



## Status of Labour households and Marginal Farmers in Bihar : A Comparative Analysis

VINOD KUMAR<sup>1</sup>, R K P SINGH<sup>2</sup>, VIDYABHARTI<sup>5</sup> ABHAY KUMAR<sup>3\*</sup>, AND UJJWAL KUMAR<sup>4</sup>



### ARTICLE INFO

Received on	:	15/11/2019
Accepted on	:	08/02/2020
Published online	:	09/03/2020



### ABSTRACT

This study is based on the longitudinal information collected in the selected villages of Bihar. The data collected during 2010-11 and 2014-15 were analyzed using descriptive and econometric techniques. An attempt was made to analyze employment generation, income of different marginal farmers and labour households and the extent of indebtedness and earning prevalent among rural labour and marginal farm households in rural Bihar. The result indicated that the average size of landholding of labour and marginal farmers increased in villages under study because some of these households purchased land from other categories of households through their meagre savings possible due to increase in employment opportunity and wages, particularly in non-farm sector in Bihar. The levels of livelihood parameter are low on labour households, but they performed impressively during the recent past. The total values of assets of labour and marginal farms' households under study has considerably enhanced during five years due to either possession of new assets, rejuvenation, and/ or value appreciation of the existing assets. Labour households earned a higher income than marginal household in 2014-15 due to availability of non-farm employment and grants under social security schemes. There has been significant improvement in education level, asset possession and availability of facilities. However, social security programmes seem to be more robust than economic development programmes including agricultural development. The investment in human capital or skill development in rural area will be equally important in the endeavour for alleviating poverty and improving livelihood status. The complementarities among various types of infrastructures, institutions and development programmes need to be ensured to accelerate the process of poverty alleviation and improving livelihood in rural Bihar.

### KEYWORDS

Bihar, income, labour households, livelihood, marginal households

### INTRODUCTION

Bihar, with a population of about 104 million, is the third most-populated state in India, after Uttar Pradesh (200 million) and Maharashtra (114 million) (Anonymous, 2019). Bihar supports about 9 per cent of the population with 2.9 per cent of the geographical area of India. It has the distinction of being the most densely populated state in the country. Till recently, it was also among the slowest growing states of the country. The growth rate of state's gross domestic product (GDP) has considerably accelerated during the past six years, with state economy growing at more than 10 percent per annum (Anonymous, 2019), yet the state continues to be among the economically most backward state in India, with one of the lowest per capita income and highest incidence of poverty. Further, the prevalence of under-nutrition and malnutrition along with a high mortality rate among children is rampant in the state. Though the structure of economy underwent a sea change in Bihar over time, agriculture continues to be a significant sector as it contributes about 19 per cent to the State Gross Domestic Product and provides employment to about 67 per cent of the rural work force. Agricultural households constitute about 51 per cent of the total rural households in the state, dominated by marginal and small landholder farms (Anonymous 2018a). Rural population constitute about 89 per cent of the total population of the state and one-third of rural households are landless who depend mainly on wage employment, sharecropping and non-farm activities like; *Riksha* and *Thela* pulling, loading-unloading of agricultural products and input, livestock production etc. About 91 per cent of rural households belong to marginal farm Category (less than 1 ha.), who do not generate sufficient income from their land. We intend to analyze employment generation, income of different marginal farmers and labour households and the extent of indebtedness and earning prevalent among rural labour and marginal farm households in rural Bihar, with a view to understanding their livelihood patterns. Marginal farmers and labour households, with a declining resource base, require a steady flow of income from farming as well as other income-generating activities. The majority of labourer households own little assets and their primary source of livelihoods are wage employment and sharecropping, whereas marginal farmers are those who own land and generate more than 50 per cent of their income from farming and livestock production.

In Bihar, the per-capita income has recorded the highest growth during the past 12 years and it increased from Rs.7588 in 2005-06 to Rs.28485 in 2017-18 (at 2011-12 prices). But, much of this growth has been contributed by the secondary and tertiary sectors, though the major workforce in the state gets employment in the agriculture and allied sectors. The agriculture sector in the state has also recorded an impressive annual growth of 2.6 per cent during the Eleventh Five-Year Plan and has registered about 7.9 per cent annual growth during 2011-12 to 2016-17 at current prices (Anonymous, 2019). The growth in Bihar economy in general and agriculture sector in particular during the recent years might have contributed to the decline in the incidence of poverty in Bihar.

