Indian J. Agric. Res., 52(5) 2018: 463-471
Print ISSN:0367-8245 / Online ISSN:0976-058X

AGRICULTURAL RESEARCH COMMUNICATION CENTRE
www.arccjournals.com/www.ijarjournal.com

Livelihood security of agricultural labour households in rainfed region of north-Karnataka – An economic analysis

B.N. Venu, K.B Umesh and T.M. Gujanana

Department of Agricultural Economics,
Gandhi Krishi Vignana Kendra, Bengaluru-560 065, Karnataka, India.
Received: 25-09-2017 Accepted: 20-07-2018 DOI: 10.18805/IJARe.A-4707

ABSTRACT

A livelihood comprises the capabilities, assets (social and material resources) and activities used by households for means of living. A livelihood index has been developed for agricultural labour households, based on the primary data. Six different sub-indices obtained are indicators of Economic, Food, Health, Education, Habitat and Social network Status for the rainfed regions of Bijapur district. Finally, a composite livelihood security index has been developed which indicates the livelihood status of migration and non-migration labour households in the study area. It is found that, migration households were moderately secured in terms of food security, economic security, education security and social network security. It was poor in case of health and habitat security. The composite livelihood security index (0.791) indicated that migration households were moderately secured in terms of livelihood. Non-migration labour households, the composite livelihood security index (0.645) indicated that households were less secured. In terms of food security and economic security, moderately secured and highly secured in education. In terms of health, habitat, social networks security non-migration labour households were less secured.

Key words: Agricultural labour households, Livelihood security, Migration, Non-migration, Per-capita consumption.

INTRODUCTION

Majority of the people in India makes out their existence directly or indirectly from farm related economic activities because agriculture is an integral part of everyday life in Indian sub-continent. Agriculture employs about 70 per cent of workforce of the country, provides food to the population, raw materials for the industries, wood for fuel and shelter, herbs for medicines and above all means of nourishment and livelihoods (Bose and Dey 2007, Upadhyay and Palanivel 2011). Agriculture sector for developing economies like India is primary source of livelihood in both farm and non-farm sectors and sustainability in agriculture sector means boosting up the rural livelihood system (Shyamali and Saini 2010, Yadav and Singh, 1998,). Livelihood refers to adequate stock and flow of food and cash with an individual to meet their basic needs and livelihood security means secured ownership of, access to resources and income earning activities, including reserves and assets to offset risk, ease shocks and meet contingencies (Shyam *et.al.*, 2013, Ijarotimi and Oyeneyin 2005).

Rural households get livelihoods through agri culture, others through rural labour market, self-employment in rural non-farm economy, others through migrating to towns, cities and other countries. Agriculture is the major source of livelihood not only in India but also in many Asia-Pacific countries but several other countries have substantial share of rural non-farm sector also (Aliber and Tim 2009, Bhuvaneshwari 2008). Migration is an important source of income. Income from remittances sent by migrants can also offset income shocks, protecting households 'productive asset base.

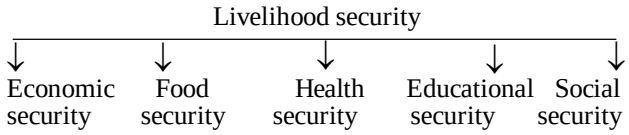
Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration). Livelihoods can be made up of a range of on-farm and off-farm activities which together provide a variety of procurement strategies for food and cash (Baiphethi and Jacobs 2009, Becker 2000, Akter and Rahman 2012). Thus, each household can have several possible sources of entitlement which constitute its livelihood. These entitlements are based on the household's endowments and its position in the legal, political and social fabric of society (Conelly and Chaiken 2000). The risk of livelihood failure determines the level of vulnerability of a household to income, food, health and nutritional insecurity. Therefore, livelihoods are secure when households have secure ownership of, or access to, resources and income earning activities, including reserves and assets, to offset risks, ease shocks and meet contingencies (Ellis, 2000).

A livelihood is sustainable, according to Chambers and Conway (1992), when it "can cope with and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation...". Unfortunately, not all households are equal

*Corresponding author's e-mail: gowdaregalia@gmail.com

in their ability to cope with stress and repeated shocks. Poor people balance competing needs for asset preservation, income generation and present and future food supplies in complex ways (Kanak and Sujit 2011, Kumar *et.al*, 2011).

