International Journal of Agriculture Sciences
ISSN: 0975-3710&E-ISSN: 0975-9107, Volume 8, Issue 56, 2016, pp.-3089-3097.
Available online at http://www.bioinfopublication.org/jouarchive.php?opt=&jouid=BPJ0000217

Research Article

MARKET DEPENDENCE OF AGRICULTURAL LABOURS FOR CONSUMPTION IN KARNATAKA - AN EMPIRICAL STUDY

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Received: September 26, 2016; Revised: November 02, 2016; Accepted: November 03, 2016; Published: November 18, 2016

Abstract- The study was taken up in Mandya district (irrigated situation) and Bijapur district (rainfed situation) of Karnataka. The results revealed that, average consumption of pulses, vegetables, fruits, milk, edible oil, sugar and egg that are rich in minerals and vitamins was comparatively higher in migration labour households compared to non-migration labour households. The total per household expenditure on food items was higher (Rs. 3883) in migration labour households in rainfed situation. The dependence of households on market for cereals and millets consumption was low in non-migration households in irrigated situation (80.52 %) and highest in migration labour households in rainfed situation (88.53 %). On an average, 36 per cent of cereals consumption was from public distribution system (PDS). PDS played an important role in food security of labour households by way of providing food grains at cheaper prices. The extent of market dependence for pulses was relatively lower in rainfed situation compared to irrigated situation. Overall market dependency of labour households for fruits and vegetables was 83 per cent in rainfed and 81 per cent in irrigated situation. The extent of market dependence for milk was low (37.98%) in non-migration labour households of irrigated situation and more in migration labour households of irrigated situation (88.89 %). The extent of market dependence for egg and meat was highest in migration labour households compared to non-migration labour households.

Keywords- Agricultural labour, Market dependency, Consumption, Public distribution system, Migration, Non-migration

Citation: Venu B.N., et al., (2016) Market Dependence of Agricultural Labours for Consumption in Karnataka-An Empirical Study. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 8, Issue 56, pp.-3089-3097.

Academic Editor / Reviewer: Vikrant Dhawan, Dr K Chandrasekhar, Dr Sakamma S

Introduction

Economists conventionally identified three factors of production *viz*: land, labour and capital. Capital became the momentous economic factor in the industrial revolution in India. Human resources in an economy constitute a significant input in the manufacture of goods and services.

Agricultural labour is one of the primary factors of production. It is considered to be important not only because it is productive but also stimulates the other factors and makes them useful for production purposes. The size of labour force is determined by the number of peoples between the age group of 15-59, generally children below 15 years and above 59 years do not participate in production activity, since productivity is concerned [1].

Food consumption is variably affected by many factors which include availability, accessibility of food and choice; these may be in turn influenced by geographic, demographic, disposable income, globalization, , religion, culture and marketing of produce.

The dependence of households on market for consumption is increasing, as farmers are moving towards commercial farming from subsistence farming induced by higher profit. With gradual decline in the landholding, now days it becomes gradually more difficult to create an adequate amount of food and other farm products required by the family. The situation is further weakened due to repeated failure of monsoons on one side and ever-increasing population and decline in per capita availability of land on the other side. Further, there is hardly minimal scope for horizontal expansion of land and only possible solution is vertical expansion, by integrating various farm enterprises [2].

Recent trends suggest that India agriculture dependent is at the "tipping point" of the transition [4]. A large proportion of rural youth of the country is way out of agriculture. This is mainly because of rising disenchantment with the profession and better opportunities in other sectors like, manufacturing and service sectors and pulls them out of agriculture.

The common response of agricultural labors is to migrate to urban areas or to non-farm occupations, which provide higher returns to per unit of labor applied. Landless households tend to migrate more as they depend primarily on the availability of jobs during the peak crop operations [5]. The existing caste system hierarchy and conflicts are also plays a significant role in the out-migration. Majority of the people now a day's prefer to work outside because this enables them to break loose from the prevailing caste taboos in the rural areas. This is a one of the imperative reason for upper caste youth migration. In the case of lower castes, people migrate to escape from the hardships caused by the caste discrimination in the villages [3].

