)	14881.48 (19.15)	22128.36 (19.83)	47299.51 (28.54)	17558.04 (21.90)
Sub-total Income (Agri. & Allied)	23841.40 (46.79)	45010.84 (57.93)	76705.78 (68.76)	113026.02 (68.21)	47398.86 (59.12)
Non-Farm Income					
Salary & Wages Income	13872.96 (27.23)	17022.25 (21.91)	19007.76 (17.04)	30312.50 (18.29)	17408.66 (21.72)
Non-Farm Business Income	4468.97 (8.77)	9433.11 (12.14)	15214.29 (13.64)	22375.00 (13.50)	9793.20 (12.22)
Remittance & Govt. Welfare Schemes	8771.13 (17.21)	6229.01 (8.02)	634.48 (0.57)	-	5566.60 (6.94)
Sub-total Income	27113.05 (53.21)	32684.38 (42.07)	34856.52 (31.24)	52687.50 (31.79)	32768.46 (40.88)
Grand total Income	50954.46 (100)	77695.22 (100)	111562.30 (100)	165713.52 (100)	80167.32 (100)
Figures within parentheses indicate percentage of total income of a particular size class					

Among different crop seasons, *rabi* season generated the highest income in all size classes. The average contribution of *rabi* season was Rs. 13,702.51, which translates into 45.92 per cent of annual income of crop enterprises. It was followed by *summer* at Rs. 8,033.98 (26.92%), *kharif* at Rs. 4,787.07 (16.04%), by homestead income at Rs. 3,317.26 (11.12%). The *rabi* season contributed highest income because high value vegetable crops were grown during this season, and the season is generally free from uncertainties due to flood, water logging and other risk factors, which usually affect crops production in other seasons. Paddy was found to be the major crops of summer season, grown with higher input use like fertilizer and irrigation and reported to have highest productivity compared to *kharif* season. *Kharif* was the main crop growing season covering larger area to another season. Variety of crops found to be grown in this season, though mainly as rainfed crop. Households grow paddy primarily for yearlong food requirements and therefore choose varieties to satisfy their food preferences rather than economic consideration. It could be understood from feedback received that household's practices subsistence farming with traditional approach because of risks and uncertainties associated with agriculture as a whole. Moreover, the younger generation found to be neglecting whole time farming leaving it to their older family members.

Homestead farming with unique crops combinations has great importance in the livelihood of the average farm households though its proportionate contribution was less. The concept of the homestead farming is very unique practice in the study area. In most cases, all the dwelling houses, homestead areas, plantations, perennial crops and shrubs, various tree species, creepers, vines, fishery, livestock shed, or accommodations for them is so

intrinsically woven that it becomes a single unit that are very difficult to segregate. More than economic significance, the homestead has tremendous nutritional and health benefits for the members of the household by supplying major and minor fruits, a variety of green and leafy vegetables, medicinal plants, tubers etc. which are very rich in vitamins and minerals. Moreover, the homesteads are a biodiversity reserves, supporting various plant species of importance from an environmental, medicinal and ecological point of view. Das and Das (2005)^[7] also reported rich homestead biodiversity in Assam. Alam and Masum (2005)^[4] was of the view that homesteads are ex-situ conservation site of biodiversity and has reported 124 plant species in the homestead of Bangladesh, a neighboring country of the study area.

Income From Allied Enterprises

During the period of study, it was found that 85.60 per cent households had one or more allied enterprises in their existing farm plan. Households were found to rear dairy cow, goat and sheep, pig, poultry and fishery as monoculture or as mixed cultures in a variety of combinations among different allied enterprises. Households rearing Dairy cow was found highest (54.40%), followed by poultry (37.40%), jointly by goatery and fishery (33.80%) and lowest by piggery with 10.40 per cent farm households as a whole.

In case of livestock, smaller farm households generate a higher proportionate income than the larger households, with an average income of Rs. 8,537.51, which was 10.65 per cent of the average total income. Whereas in fishery, there was a clear trend indicating a consistent increase in income from marginal to large size classes of farm households, both in absolute and proportionate terms.

Marginal households earned Rs. 2,321.31 (4.56%) per farm, rising steadily to Rs. 38,784.97 (23.40%) in large size classes of households, with an average household income of Rs. 9,020.53 accounting for 11.25 per cent of total average income.