Agricultural labour household's livelihoods in India are becoming increasingly separated from the actual rural labour households (Lalitha and Sharadha 1988; Oberoi 1992). This has important connotations for how we choose to conceptualize, thus research on agricultural labour's livelihoods and emphasizes the need to consider new guiding paradigms and new research questions in these contexts. In this direction the study was undertaken.



Components of household livelihood security

MATERIALS AND METHODS

The present study was taken up in Bijapur and Indi taluks of Bijapur district. We used Agriculture Labour Enquiry Committee (A.L.E.C) concept for identification of agricultural labours i.e. based on their income. If 50 per cent or more of their income is derived as wages for work rendered in agriculture and allied activities, then it could be considered as agricultural labour household.

Then migrant and non-migrant labour households are classified based on migration of any number of members from their family, but not the whole family. From each taluk 15 migrant and 15 non-migrant labour households were selected randomly. Thus, the total sample from both the taluks was 60 agricultural labour households. (Average sample size of agricultural labours is 6 members).

The data were collected from primary and secondary sources. Personal interview method was followed to collect the primary data using pre-tested schedule. For achieving the objectives of the study, data were analyzed using tabular presentation; averages, proportions and livelihood security index concept were specially employed to estimate the livelihood security status of the agricultural labour households.

Livelihood security index

Conceptual frame work: The household livelihood security index (HLS) uses a balanced weighted average approach with a large number of indicators, where each indicator assumed to contribute equally to the overall index. The indicators are grouped into different domains representing the security areas such as economic, nutrition, health, education, habitat and socio-network security.

Economic security: includes annual income earned, value of land, value of livestock, value of household farm assets and household savings.

Food security: includes annual consumption expenditure and quantity consumed.

Education security: consists of number of years of schooling of adult males, number of years of schooling of females and number of years of schooling of children.

Health security: comprises yearly expenditure on health problems and availability of health care centers.

Habitat Security: includes type of house (Pakka house, semi pakka and kaccha house) availability of safe drinking water and presence of toilet facility.

Social–network security: includes number of members participating in institutions.

Since each indicator is measured on a different scale, indicators are standardized following the approach adopted in measuring 'Life Expectancy' in Human Development Reports (Akter and Rahman 2012).

For example, a standardised indicator *j* is given by:

$$Zind\,j = \frac{indicator\,j - min\,j}{max\,j - min\,j}$$

Where minimum and maximum values of the indicators are from the same community to which the household belongs. Once each indicator representing a particular livelihood security domain is standardised, then the relevant household livelihood security index for the particular domain is constructed by averaging the standardised indicators:

$$HLSj = \frac{\sum_{I=1}^{j} z\,ind\,j}{j}$$

Where: *J* is the number of indicators used to construct the index.

The composite overall Livelihood Security (CLS) index for the household is constructed by using the formula.

$$\mathbf{CLS} = \frac{\sum_{i=1}^{n} wi\ HLSi}{\sum_{i=1}^{n} wi}$$

Where,

w - Indicates the weights determined by the number of indicators used to construct each HLS index. Weights vary between households, because of the variation in the number of indicators at the household level.

Garrett's ranking technique: In order to analyze the constraints of high and low empowerment index and coping mechanism adopted in the study area, respondents were asked them to rank. These ranks were analyzed through Garrett's ranking technique. Garrett's ranking technique gives the change of orders of constraints into numerical scores. The major advantage of this technique as compared to simple frequency distribution is that here constraints are arranged based on their importance from the point of view of respondents.

The Garrett's formula for converting ranks into per cent is given by the following expression:

$$\textbf{Per cent position} = \frac{(Rij - 0.5)}{Nj} * 100$$

Where,

R_{ij} = rank given for i th factor (constraint) by j th individual

N_j = Number of factors (constraints) ranked by j th individual

The relative position of each rank obtained from the above formula was converted into scores by referring to the critical values given by Garrett (transmutation of orders of merit into units of amount or scores) for each factor, scores of all individuals were added and then divided by the total number of respondents for the specific factor (constraint).

RESULTS AND DISCUSSION

Livelihood Security was analysed in terms of economic, food consumption, health, habitat, education, social network, security.