Apart from rural to urban migration, rural to rural migration has also helped in raising the farm wages. For example, movement of labour from backward districts like Bijapur, Bagalkot, Bellary, etc. to agriculturally-productive districts like Hassan and Mandya etc, at the time of harvesting in both source and destination districts increases a direct competition between local and distant employers. This type of migration was taking place earlier also but in recent past, better communication and transport facilities have enhanced the incidence of migration. [5] have noted in a field study in the Purnia district of Bihar that advent of mobile phones has facilitated a direct contact between employers and workers. This has also eliminated the role of contractors and middle-men in this kind of migration and employment.

Keeping the migration of agricultural labour households from backward districts to agriculturally-productive districts in mind, the study made a modest effort to see the market dependence of households in irrigated and rainfed situation districts of Karnataka.

Materials and Methods

The present study was taken up in Mandya and Malavalli taluks of Manadya district and 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. In Mandya district, from each taluk 15 migrant and 15 non-migrant labour households were selected randomly. From each taluk, 20 farmers were also selected randomly who were practicing farming. Thus, the total sample for the study comprised of 60 agricultural labour households and 40 farmers. Similar sampling procedure was adopted for Bijapur district. Thus, the total sample from both the districts was 120 agricultural labour households and 80 farmers.

In order to assess the dependence of households on market for consumption, the data pertaining to source and quantities of different food items consumed by the sample households was collected in a discipline manner. The households were given with an indent schedule to note down the quantity and source for the whole month, thus, the generated data was pooled to obtain the results in comparable manner.

The extent of dependence of households on food for consumption was calculated for the commodities which are produced on the farm like rice, ragi, field bean, red gram, vegetables, milk, egg, sugar, edible oil etc., All the local measurements were converted into a standard unit. Simple statistical tools like indices, averages, ratios and percentages were computed to interpret results properly.

Results and Discussion

Socio-economic profile of the sample agricultural labour households

Family size, caste, occupation and type of labour of sample households

The family size indicates the extent of family labour availability and the capacity to save and spend by the labour households. The average family size in migration households was higher in both irrigated and rainfed situations compared to non-migration households. The number of migrated persons in the family was higher in rainfed (3 persons) compared to irrigated (2 persons) situation.

It is clear from the above results that, lack of opportunities in the rainfed areas and dependency ratio irrespective of the situation were core factors for migration [Table-1].

Caste is one of the core social factors which influence the labour supply. Majority of the labour class belongs to backward castes. In irrigated situation, 53 per cent of migration households belong to other backward caste (OBC) and 10 per cent belongs to upper forward caste (General) whereas in non-migration, 46 per cent belongs to OBC and 17 per cent belongs to general. There was not much difference in the composition of schedule caste (SC) and schedule tribes (ST) between the migration and non-migration respondents.

In rainfed situation, 43 per cent of migration respondents belongs to GM and 30 per cent belongs to OBC whereas in non-migration respondents general and OBC caste were 30 per cent each. Twenty six per cent of migration respondents belongs to SC and ST caste whereas in non-migration respondents, it was 40 per cent.

From this result, it is clear that, irrespective of migration and non-migration respondents under both irrigated and rainfed situations, majority of agriculture labours belong to backward castes.

Regarding caste wise distribution of respondents, it is evident that, most of the migration respondents belong to upper (backward) caste.

Most of the agricultural labourer main occupation was agriculture labour besides practicing farming for their household needs on smaller scale. In irrigated situation, 67 per cent of migration and 57 per cent of non-migration respondents found to work exclusively as agriculture labour. Thirty three per cent of migration and 43 per cent of non-migration respondents were found to practice farming on a smaller scale along with labour work.

Table-1 *Family size, caste, occupation and type of labour of sample households*

Sl. No.	Particulars	Irrigated (Mandya)		Rainfed (Bijapur)	
		Migration (n=30)	Non Migration (n=30)	Migration (n=30)	Non Migration (n=30)
1.	Average family size	6	5	7	5
2.	Average work force available for farming				
	a) Male	2	2	2	2
	b) Female	3	2	3	2
3.	Dependents	1	1	2	1
4	No of persons migrated	2		3	
	a) Male	1		2	
	b) Female	1		1	
2	Caste				
a	SC	8 (26.67)	5 (16.67)	3 (10.00)	6 (20.00)
b	ST	3 (10.00)	6 (20.00)	5 (16.67)	6 (20.00)
c	OBC	16 (53.33)	14 (46.67)	9 (30.00)	9 (30.000
d	General	3 (10.00)	5 (16.67)	13 (43.33)	9 (30.00)
3	Main occupation				
a	Agricultural labour	20 (66.67)	17 (56.67)	24 (80.00)	26 (86.67)
b	Farming & agricultural labour	10 (33.33)	13 (43.33)	6 (20.00)	4 (13.33)

Note: Figures in parentheses represent percentage to total

In rainfed situation, 80 per cent of migration and 87 per cent of non-migration respondents were working as agriculture labours. The rest of migration and non-migration respondents were occupied in both labour and farming.