In the process of development an increasing emphasis is being assigned to rural livelihood in various development projects. Ellis (2000) defines a livelihood as comprising the assets (natural, physical, human, financial and social capital),

<sup>1</sup>Nalanda College of Horticulture, Noor Sarai, Nalanda, Bihar

<sup>2</sup>ICAR Research Complex for Eastern Region, Patna, Bihar

<sup>3</sup>ICAR Research Complex for Eastern Region, Patna, Bihar

<sup>4</sup>ICAR Research Complex for Eastern Region, Patna, Bihar

<sup>5</sup>ICAR Research Complex for Eastern Region, Patna, Bihar

\*Corresponding author email : akumar1904@rediffmail.com

activities and access to these (mediated by the institution and social relations) that together determines the livelihood gained by an individual or household. Livelihood diversification is then the process by which households construct a diverse portfolio of activities and assets to survive and improve their standard of living. Further, the nature and pattern of household income and livelihood status are not static and may change frequently. There have been extensive studies on different aspects of farm business, but the dynamics of the household income and livelihood status of marginal farmers and labour households has seldom been explored with a panel micro-level data set. The understanding of nature, pattern and dynamics of the household income and livelihood status in one of the most poverty stricken states of India is critical to outline the pathways for alleviating poverty and improving livelihood of rural households in Bihar. In the present paper, an attempt has been made to compare the status of marginal farmers and labour households to their poverty level, asset possession, access to facilities and their participation to different programmes for rural development which have a direct bearing on poverty and their livelihoods.

#### MATERIALS AND METHODOLOGY

The study is based on high-frequency primary data collected from rural households by resident investigators for five years under the ICAR-ICRISAT collaborative project entitled, "Tracking Change in Rural Poverty in Household and Village Economies in South Asia." The data used in this paper pertain to four villages of Bihar, viz., Arap and Baghakole villages of the comparatively developed district of Patna and Susari and Inai villages located in the relatively under developed district of Darbhanga, located in north Bihar. The five-step sampling procedure was followed for drawing representative household samples for the pursuit of a detailed investigation. All the 38 districts of Bihar were grouped into two categories, that is, the more developed ones and the less developed ones based on specific development indicators namely; agricultural development, socio-economic status and infrastructure parameters. A sample of one block from each district and two villages from each sample block were also randomly selected. The survey was conducted in each sample village and information of demographic characteristics, land, dwelling houses, the facilities available in each dwelling house, livestock, agricultural and domestic assets, and financial information were obtained from all the households in the identified villages, which, in turn, were grouped into four categories. The first group comprised households owning less than 0.40 hectares of land. These households were termed as 'Sub-marginal households'. In the second step, the remaining households were equally distributed among tertile groups, with the bottom, middle and top groups being referred to as the 'small', 'medium' and 'large' households, respectively. Thus, four groups were created in each village. After that, 10 households were selected from each group randomly, with a sample size of 40 households per village, making a total sample size of 160 households for all the four sample villages of Bihar. At first, the income of the household was worked out in terms of its earnings from the farm, farm labour, non-farm labour, salaried jobs, business, caste

occupation, remittances, pension, subsidy and benefit from government programmes and poor and non-poor households were identified on the basis of their income. The study is based on information collected from 59 marginal farmers and 68 labour households. An attempt was also made to find out the changes in different variables of livelihood from 2010-11 to 2014-15. To measure the change in variables of livelihood, the year 2010-11 was considered as the base year to compare their status with respect to corresponding observation in the year 2014-15. Data were analyzed using descriptive statistics.

**Table 1:** Share of household type in total sample (%)

Household type	2010-11	2014-15
Labour household	39.38	40.24
Marginal farmers	31.25	34.91
Other farmers	29.38	24.85

#### RESULTS AND DISCUSSION

The majority of labour households and marginal farmers derive their livelihoods from a number of diverse on-farm and non-farm sources. The non-farm sources include wages, remittances from migrants, income from informal economic activities and from state welfare grants. Most surveys indicate that these are the most significant and substantial sources of income available to rural households (Kumar *et al.*, 2019). The agricultural income generally provides very small proportions of household income. The focus on monetary 'income' does not take into consideration all the non-monetary goods and services that rural households obtain from their land and its natural resources. It is tough to attribute a monetary value to these benefits. The land is closely linked to livelihood security as about one-fourth of rural working force is employed in agriculture in Bihar.