1. Economic security

Annual agricultural labour household's income: According to Second Agricultural Labour Enquiry Committee (1956-57) defined agriculture labour based on income that if an household receives 50 per cent or more of its income as wages for work rendered in agriculture and allied activities, then it could be classed as agricultural labour household. The details of annual income of agricultural labour households derived from the various sources are furnished in the Table 1.

The total income earned by the migration labour households was Rs. 1, 13,317. The major source of income received from remittance was Rs. 48792 (43%) and by working as agriculture labour was Rs.34, 608 (30 %). In case of non-migration labour households, annual income was Rs. 67,755. The main source of income was from agriculture labour Rs.36504 (54 %) and working as non- agriculture labour Rs.16, 056 (24 %).

The results indicated that the major source of income for the migration labour households was remittance and working as an agriculture labour. In non-migration resp ondents, key source of income was from working as an agriculture labour and livestock.

Expenditure pattern of agricultural labour households: Total expenditure pattern of agricultural labour households depicts the proportion of their monthly expenditure on different needs. The average monthly expenditure of the agricultural labour households is presented in Table 2.

In case of migrated labour households, about 50 per cent of their total expenditure was incurred on food and 45 percent in case of non-migrated labour households. Expenditure on education by both the respondents was 11 per cent each. Expenditure on hospital was six per cent in migration and five per cent in non-migration labour households. Non-migration households spent 20 per cent of expenditure on durable goods and migration households 18 per cent. Total monthly expenditure of migrated labour households was higher (Rs.7310) compared to non-migrated labour households (Rs. 6497). On an average, savings of migration labour households was Rs. 25597 and non-migration labour household's debt with Rs. 11662.

Food security

Quantity of food consumption per family: Dietary pattern of households in all groups was mainly cereal based (Table 3). Jowar and rice were the major food grains consumed by the households. Average consumption of cereals (include rice and wheat) and millets (jowar) was estimated to be highest in migration labour households (62.93 and 53.8 kg/family/ month, respectively) comparatively lower in non-migration (49.9 and 42.9 kg/family/month, respectively) labour households (Table 4). This difference is mainly due to the income levels of households. Average consumption of pulses, vegetables, fruits, milk, edible oil, sugar and egg that are rich in minerals and vitamins was comparatively high in migration labour households compared to non-migration labour households, because of low level of income. Consumption of pulses, milk and green leafy vegetables increased with increase in income.

The monthly consumption of meat was higher in migration labour households. As meat forms one of the high priced food items, pose difficulty in accessibility by majority of the labour households who have low income.

Agricultural labour households were below the ICMR norms in cereals and pulses, except non-migration labour households on par with the ICMR norms.

Table 1: Income pattern of agricultural labour households from various sources. (Rupees/annum)

Particulars	Migration (n=30)	Non Migration (n=30)
Labour		
Agriculture	34608(30.54)	36504(53.88)
Non Agriculture	16992(15.00)	16056(23.70)
Remittance*	48792(43.06)	0(0.00)
Sub total	100392(88.59)	52560(77.57)
Crops	5625 (04.96)	5729(08.46)
Livestock	7300 (06.44)	9466(13.97)
Total	113317(100)	67755(100)

Note: Figures in parentheses represent percentage to total.
* Remittance is net income of the labour households

Table 2: Average monthly expenditure pattern of agricultural labour households. (in Rupees)

Particulars	Migration (n=30)	Non Migration (n=30)
Food	3583(49.02)	2954(45.47)
Clothing	824(11.27)	807(12.42)
Hospital	403(5.51)	401(6.17)
Education	810(11.08)	690(10.62)
Entertainment	386(5.28)	372(5.73)
Durables	1304(17.84)	1273(19.59)
Total	7310(100)	6497(100)
Annual expenditure	87720	77964
Annual income	113317	67755
Difference amount	25597	-10209

Note: Figures in parentheses represent percentage to total.