The results of the study indicate that, most of the respondents in the study area were occupied in agriculture as labour due to lack of skill in other sectors and smaller landholdings.

Assets position of agricultural labour households

Asset position of agricultural labour households indicates the economic condition. In irrigated situation, value of irrigated land owned by the migration households worked out to Rs. 2.94 lakh whereas in non- migration households, it was Rs 2.89 lakh. The value of rainfed land owned by migration households was Rs. 2.11 lakh and Rs 1.33 lakh worth of rainfed land by non-migration households.

Under rainfed situation households did not possess irrigated land. The value of rainfed land owned by the migration households was Rs. 2.06 lakh and value of non- migration households were Rs. 2.15 lakh.

Agricultural implements are the main tools used by the labourer for completion of agricultural operations. In irrigated situation, migration households owned Rs. 4357 worth of implements than non-migration households (Rs. 2225). Where as in rainfed situation, non-migration households possessed more (Rs. 1246) implements than migration households (Rs. 1020). Results indicate that, respondents under irrigated situation possess implements of higher worth than the rainfed situation. In irrigated situation, labourers were found to utilize implements on their own farm and also on the others field as labourers.

Migration labour households in irrigated situation, possessed livestock worth Rs. 0.29 lakh and non-migration labour households possessed Rs. 0.40 lakh. In rainfed situation, total value of livestock possessed by the migration labour households was Rs. 0.20 lakh and non-migration labour households was Rs. 0.25 lakh.

In general, livestock possession was found to be good in irrigated situation of both migration and non-migration [Table-2], since the availability of irrigation facilitated growing of crops, which provide the required fodder for the animals.

The results revealed that, possession of other assets like cattle shed, bicycle and motor cycle did not vary much across groups. In rainfed situation, agricultural labour households did not possess irrigated land, cross breed cows, sheep and bullock cart compared to irrigated agricultural labour households. The value of rainfed land per household in rainfed situation was higher because of higher land holding compared to irrigated situation. The livestock position and also the overall asset position in irrigated situation were higher compared to rainfed situation.

Table-2 *Assets position of agricultural labour households (Value in rupees at current price (2012-13))*

Sl. No.	Particulars	Irrigated (Mandya)		Rainfed (Bijapur)	
		Migration (n=30)	Non Migration (n=30)	Migration (n=30)	Non Migration (n=30)
1	Land				
a	Irrigated	2,94,444 (1.2)	2,89,375 (1.1)	0	0
b	Dry land	2,11,285 (1.6)	1,33,750 (1.7)	2,06,250 (2.4)	2,15,625 (2.6)
2	Agricultural implements	4357	2225	1020	1246
3	Live stock				
a	Bullocks (Pairs)	8685	9547	6427	8561
b	Local Cows	4571	6307	3246	4647
c	Cross breed Cows	3471	5824	0	0
d	Buffaloes	2478	3547	2897	3664
e	Sheep	4667	8461	0	0
f	Goat	4563	5640	6250	6800
g	Poultry Birds	933	750	1200	1340
4	Other Assets				
a	Cattle Shed	15650	12540	13210	13540
b	Bullock Cart	0	5700	0	0
c	Bicycle	760	600	2230	2600
d	Motor Cycle	5200	4600	6750	0

Note: Figures in the parentheses are average land holding

Quantity of food consumption per family

The comparison between two distinct situations showed that, rice and ragi were the main diet pattern in irrigated situation and rice and jowar in rainfed situation. Consumption of pulses, vegetables, milk and vegetable oil was higher in rainfed situation and consumption of cereals, fruits and meat was higher in irrigated labour households.