In villages under study, labour households also own land and their average size of land holdings was about 0.33 ha in 2010-11, which increased to 0.37 ha in 2014-15 (Table 2). Marginal farmers had comparatively large land holding to labour households and their average size of land holdings increased from 0.61 ha to 0.73 ha during the period under investigation. The average size of landholding of labour and marginal farmers increased in these villages because some of these households purchased land from other categories of households through their meagre savings. It was made possible due to an increase in employment opportunity and wages, particularly in non-farm sector in Bihar (Kumar *et al.*, 2016). In Bihar also, the land owned by marginal farmers increased by 1.09 per cent between 2010-11 and 2015-16 (Anonymous 2019). However, landholding became smaller and the share of small and marginal holdings in the country has risen (Mukherjee, 2018).

**Table 2:** Land size of household categories in villages under study (in ha)

Household type	Own land	
	2010-11	2014-15
Labour household	0.33	0.37
Marginal farmers	0.61	0.73

**Education of households**

The enriched knowledge helps people to tackle the farm and livelihood problems in a better manner. Level of education helps improving knowledge of an individual. The productivity of a person has association with educational level. There is a significant productivity differential exists between those with primary schooling and those with none at all. The difference is greater than the gap in productivity between primary-school graduates and those with higher levels of education (Hanushek and Lockheed, 1994). There is a minimum threshold level of education which significantly influences the farm productivity however five years of schooling or more is likely to have highly significant impact of education on agricultural productivity (Paltasingh and Goyari, 2018). In the present study, the educational level of family members (+ 7 years) of sample households were computed in number of years of schooling (Table 3). The educational level of family members of marginal households was much higher than the educational level of members of labour households. There was an increase in the educational level of both categories of households under study, but increase in educational level during five years under study was higher among labour households than the corresponding increase in marginal farmers' households. It was probably due to incentives (school dress, bi-cycle to girls and mid-day meal) provided by the government to students of poor households for increasing their enrollment and attendance in the school.

**Table 3:** Average level of Education of Family members of Sample households (in years)

Household type	2010-11	2014-15
Labour household	5.0	5.4
Marginal farmer	8.0	8.1

The majority of labour households belong to lower caste and they tend to engage their children in household chores and farm activities. The low participation of their children in school was probably due to restricted opportunities arising from historical socio-economic and political marginalization, which got improved in recent past. However, there is still a gap in the educational level of labour and marginal households but the recent efforts improved the educational level of labour and marginal farm households in Bihar.

**Asset Possession**

Possession of household assets is strongly associated with the level of livelihood and poverty status of households. Type and quantum of assets have a detrimental effect on the ability of households to pursue successful household livelihood strategies. The level of livelihood security is determined by access to and the quality of sources of assets. Lack of access to or control over the asset is detrimental for improving livelihood status of rural households. Table 4 depicts the value of assets of an average household in villages under study. The households own numerous assets and listing complete inventory is neither desirable nor comprehensive. Therefore, almost all measurable assets were clubbed together and classified under five broad groups, viz. (i) farm machinery, (ii) livestock, (iii) transport, (iv) domestic assets including items of communication, and (v) residential houses. The farm

machinery group includes all machineries, tools, and implements which were used on the farm. The livestock assets comprised farm animals, which were being reared by the households. The transport group included motor bikes, bicycles, and other means of transport including 'Jugars'-locally fabricated means of rural transport. The domestic assets included all items used to carry domestic chores and also to communicate. The residential houses encompassed all sorts of structures being used for habitation of family members and animals and storage of farm produce.

The total values of assets of labour and marginal farms' households under study have considerably enhanced during five years due to either possession of new assets, rejuvenation, and/or value appreciation of the existing assets (Table 4).