Table 3: Food consumption pattern of agricultural labour households. (Kg/month/family)

Food item	**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Rice	25.03	19.87	22.45
Ragi	0.00	0.00	0
Jowar	16.17	12.20	14.185
Wheat	12.60	10.90	11.75
Cereals and millets	53.8	42.97	48.385
Field bean	2.21	2.03	2.12
Red gram	2.00	1.93	1.965
Other pulses	2.24	2.01	2.125
Total Pulses	6.45	5.97	6.21
Tomato	6.20	6.10	6.15
Potato	5.90	4.50	5.2
Brinjal	6.20	5.20	5.7
Beans	3.20	3.3	3.25
Roots & tubers	4.12	3.69	3.905
Leafy vegetables	2.65	2.55	2.6
Cabbage & cauliflower	4.13	4.5	4.315
Total Vegetables	32.4	29.84	31.12
Mango	1.86	1.75	1.805
Banana(No)	8	8	8
Papaya	1.50	0.00	0.75
Other Fruits	1.65	1.66	1.655
Total fruits	5.01	3.41	4.21
Onion	2.62	2.80	2.71
Edible oil (lit)	3.70	3.03	3.365
Milk (lit)	22.5	16.5	19.5
Sugar	3.53	3.13	3.33
Egg (No.)	10	4	7
Chicken	2.00	1.31	1.655
Mutton	1.00	0.72	0.86
Pork	1.33	1.00	1.165
Fish	0.35	0.00	0.175
Beef	0.27	0.35	0.31
Total meat	4.95	3.38	4.165

ICMR Recommendation: Cereals=13.99 Kg/month/person and Pulses=1.21 Kg/month/person.

Expenditure pattern on food: On an average, the share of food grains comprising cereals, millets (ragi, jowar) and pulses shared maximum per cent of the total per month expenditure in all the labour households. Meat being a high priced food item is generally out of reach of vast majority of the population so its expenditure was high in all labour households. Meat consumption in total food consumption was more than the share of vegetables and fruits. The total per household expenditure on food items was higher (Rs. 3883) in migration labour households in rainfed situation due to more expenditure on milk and egg (Table 5).

The expenditure on egg, sugar, edible oil and milk was considerably low in both irrigated and rainfed situations. It was interesting to note that the expenditure on non-vegetanian foods like chicken, pork, mutton and fish as a proportion to total expenditure was higher in both rainfed and irrigated situation next to cereals. Since most of the labour households belong to backward caste they prefer non-vegetarian food diet than the vegetarian.

Health Security: Health services include availability of Primary health center, 24 Hours facility, Specialty hospital, Yashasvini Facility etc…

Health is an important factor which influences the livelihood of labour household. Security of households in terms of health is defined by way of availability and accessibility of health services like Primary Health Center, vaccination for children, 24 Hours facility, Specialty hospital, Yashasvini facility and their monthly expenditure on health services.

The results of rainfed situation showed that (Table 6), the non-migration labour households have better availability of primary health centers (50.0 %), vaccination for children (50.0 %) and health insurance (20.0 %) than the migration labour households and they are also having good accessibility both in terms of time as well as distance.

None of the labour household accessing specialty hospital and 24 hour facility in their locations and the average distance to access such facility is 13 km. The average monthly

Table 4: Per capita food consumption pattern of agricultural labours. (Kg/month/person)

Food item	**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Average family size	7	5	6
Rice	3.58	3.97	3.74
Ragi	0.00	0.00	0.00
Jowar	2.31	2.44	2.36
Wheat	1.80	2.18	1.96
Cereals and millets	7.69	8.59	8.06
Field bean	0.32	0.41	0.35
Red gram	0.29	0.39	0.33
Other pulses	0.32	0.40	0.35
Total Pulses	0.92	1.19	1.04
Tomato	0.89	1.22	1.03
Potato	0.84	0.90	0.87
Brinjal	0.89	1.04	0.95
Beans	0.46	0.66	0.54
Roots & tubers	0.59	0.74	0.65
Leafy vegetables	0.38	0.51	0.43
Cabbage & cauliflower	0.59	0.90	0.72
Total Vegetables	4.63	5.97	5.19
Mango	0.27	0.35	0.30
Banana(No)	1	2	1
Papaya	0.21	0.00	0.13
Other Fruits	0.24	0.33	0.28
Total fruits	0.72	0.68	0.70
Onion	0.37	0.56	0.45
Edible oil (lit)	0.53	0.61	0.56
Milk (lit)	3.21	3.30	3.25
Sugar	0.50	0.63	0.56
Egg (No.)	1	1	1
Chicken	0.29	0.26	0.28
Mutton	0.14	0.14	0.14
Pork	0.19	0.20	0.19
Fish	0.05	0.00	0.03
Beef	0.04	0.07	0.05
Total meat	0.71	0.68	0.69

ICMR Recommendation: Cereals=13.99 Kg/month/person and Pulses=1.21 Kg/month/person.