The per capita consumption on monthly basis of migration labour households in irrigated situation was high in cereals and non-migration households in irrigated was high in consumption of meat [Table-3]. Rainfed situation non-migration labour household's monthly consumption was high in all food items except above items. Agricultural labour households in irrigated and rainfed situations were below the ICMR norms in cereals and pulses, except non-migration labour households in rainfed situation on par with the ICMR norms.

Table-3 *Per capita food consumption pattern of agricultural labours (Kg/month/person)*

Food item	Irrigated (Mandya)			Rainfed (Bijapur)		
	Migration (n=30)	Non Migration (n=30)	Overall (n=60)	Migration (n=30)	Non Migration (n=30)	Overall (n=60)
Average family size	6	5	5	7	5	6
Rice	7.07	6.21	6.13	3.58	3.97	3.74
Ragi	3.11	3.50	3.02	0.00	0.00	0.00
Jowar	0.00	0.00	0.00	2.31	2.44	2.36
Wheat	0.31	0.27	0.26	1.80	2.18	1.96
Cereals and millets	10.49	9.98	9.40	7.69	8.59	8.06
Field bean	0.33	0.25	0.27	0.32	0.41	0.35
Red gram	0.36	0.25	0.28	0.29	0.39	0.33
Other pulses	0.21	0.41	0.28	0.32	0.40	0.35
Total Pulses	0.89	0.92	0.83	0.92	1.19	1.04
Tomato	1.33	1.50	1.29	0.89	1.22	1.03
Potato	0.83	1.36	0.98	0.84	0.90	0.87
Brinjal	0.53	0.88	0.63	0.89	1.04	0.95
Beans	0.45	0.68	0.51	0.46	0.66	0.54
Roots & tubers	0.50	0.83	0.60	0.59	0.74	0.65
Leafy vegetables	0.39	0.43	0.37	0.38	0.51	0.43
Cabbage & cauliflower	0.27	0.26	0.24	0.59	0.90	0.72
Total Vegetables	4.31	5.93	4.62	4.63	5.97	5.19
Mango	0.17	0.20	0.17	0.27	0.35	0.30
Banana(No)	1	1	1	1	2	1
Papaya	0.23	0.25	0.22	0.21	0.00	0.13
Other Fruits	0.32	0.32	0.29	0.24	0.33	0.28
Total fruits	0.73	0.77	0.68	0.72	0.68	0.70
Onion	0.43	0.44	0.40	0.37	0.56	0.45
Edible oil (lit)	0.47	0.53	0.45	0.53	0.61	0.56
Milk (lit)	0.95	1.29	1.01	3.21	3.30	3.25
Sugar	0.57	0.50	0.50	0.50	0.63	0.56
Egg (No.)	1	1	1	1	1	1
Chicken	0.33	0.33	0.30	0.29	0.26	0.28
Mutton	0.11	0.18	0.13	0.14	0.14	0.14
Pork	0.19	0.16	0.16	0.19	0.20	0.19
Fish	0.18	0.14	0.15	0.05	0.00	0.03
Beef	0.08	0.12	0.09	0.04	0.07	0.05
Total meat	0.89	0.92	0.83	0.71	0.68	0.69

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-4].

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-vegetarian 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.

Table-4 *Food consumption expenditure pattern of agricultural labour (Rs. /month)*

Commodity	Irrigated (Mandya)			Rainfed (Bijapur)		
	Migration (n=30)	Non Migration (n=30)	Overall (n=60)	Migration (n=30)	Non Migration (n=30)	Overall (n=60)
Cereals	930 (31.60)	709 (27.43)	820 (29.68)	1006 (25.91)	700 (23.70)	853 (24.94)
Pulses	322 (10.94)	244 (9.44)	283 (10.24)	370 (9.53)	346 (11.71)	358 (10.47)
Vegetables	320 (10.87)	367 (14.20)	343 (12.41)	401 (10.33)	370 (12.53)	385 (11.26)
Fruits	108 (3.67)	95 (3.68)	102 (3.69)	125 (3.22)	85 (2.88)	105 (3.07)
Onion	77 (2.62)	66 (2.55)	71 (2.57)	78 (2.01)	84 (2.84)	81 (2.37)
Edible oil	202 (6.86)	186 (7.20)	194 (7.02)	258 (6.64)	210 (7.11)	234 (6.84)
Milk	171 (5.81)	193 (7.47)	182 (6.59)	675 (17.38)	495 (16.76)	585 (17.11)
Sugar	101 (3.43)	60 (2.32)	80 (2.90)	111 (2.86)	79 (2.67)	98 (2.87)
Egg	20 (0.68)	30 (1.16)	25 (0.90)	50 (1.29)	20 (0.68)	35 (1.02)
Meat	692 (23.51)	635 (24.56)	663 (24.00)	809 (20.83)	565 (19.13)	686 (20.06)
Total	2943 (100)	2585 (100)	2763 (100)	3883 (100)	2954 (100)	3420 (100)