Annual income from dairy enterprise shows a clear trend and income increased as farm size increased in absolute terms, but income was almost similar in small and medium size classes of farms. Annual income (Table 3) in the marginal size class of farms was on average Rs. 3,874.65 and increased to Rs. 4,886.87, Rs. 4,880.49 and Rs. 5,662.27 in small, medium and large size classes of farm households respectively, with average pooled income of Rs. 4,549.10 per farm per annum. Though poultry was the second most important allied activity, its contribution to annual income was meager at Rs. 593.81 per farm on average because of higher self consumption, which was not considered for income calculation. Annual net income from goatery enterprise was found to be Rs. 1,546.80 per farm on average. It was highest in small size class of farm households, amounting to Rs. 1,744.79 per farm, and was

followed in descending order by marginal (Rs. 1,616.84), medium (Rs. 1,293.11) and large (Rs. 1,145.72) size classes of farm households. The average net annual income from piggery was found to be Rs. 1,847.80 per farm, where small farm households received highest income amounting to Rs. 2,223.11, followed in descending order by marginal, large and medium size classes of farm households with Rs. 1,766.16, Rs. 1,705.45 and Rs. 1,508.34 per farm, per annum respectively. Livestock rearing was found to be the reliable source for generating income by the smaller households for their livelihood security as it could be easily incorporated in their activity plan along with crop farming. Annual net income from fisheries was found to be highest in large size group of farms, amounting to Rs. 38,784.97 per farm, followed by medium (Rs. 14,031.18), small (Rs. 5,313.29) and marginal (Rs. 2,321.31) size class of farm households. On average, fisheries contributed net annual income of Rs. 9,020.53 per farm, which was larger than the livestock group combined. Therefore, fishery was found to be an important component for livelihood security of the farm households of the sample area under the study.

Table 3: Net income per farm per year from allied enterprise across size class (in ₹)

Allied enterprises	Marginal	Small	Medium	Large	Pooled
1. Livestock					
a. Dairy	3874.65 (37.58)	4886.87 (32.84)	4880.49 (22.06)	5662.27 (11.97)	4549.10 (25.91)
b. Goatery	1616.84 (15.68)	1744.79 (11.72)	1293.11 (5.84)	1145.72 (2.42)	1546.80 (8.81)
c. Piggery	1766.16 (17.13)	2223.11 (14.94)	1508.34 (6.82)	1705.45 (3.61)	1847.80 (10.52)
d. Poultry	731.19 (7.09)	713.42 (4.79)	415.25 (1.88)	1.10 (0.002)	593.81 (3.38)
Sub-total	7988.85 (77.49)	9568.19 (64.30)	8097.18 (36.59)	8514.54 (18.00)	8537.51 (48.62)
2. Fishery	2321.31 (22.51)	5313.29 (35.70)	14031.18 (63.41)	38784.97 (82.00)	9020.53 (51.38)
Grand total	10310.16 (100)	14881.49 (100)	22128.36 (100)	47299.51 (100)	17558.04 (100)

Figures within parentheses refers to percentage of total income of respective size class

Income From Non-Farm Sector

Non-farm sector was found to be a significant source of livelihood for the marginal and smaller farm households as they lack land resources to support their livelihood. Marginal farm households proportionately generated highest income from this source with 53.21 per cent of total annual income and its share declined as the size category of farm household increased. In absolute terms, it was Rs. 27,113.05 in marginal size class households followed by small with Rs. 32,684.38 (42.07%), medium with Rs. 34,856.52 (31.24%) and lastly by large group with Rs. 52,687.50 (31.79%) of the total income per farm per annum. Findings (Table 2) revealed that salary and wage component was the highest contributor to the total income on average, with 21.72 per cent of average annual income. Marginal households proportionately received highest 27.23 per cent income from salary and wage component, while medium households received the lowest at 17.04 per cent. The average net annual income from non-farm business sources was Rs. 9,793.20, accounting for 12.22 per cent of total income and was the second largest contributor of non-farm income category. Remittance and govt. welfare scheme

payout contributed the least, with 6.94 per cent of the total annual income on average. However, this income category was found to be very significant for those marginalized households, who did not have capabilities and resources to adopt other occupations.

Conclusion

Adoption of different income enhancing strategies for securing livelihood by the farm households is a crucial subject for understanding the status of rural livelihood. Often, the occupations they practice are due to compulsion rather than choices & preferences, mainly because of lack of opportunity, training & skill set, resources of importance and family compulsions. The conclusions emanating from this study are summarized below. First, farm households adopt various income generating activities to diversify their income portfolio to prevail over seasonality of crop farming, utilize idle labour force yearlong productively, spread risk and uncertainties associated with various occupations and to cope with unforeseen events like natural calamities, etc. Second, farm households irrespective of size classes practices low input subsistence crop farming through

traditional methods without having market oriented commercial approach, Third, fishery enterprises stands out among allied enterprises surpassing livestock group as a whole in income contribution for an average household, Fourth, marginal and small farm households depend more on non-farm occupations for their livelihood than their larger peers and involve them in larger varieties of occupational activities of short durations because of their inherent limitations. Fifth, medium and larger households use their land and assets to achieve synergies between farm and non-farm sectors exploiting available opportunities for better income generation thus securing their livelihood. Sixth, though remittance income is crucial for families adopting this activity for their livelihood, but proportionate involvement found to be less, because of lack of suitable job availability elsewhere, skill sets required, as well as mindset and family concerns. Lastly, government scheme payout to beneficiary households has come as a savior to those farm families for securing their livelihood as the amount they received was found to be substantial from overall income point of view, but the main concern here is about the consequence in the job participation of the members of these farm families in the time to come.

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