Table 5: Food consumption expenditure pattern of agricultural labour (Rs. /month).

Commodity	**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Cereals	1006(25.91)	700(23.70)	853(24.94)
Pulses	370(9.53)	346(11.71)	358(10.47)
Vegetables	401(10.33)	370(12.53)	385(11.26)
Fruits	125(3.22)	85(2.88)	105(3.07)
Onion	78(2.01)	84(2.84)	81(2.37)
Edible oil	258(6.64)	210(7.11)	234(6.84)
Milk	675(17.38)	495(16.76)	585(17.11)
Sugar	111(2.86)	79(2.67)	98(2.87)
Egg	50(1.29)	20(0.68)	35(1.02)
Meat	809(20.83)	565(19.13)	686(20.06)
Total	3883(100)	2954(100)	3420(100)

Note: Figures in parentheses represent percentage to total.

Table 6: Availability and accessibility of health services to agricultural labour households in rainfed situation.

Particulars		Migration (n=30)	Non Migration (n=30)	Overall (n=60)
Availability(No)	Primary health center	12(40)	15(50)	13.5
	Vaccination for children's	10(33)	15(50)	12.5
	24 hours facility	0(0)	0(0)	0(0)
	Ambulance facility	0(0)	2(7)	1(3)
	Specialty hospital	0(0)	0(0)	0(0)
	Health insurance	10(33)	6(20)	8(27)
Accessibility[Distance in km]	Primary health center	7.6	6.3	6.95
	Vaccination for children's	8.7	7.1	7.9
	24 hours facility	14.9	13.8	14.35
	Ambulance facility	10.6	10.2	10.4
	Specialty hospital	14.9	13.8	14.35
	Health insurance	13.7	12.4	13.05
Accessibility[Time in min]	Primary health center	12.6	13.3	12.95
	Vaccination for children's	12.9	15.5	14.2
	24 hours facility	35.1	34.8	34.95
	Ambulance facility	20.7	20	20.35
	Specialty hospital	35.8	34.5	35.15
	Health insurance	36.9	35.1	36
Accessibility[Cost Rs]	Primary health center	10.3	10.1	10.2
	Vaccination for children's	12.4	11.8	12.1
	24 hours facility	28.5	28.6	28.55
	Ambulance facility	20.5	21.4	20.95
	Specialty hospital	32.1	31.3	31.7
	Health insurance	30.4	30.6	30.5
No. of farm families possessing Yashasvini card		0	1	
Monthly expenditure on health services (Rs.)		403	401	402

Note: Figures in parentheses represent percentage to total

* Cost was calculated based on travelling cost, number and frequency of visiting the hospitals.

Table 7: Status of dwelling house and other habitat services of agricultural labours.

Particulars	Migration (n=30)	Non Migration (n=30)	Overall (n=60)
Type of roof			
Thached	8(27)	7(23)	6(20)
Sheet	12(40)	8(27)	10(33)
Slab	9(30)	13(43)	11(37)
RCC	1(3)	2(70	2(5)
Type of Flooring			
Mud	8(27)	13(43)	11(35)
Cement	20(67)	17(57)	19(62)
Tiles	2(7)	0(0)	1(3)
Fuel			
Fuel wood	28(93)	30(100)	29(97)
Cooking gas	2(7)	0(0)	1(30)
Food grain storage			
Earthen pots	3(10)	8(27)	6(18)
Gunny bag	25(83)	22(73)	24(78)
Metal bins	2(7)	0(0)	1(3)
Electrification	20(67)	11(37)	16(52)
Toilet facility	3(10)	0(0)	2(5)

Note: Figures in parentheses represent percentage to total.

expenditure on health by the non-migration labour was Rs. 403 and it was Rs. 401 in migration labour households. Only one non-migration labour respondent was possessing Yashasvini card and migration labour did not possess Yashasvini card.

The hypothesis that labour households with more economic returns are highly secured in terms of health is proved wrong. Though the migration labour households realized more returns, non-migration labour households were secured more in terms of health services.