Note: Figures in parentheses represent percentage to total

Extent of market dependence of labour households

The extent of dependence of households on food for consumption was calculated for the commodities, which are produced in farms like rice, ragi, field bean, red gram, vegetables, milk, sugar, edible oil and egg. The extent of dependence of labour households on food for consumption was higher compared to other sections. Because of insignificant land holdings they are not able to produce sufficient quantity of food grains required by the family.

Market dependence of households in cereals and millets

Irrigated situation

The extent of dependence of irrigated agricultural labour households in cereals and millets under irrigated situation is presented in [Table-5] and [Fig-1,2]. Cereals constitute rice and ragi and millets constitute wheat in the consumption basket of the households in the study area. In migration labour households, 17.48 per cent of the cereals and millets consumed were farm produced remaining part of consumption was market dependent. In case of non-migration labour households 19.48 per cent of the cereals and millets consumed were farm produced and remaining was market purchased. In migration labour households 52 per cent of rice and 67 per cent of wheat was purchased from the Public Distribution System (PDS). In non-migration labour households, 58 per cent of rice and 75 per cent of wheat was from the PDS and the remaining was from the market.

Pulses constitute mainly field bean, red gram and others like horse gram, bengalgram etc in the consumption basket of the households in the study area. In case of non-migration labour households, 20 per cent of the total pulse consumed was farm produced and remaining 80 per cent was purchased from the market. Extent of market dependence of migration labour households on pulses was 86 per cent.

In case of edible oils and sugar both migration and non-migration labour households entirely dependent on PDS and market. In migration labour households, 64 per cent of edible oil and 61 per cent of sugar purchased from market, remaining from the PDS. In non-migration labour households, 62 per cent of edible oil and 47 per cent of sugar was purchased from the market.

Table-5 *Extent of market dependence of agricultural labour households in cereals, pulses, edible oil and others in irrigated situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		PDS		Total	
		Qty.(Kg.)	Value(Rs.)	Qty.(Kg.)	Value(Rs.)	Qty.(Kg.)	Value(Rs.)	Qty.(Kg.)	Value(Rs.)
Migration	Rice	16.00 (37.71)	400.00 (75.08)	4.43 (10.44)	110.75 (20.79)	22.00 (51.85)	22.00 (4.13)	42.43 (100)	532.75 (100)
	Ragi	12.10 (64.81)	242.00 (64.81)	6.57 (35.19)	131.40 (35.19)	0.00 (0.00)	0.00 (0.00)	18.67 (100)	373.40 (100)
	Wheat	0.60 (32.79)	21.00 (85.05)	0.00 (0.00)	0.00 (0.00)	1.23 (67.21)	3.69 (14.95)	1.83 (100)	24.69 (100)
	Cereals and millets	28.70 (45.61)	663.00 (71.23)	11.00 (17.48)	242.15 (26.01)	23.23 (36.91)	25.69 (2.76)	62.93 (100)	930.84 (100)
	Field bean	1.75 (89.74)	96.25 (89.74)	0.20 (10.26)	11.00 (10.26)	0.00 (0.00)	0.00 (0.00)	1.95 (100)	107.25 (100)
	Red gram	1.80 (84.51)	135.00 (84.51)	0.33 (15.49)	24.75 (15.49)	0.00 (0.00)	0.00 (0.00)	2.13 (100)	159.75 (100)
	Other pulses	1.03 (83.06)	46.35 (83.06)	0.21 (16.94)	9.45 (16.94)	0.00 (0.00)	0.00 (0.00)	1.24 (100)	55.80 (100)
	Total pulses	4.58 (86.09)	277.60 (86.00)	0.74 (13.91)	45.20 (14.00)	0.00 (0.00)	0.00 (0.00)	5.32 (100)	322.80 (100)
	Edible oil	1.80 (64.29)	162.00 (80.20)	0.00 (0.00)	0.00 (0.00)	1.00 (35.71)	40.00 (19.80)	2.80 (100)	202.00 (100)
	Sugar	2.10 (61.22)	94.50 (93.43)	0.00 (0.00)	0.00 (0.00)	1.33 (38.78)	6.65 (6.57)	3.43 (100)	101.15 (100)