**Table 4:** Per household asset value on sample households (Rs '000/household)

Asset type	Labour household		Marginal farmer	
	2010-11	2014-15	210-11	2014-15
Farm equipment	3.40	7.14	15.36	30.68
Livestock	9.76	9.92	15.95	22.48
Transport	4.32	7.28	12.01	45.28
Domestic	37.72	72.43	76.55	174.58
Residential	120.08	222.06	232.00	389.83
Total	175.28	318.94	351.87	662.84

There has been more than 80 per cent increase in the total value of assets on both categories of households in this short span of five years, viz. 2010-11 to 2014-15. Among main assets owned by farm households, the residential house is the most important asset, constituting about two-thirds of the total value of assets on both categories of households because it is necessary for living of family members of all categories of households. However, living condition of marginal farm households was better to labour households, indicated by the level of investment in residential assets.

The transport vehicle is emerging as an important asset in Bihar, particularly during last five years. In the villages under study, labour households had transport asset of Rs 4.32 thousand in 2010-11 which increased to Rs 7.28 thousand in 2014-15 whereas there was a spectacular increase of more than three-fold in value of transport asset on marginal farm households during the period. In Bihar, the number of registration of motor vehicle increased from 3.36 lakh in 2010-11 to 4.78 lakh in 2014-15 and the highest increase of registration of more than 32 per cent was observed in two-wheelers (Anonymous, 2018b). An increase in the number of two-wheelers was probably due to increase in income of weaker section of society and liberal grant of vehicle loan by banks.

Farm equipment was also a valuable asset, possessed by both categories of households which observed two fold increases during the period under study. It was probably due to subsidy available for the purchase of agricultural machines under Rashtriya Krishi Vikas Yojana (RKVY). Domestic assets constitute about one – fifth of total value of assets on both categories of households but the increase observed in



domestic assets was higher on marginal farm households than the increase on labour households, the decline in poverty and increase in electrification and communication network might be responsible for phenomenal increase in domestic assets on weaker section of rural households.

**Income and Poverty Level**

The level of income of labour and marginal households for five years from 2010-11 and 2014-15 is given in Table 5. The income of a farm household in sample villages is low. Average annual incomes at current prices of both categories of household have been growing at an average rate of about 28 per cent and 14 per cent, respectively during the period under study. Labour households earned higher income than marginal household in 2014- 15 in villages under study. It was made possible due to the availability of non - farm employment and grants under social security schemes. However, per capita income was lower on labour household (Rs.1405) than marginal households (Rs.1971) in 2014-15. It was due to large family size on labour households than marginal households.

**Table 5:** Change in levels of Poverty and Income of households under study

Particulars	Labour households		Marginal farms' households	
	2010-11	2014-15	2010-11	2014-15
Population below poverty line (%)	70.5	23.2	53.7	30.0
Average household income (in Rs'000)	63.83	154.43	88.0	150.38
Per capita monthly income (in Rs)	744	1405	1212	1971

Poverty level was much higher for labour (70.5%) and marginal (53.7%) households in 2010-11, which declined substantially in 2014-15 and reached to 23.2 per cent on labour households and 30 per cent on marginal households. The high level of poverty on both the categories of households in 2010-11 was mainly due to drought in Bihar.

The level of income exhibited a direct relationship with farm size; the income increases as we move from labour to marginal size farm households. But, the growth rate in the household income did not display any relationship with farm size. The per household income registered the highest growth rate for labour households. However, the scenario can change with the injunction of appropriate technological, policy and institutional interventions and the period required for doubling farmers' income can be reduced. The Government goal of doubling farmers' income by 2022 does not seem to be insurmountable even in one of the most poverty stricken and agriculturally important states of India if appropriate measures are not taken in right earnest.

**Access to facilities**

Access to facilities is an important foundation for improving the livelihood of the weaker section in the rural area, which generates strong linkages to other economic sectors. Rural livelihoods may improve through providing facilities like; hygienic living, toilet, safe drinking water, safe cooking

facility and access to mass communication. There have been marked improvements in the availability of facilities in the rural area (Table 6). The lack of access to clean water and sanitation facilities for rural communities is responsible for high incidence of waterborne diseases which accelerate the cycle of poverty.