Habitat security

Availability and accessibility to household assets: Habitat of the labour household is also one of the factors which influence the livelihood of household. Type of house, toilet facility, availability of cooking gas, and value of households are the parameters which influences habitat security. The household assets are the indicators of the habitat security which are presented in Table 7.

In the case of non-migration, 70 per cent of houses had sheet and slab roof and only seven per cent of houses were RCC type and 23 per cent were thatched roof. Fifty seven per cent of houses had cement and 20 per cent had mud flooring. Cent per cent of households were used fuel wood and 73 per cent were used for storage, remaining 27 per cent of households used earthen pots for grain storage.

In migration labour households, 70 per cent of houses had sheet and slab houses, 20 per cent of houses were RCC and 10 per cent of houses were thatched roof. Sixty seven per cent of houses had flooring with cement, 20 per cent had tiles and only 13 per cent were mud flooring. Twenty per cent of respondents were using gas for cooking and 80 per cent used fuel wood. More than 83 per cent of households were using gunny bags for grain storage.

More than 67 per cent of the houses in migration and only 37 per cent of non-migration houses were having electrification. In case of toilet facility, only 10 per cent of migration households had toilets and none of the non-migration labour households had toilet facility.

Availability and accessibility to drinking water by farm households: Availability and accessibility of drinking water to the households is one of the parameters of on the habitat security of the households (Table 8).

Results reveals that, 73 per cent of migration labour households availed public and 27 of them were dependent on others bore well. In the case of non-migration, 83 cent per were dependent on public source of drinking water. On an average, minimum distance for accessing public source was 0.02 km. Migration labour households spent eight and 15 minutes in getting drinking water through public source and others bore well, respectively. Non-migration labour households spent 6 minutes for public and 12 minutes for others bore well for fetching drinking water.

Educational Security: The availability and accessibility of educational institutes is presented in Table 9. In migration labour households, 70 per cent were having access to primary school and 27 per cent of the households had higher primary school in their locality itself. In non-migration, 87 per cent were having availability of primary and 40 per cent of them having access to higher primary education. On an average, 13 per cent of migration and 17 per cent of non-migration labour households were having access to high school in their localities. The average annual expenditure on education was higher in migration (Rs. 810) compared to non-migration (Rs. 690).

Social network status: Social network is nothing but the level of participation by the labour households in organizations like Milk Co-operative Societies, Co-ope ratives, Self Help Organizations and other organizations. Access to social network elements like phone and television is another factor which determines social network status of households (Table 10).

Table 8: Availability and accessibility of drinking water to agricultural labour households in rainfed situation.

Particulars		**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Availability(No)	Public Source	22(73)	25(83)	24(78)
	Others bore well	8(27)	5(17)	7(22)
Accessibility[Distance in km]	Public Source	00.03	00.02	00.02
	Others bore well	00.10	00.08	00.09
Accessibility[Time in min]	Public Source	08.00	06.00	07.00
	Others bore well	15.00	12.00	13.50

Note: Figures in parentheses represent percentage to total.

Table 9: Availability and accessibility of educational institutes to the agricultural labour households in rainfed situation.

Particulars		**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Availability(No)	Primary school	21(70)	26(87)	24(78)
	Higher primary	8(27)	12(40)	10(33)
	High school	4(13)	5(17)	5(15)
	College	0(0)	0(0)	0(0)
Accessibility[Distance in km]	Primary school	2.2	1.8	2.0
	Higher primary	3.1	4.5	3.8
	High school	10.2	7.5	8.9
	College & Degree	16.4	12.3	14.4
Accessibility[Time]	Primary school	10	10	10
	Higher primary	15	13	14
	High school	22	18	20
	College & Degree	35	26	31
Accessibility[Cost Rs]	Primary school	5	4	5
	Higher primary	10	8	9
	High school	13	12	13
	College & Degree	26	22	24
Avg. Annual expenditure on Education (Rs.)		810	690	765

Note: Figures in parentheses represent percentage to total.

* Cost was calculated based on travelling cost and number of persons availing and accessing the education.

Table 10: Social network status of agricultural labour households(in Numbers).

Particulars	**Migration** (n=30)	**Non Migration** (n=30)	**Overall** (n=60)
Member in MGNREGA	2(6)	8(26)	5(16)
Member in Co-operative Society	6(20)	15(50)	11(36)
Member in Milk Producers Co-operative Society	2(6)	6(20)	4(13)
SHG's	13(43)	18(60)	16(53)
Television	10(33)	6(20)	8(26)
Phone	22(73)	15(50)	19(63)

Note: Figures in parentheses represent percentage to total.