Note: Figures in parentheses represent percentage to total

Table-5 *(cont) Extent of market dependence of agricultural labour households in cereals, pulses, edible oil and others in irrigated situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		PDS		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Non-Migration	Rice	11.00 (35.40)	275.00 (79.77)	2.07 (6.66)	51.75 (15.01)	18.00 (57.93)	18.00 (5.22)	31.07 (100)	344.75 (100)
	Ragi	10.00 (57.14)	200.00 (57.14)	7.50 (42.86)	150.00 (42.86)	0.00 (0.00)	0.00 (0.00)	17.50 (100)	350.00 (100)
	Wheat	0.33 (24.81)	11.55 (79.38)	0.00 (0.00)	0.00 (0.00)	1.00 (75.19)	3.00 (20.62)	1.33 (100)	14.55 (100)
	Cereals and millets	21.33 (42.75)	486.55 (68.60)	9.57 (19.18)	201.75 (28.44)	19.00 (38.08)	21.00 (2.96)	49.90 (100)	709.30 (100)
	Field bean	1.10 (86.61)	49.50 (86.61)	0.17 (13.39)	7.65 (13.39)	0.00 (0.00)	0.00 (0.00)	1.27 (100)	57.15 (100)
	Red gram	1.00 (80.00)	75.00 (80.00)	0.25 (20.00)	18.75 (20.00)	0.00 (0.00)	0.00 (0.00)	1.25 (100)	93.75 (100)
	Other pulses	1.57 (75.85)	70.65 (75.85)	0.50 (24.15)	22.50 (24.15)	0.00 (0.00)	0.00 (0.00)	2.07 (100)	93.15 (100)
	Total pulses	3.67 (79.96)	195.15 (79.96)	0.92 (20.04)	48.90 (20.04)	0.00 (0.00)	0.00 (0.00)	4.59 (100)	244.05 (100)
	Edible oil	1.63 (61.98)	146.70 (78.58)	0.00 (0.00)	0.00 (0.00)	1.00 (38.02)	40.00 (21.42)	2.63 (100)	186.70 (100)
	Sugar	1.20 (47.62)	54.00 (89.26)	0.00 (0.00)	0.00 (0.00)	1.30 (51.59)	6.50 (10.74)	2.52 (100)	60.50 (100)

Note: Figures in parentheses represent percentage to total

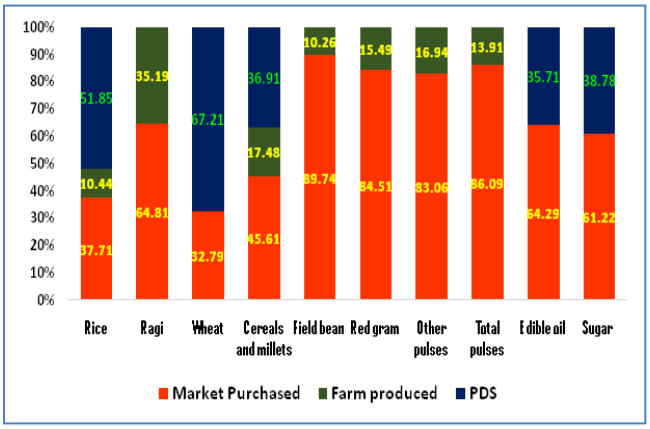

Fig-1 Extent of market dependence of migration agricultural labour households in cereals, pulses, edible oil and others in irrigated situation.