The government launched a massive programme for improving access to toilets to achieve open defecation free (ODF) status across rural India. Analysis of data revealed that various facilities for improving livelihoods in rural area observed increasing trend during the period under study. Access to toilet increased from 10 to 15 per cent on labor household and 42 to 54 per cent for marginal farm households from 2010-11 to 2014-15, respectively. The number of electrified farm households also continuously increased from 49 to 54 per cent on labour household and 50 to 72 per cent to marginal farm households in 2010-11 to 2014-15, respectively, mainly due to launch of Rajiv Gandhi Rural Electrification programme in the state. There was no tap water facility available to farm households in most of the villages under study; however, the community tap water facility was available in only one study village, which also became non – operative later on. Hand pipe water is considered as safe drinking water and about one-fourth of labour households and half of the marginal farm household had their own hand pipe in their dwelling house in 2010-11 which increased to 54 per cent and 65 per cent, respectively in 2014-15. There were sufficient number of public hand pumps available in villages and all households had access to the hand pumps for drinking purposes; however, some farm households were also using ponds/pyne for bathing purposes. Use of cooking gas was not very popular among weaker section of rural area in 2010-11 but its use increased in 2014-15 and now it is used by about one-third of these categories of households. Cable connection is still not common for weaker section of society up to 2014-15.

**Table 6 :** Access to Facilities on Labour and marginal households during 2010-11 to 2014-15(%)

Particulars	Labour households		Marginal households	
	2010-11	2014-15	2010-11	2014-15
Toilets	10	15	42	54
Electricity connection	49	54	50	72
Safe drinking water	24	54	54	65
Cooking gas	14	34	15	36
Cable connection	01	01	02	02

**CONCLUSION**

This paper used longitudinal information from the field survey carried out to explore the dynamics of farm household incomes between 2010-11 and 2014-15, using descriptive techniques. An attempt has been made to analyze the extent of land ownership, education level, asset possession, income and access to the facility. The findings show that the level of household income of labour and marginal farm households in selected villages of Bihar is low but showing impressive annual growth. The levels of livelihood parameter are low on labour households, but they performed impressively during recent past. There has been significant improvement in education level, asset possession and availability of facilities. However, social security programmes seem to be more robust

than economic development programmes including agricultural development. The investment in human capital of rural areas for skill development will be equally crucial in the endeavour for alleviating poverty and improving livelihood status. Finally, the complementarities among

various types of infrastructures, institutions and development programmes need to be ensured to accelerate the process of poverty alleviation and improving livelihood in rural Bihar.

#### REFERENCES

- Anonymous. 2018a. Economic Survey of Bihar 2018, Department of Finance, Government of Bihar, Patna.
- Anonymous. 2018b. Annual Report 2017-18, Department of Transport, Government of Bihar, Patna.
- Anonymous. 2019. All India Report on Number and Area of Operational Holdings, Agriculture Census Division, Department of Agriculture, Co-operation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India.
- Ellis F. 2000. Rural livelihoods and diversity in developing countries. Oxford University Press, New York.
- Hanushek Eric. A. and LockheedMarlaine E. 1994. Concepts of educational efficiency and effectiveness. In Torsten Husén and T. Neville Postlethwaite (ed.) International Encyclopedia of Education 2nd Edition, Volume 3, Oxford: Pergamon, pp. 1779-1784.
- Kumar A, Singh R K P and Kumar A. 2016. Rural labour employment and their livelihoods in Bihar: Micro-level evidences from selected villages. *Indian Journal of Labour Economics* 60 (2): 609–29.
- Kumar A, Singh R K P, Kumar A, Kumar U, Jha AK and Kumar P. 2019. Dynamics and determinants of farm household income in Bihar: evidence from panel data of selected villages. *Indian Journal of Agricultural Sciences* 89 (11): 1890–4.
- Mukherjee S. 2018. Indian farm size shrank further by 6% in 5 years to 2015-16. *Business Standard*, e. paper, Oct.02, 2018.
- Paltasingh, KR and Goyari, P. 2018. Impact of farmer education on farm productivity under varying technologies: case of paddy growers in India, *Agricultural and Food Economics* 6:7. <https://doi.org/10.1186/s40100-018-0101-9>.

#### Citation:

Kumar V, Singh RKP, Vidyabharti, Kumar A and Kumar U. 2020. Status of Labour households and Marginal Farmers in Bihar : a Comparative Analysis. *Journal of AgriSearch* 7(1):35-39