Table 11(a): Composite livelihood security index of agricultural labour households in rainfed situation.

Particulars	Migration (n=30)	Non-migration (n=30)	t-value
Food security Index	0.514	0.432	3.17**
Economic security Index	0.394	0.262	2.57*
Education security Index	0.423	0.647	1.71*
Health security Index	0.153	0.123	2.35**
Habitat security Index	0.193	0.158	1.67
Social network security Index	0.275	0.193	2.01
Overall livelihood security Index	0.791	0.645	1.67*

* Significant at 1 per cent, ** significant at 10 per cent.

Table 11 (b): Range of livelihood securities in rainfed situation.

Particulars	Low	High
Food security	0.367	0.612
Economic security	0.315	0.548
Education security	0.392	0.792
Health security	0.101	0.262
Habitat security	0.106	0.253
Social network security	0.134	0.318
Overall livelihood security	0.651	0.820

In migration labour households, only 6 per cent of households were the member of MGNREGA, 20 per cent were in Co-operative Society and 6 per cent in Milk Producer's Co-operative Society. Forty three per cent of households were members of Self Help Groups (SHG'S). In case of non-migration, 26 per cent of households were the member of MGNREGA, 50 per cent were in Co-operative society and 20 per cent in Milk Producers Co-operative Society. Sixty per cent of households were members of Self Help Groups (SHG'S). The number of phone users was more in migration (22) compared to non-migration (15) labour households. Only 20 per cent of the households in non-migration and 33 per cent of households in migration had access to television.

Composite Livelihood security index of agricultural labour households in the study area: Livelihood security includes food security, economic security, education security, health security, habitat security and social network security. Components of food security index (0.514), economic security index (0.394), education security index (0.423) and social network security index (0.275), revealed that households belonging to migration were moderately secured in terms of food security, economic security, education security and social network security. In case of health security index (0.153), habitat security (0.193) secured less. The composite livelihood security index (0.791) indicated that migration households were moderately secured in terms of livelihood (Table 11(a & b)).

In case of non-migration labour households, the composite livelihood security index (0.645) indicated that households were less secured. In terms of food security and economic security, moderately secured and highly secured in education. In terms of health, habitat, social networks security non-migration labour households were less secured.

Constraints in achieving livelihood security: To analyse the constraints faced by the agricultural labourers, major problems observed during preliminary visits by the

Table 12: Constraints faced by the agricultural labour households in achieving livelihood security.

Opinion	**Migration** (n=30)		**Non Migration** (n=30)	
	Mean Garret score	**Rank**	**Mean Garret score**	**Rank**
Lack of basic necessities	67.97	I	66.13	I
Low wage Rates and availability of work	65.30	II	65.33	II
Increased food prices	50.67	IV	47.57	IV
Lack of government scheme	54.43	III	61.67	III
Lack of hospital facility	36.77	VIII	38.97	VII
Difficult bank loan procedure	38.17	VII	34.03	VIII
Increased electricity & power charges	39.23	VI	45.50	V
Prolonged illness of family member	45.03	V	43.57	VI

researcher were put before the sample agricultural labourers and were asked to rank them according to the severity of the constraint (Table 12) and was analysed by using Garrett ranking method.

Agricultural labours opined that the lack of basic necessities, low wage rates and availability of work, increased food prices and lack of government scheme were the constraints which hinders the attainment of livelihood security whereas, lack of hospital facility, difficult bank loan procedure, increased electricity, power charges and prolonged illness of family member were the medium to severe constraints.