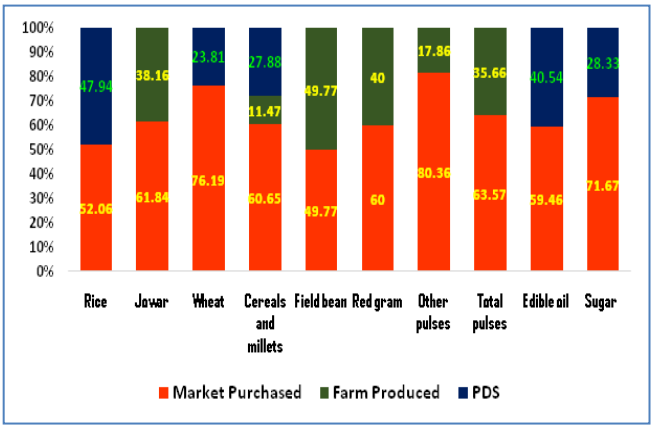

Fig-3 Extent of market dependence of migration agricultural labour households in cereals, pulses, edible oil and others in rainfed situation

Rainfed situation

The extent of dependence of labour households in cereals and millets under rainfed situation is presented in [Table-6] and [Fig-3,4]. In case of non-migration labour households, 56 per cent of the total pulse consumed was farm produced and remaining 44 per cent was market purchased. Extent of market dependence of migration labour households on pulses was 64 per cent and 36 per cent of pulses farm produced.

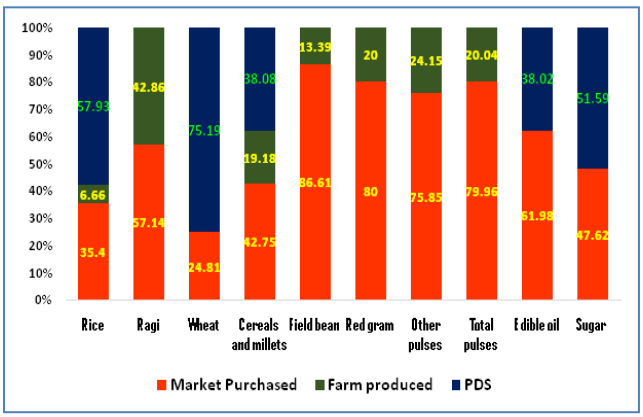

Fig-2 Extent of market dependence of non-migration agricultural labour households in cereals, pulses, edible oil and others in irrigated situation.

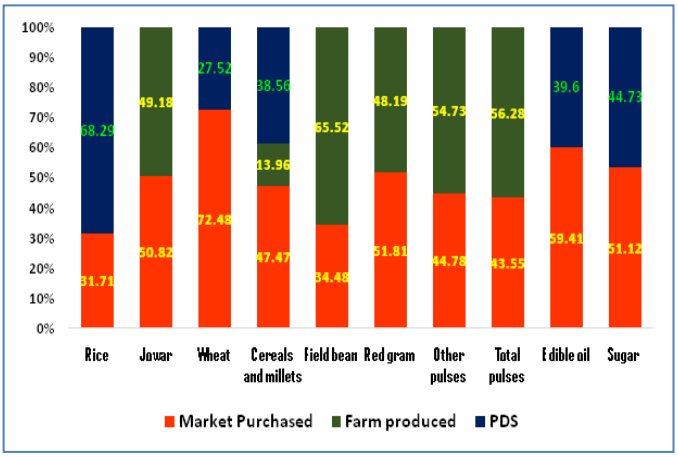

Fig-4 Extent of market dependence of non-migration agricultural labour households in cereals, pulses, edible oil and others in rainfed situation

In migration labour households 11.47 per cent of the cereals and millets consumed were farm produced remaining 89 per cent part of consumption was market dependent, out of which 28 per cent from PDS and 61 percent purchased from market. In case of non-migration labour households 13.96 per cent of the cereals and millets consumed were farm produced and remaining was market purchased.