CONCLUSION

- It was evident from the result that migration is certainly influencing livelihood security of labour households. The overall livelihood security index (0.791) indicated that households belonging to migration labour category were moderately secured and (0.645) of non-migration households indicated that they were less secured.
- Total income earned by the migration labour households was Rs.1, 13,317. The major portion was from remittance of Rs. 48792 (43%). Non-migration households realized in come of Rs 67,755 and the major portion was from working as agriculture labour contributing 54 per cent of income.
- Non-migration labour households had better availability of primary health centers, vaccination for children and ambulance facility than the migration households and they are also having good accessibility both in terms of time as well as distance in both the situations.
- Due to higher net annual income in migration category, the number of households with pakka houses, toilet facility, food grain storage and cooking gas facility were better compared to non-migration labour households.
- About 87 per cent of non-migration labour households had access to primary school and 40 per cent to upper primary school in their locality itself. In migration, 70 per cent and 27 per cent of households had accessibility to primary school and upper primary school in their localities, respectively.
- The participation in organizations like Milk Co-operative Societies, Co-operatives, Self Help Groups and access to social network elements like phone and television was higher in non-migration labour households.
- Lack of basic facilities was the foremost constraint for attainment of livelihood security, followed by low wage rate and increased food prices. However, the constraints such as less access to government schemes, lack of hospital facility, difficult to get the bank loans and prolonged illness of family member were other constraints in achieving the livelihood.

REFERENCES

Akter Shaheen and Rahman Sanzidur, (2012), Investigating livelihood security in poor settlements in Bangladesh. Paper presented in Annual Conference of Agricultural Economics Society, University of Warwick, United Kingdom.

Aliber, hart, M. and Tim, G.B., (2009), Should subsistence agriculture be supported as a strategy to address rural food insecurity. *Agrekon*, **48** (4): 434-458.

Baiphethi, M. N., Jacobs, P. T., (2009), The contribution of subsistence farming to food security in South Africa. *Agrekon*, **48**(4):459-482.

Becker, L.C., (2000), Garden money buys grain: food procurement patterns in a malian village. *Human Ecology*, **28**(2): 219-250.

Bhuvaneshwari, P. C., (2008), Livelihood analysis for rural poor. *Proceedings of International Symposium on Strategies for Improving Livelihood Security of Rural Poor.* Old Goa, India.241-243.

Bose, M.L. and Dey, M.M., (2007), Food and nutritional security in Bangladesh: Going beyond carbohydrate counts. *Agricultural Economics Research Review*, **20**(3): 203-225.

Chambers, R. and Conway, G. R., (1992), Sustainable rural livelihoods: Practical concepts for the 21st Century. Discussion Paper 296, Institute of Development Studies, London.

Conelly, W.T., and Chaiken, M.S., (2000), Intensive farming, agro-diversity, and food security under conditions of extreme population pressure in western Kenya. *Human Ecology*, **28**(1):19-51.

Ellis, F., (2000), *Rural Livelihoods and Diversity in Developing Countries*, Oxford Uni. Press.

Ijarotimi, O.S. and Oyeneyin, O.O., (2005), Effect of economic restructuring on household food security and nutritional status of Nigerian children. *Journal of Food, Agriculture and Environment*, **3**(2): 27-32.

Kanak kanti, Bagchi and Sujit majumdar., ((2011), Dynamics of out-migration of agricultural labourers: a micro-level study in two districts of West Bengal. *Agricultural Economics Research Review*, **24**:568-569.

Kumar Anjani., Kumar Sant., Dhiraj, K., and Shivjee.,(2011), Rural employment diversification in India: trends, determinants and implications on poverty. *Agricultural Economics Research Review*, **24**: 361-372.

Lalitha, K., and Sharadha, D., (1988), Socio economic and living condition of farm labors. *Journal of Dev*elopment, **7** (3): 343-350.

Oberoi, R. C, Vashista, G. D and Sharma, A. K., (1992), Socio- economic status, constraints and prospects of Gaddi tribal in Himachal Pradesh. *Indian Journal Agricultural Economics*, **47** (3): 426.

Shyam S. Salim., Sathiadhas, R., Narayanakumar, R., Katiha, P.K., Krishnan, M.,*et al* (2013), Rural livelihood security: assessment of fishers' social status in India. *Agricultural Economics Research Review*,**26** (Conference Number): 21-30.

Shyamali, H.W and Saini, A.S., ((2010), Livelihood security of women in hills: A comparative study of India and Srilanka. *Indian Journal Agricultural Economics*, **65**(6): 710-721.

Upadhyay, R.P. and Palanivel, C., (2011), Challenges in achieving food security in India. *Iranian Journal of Public Health*, **40** (4): 31-36.

Yadav, R. J. and Singh, H. P., (1998), Food intake of people in Bihar. *The Indian Journal of Nutrition and Dietetics*, **35**: 63-73.