Table-6 *Extent of market dependence of agricultural labour households in cereals, pulses, edible oil and others in rainfed situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		PDS		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Migration	Rice	13.03 (52.06)	325.75 (96.45)	0 (0.00)	0 (0.00)	12 (47.94)	12 (3.55)	25.03 (100)	337.75 (100)
	Jowar	10 (61.84)	200 (61.84)	6.17 (38.16)	123.4 (38.16)	0 (0.00)	0 (0.00)	16.17 (100)	323.4 (100)
	Wheat	9.6 (76.19)	336 (97.39)	0 (0.00)	0 (0.00)	3 (23.81)	9 (2.61)	12.6 (100)	345 (100)
	Cereals and millets	32.63 (60.65)	861.75 (85.65)	6.17 (11.47)	123.4 (12.26)	15 (27.88)	21 (2.09)	53.8 (100)	1006.15 (100)
	Field bean	1.1 (49.77)	60.5 (50.00)	1.1 (49.77)	60.5 (50.00)	0 (0.00)	0 (0.00)	2.21 (100)	121 (100)
	Red gram	1.2 (60.00)	90 (60.00)	0.8 (40.00)	60 (40.00)	0 (0.00)	0 (0.00)	2 (100)	150 (100)
	Other pulses	1.8 (80.36)	81 (81.82)	0.4 (17.86)	18 (18.18)	0 (0.00)	0 (0.00)	2.24 (100)	99 (100)
	Total pulses	4.1 (63.57)	231.5 (62.57)	2.3 (35.66)	138.5 (37.43)	0 (0.00)	0 (0.00)	6.45 (100)	370 (100)
	Edible oil	2.2 (59.46)	198 (76.74)	0 (0.00)	0 (0.00)	1.5 (40.54)	60 (23.26)	3.7 (100)	258 (100)
	Sugar	2.53 (71.67)	113.85 (95.79)	0 (0.00)	0 (0.00)	1 (28.33)	5 (4.21)	3.53 (100)	118.85 (100)

Note: Figures in parentheses represent percentage to total

In migration labour households, 59 per cent of edible oils and 71 per cent of sugar purchased from market, remaining from the PDS. On an average 59 percent of edible oil and 51 per cent of sugar purchased from market by the non-migration labour households.

[1] reported similar views that poor households access their food from the market, subsistence production and transfers from public programmes or other households. In the past, rural households produced most of their own food, but of late there is increase in dependence on market purchases by both urban and rural households, in some cases reaching 90 per cent of the food supplies.

Market dependence of households in fruits and vegetables

Irrigated situation

The extent of dependence of agricultural labour households in irrigated situation on fruits and vegetables is presented in [Table-7] and [Fig-5]. Vegetables constitute tomato, potato, brinjal, beans, roots and tubers, leafy vegetables, cabbage & cauliflower, onion etc... and fruits include mango, banana, papaya etc... in the consumption basket of the households in the study area. Cent per cent of the fruits consumed were market purchased both in migration and non-migration labour households. In migration labour households, 83.24 per cent and non-migration labour households, 74 per cent of the vegetables consumed were market purchased. In irrigated situation, generally more than 81 per cent of fruits and vegetables consumed were market purchased.

Rainfed situation

The extent of dependence of agricultural labour households in rainfed situation for fruits and vegetables is presented in [Table-8] and [Fig-6]. Migration labour households, farm produced 13 per cent of vegetables compared to 22 per cent in non-migration. Thirty five per cent of non-migration labour household's fruits consumption was farm produced and migration labour households entire fruits consumption was market purchased.

Overall market dependency of labour households for fruits and vegetables was 83 per cent in rainfed and 81 per cent in irrigated situation.

Table-6 *(cont). Extent of market dependence of agriculturallabour households in cereals, pulses, edible oil and others in rainfed situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		PDS		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Non-Migration	Rice	6.3 (31.71)	157.5 (92.07)	0 (0.00)	0 (0.00)	13.57 (68.29)	13.57 (7.93)	19.87 (100)	171.07 (100)
	Jowar	6.2 (50.82)	124 (50.82)	6 (49.18)	120 (49.18)	0 (0.00)	0 (0.00)	12.2 (100)	244 (100)
	Wheat	7.9 (72.48)	276.5 (96.85)	0 (0.00)	0 (0.00)	3 (27.52)	9 (3.15)	10.9 (100)	285.5 (100)
	Cereals and millets	20.4 (47.47)	558 (79.65)	6 (13.96)	120 (17.13)	16.57 (38.56)	22.57 (3.22)	42.97 (100)	700.57 (100)
	Field bean	0.7 (34.48)	38.5 (34.48)	1.33 (65.52)	73.15 (65.52)	(0.00)	0 (0.00)	2.03 (100)	111.65 (100)
	Red gram	1 (51.81)	75 (51.81)	0.93 (48.19)	69.75 (48.19)	(0.00)	0 (0.00)	1.93 (100)	144.75 (100)
	Other pulses	0.9 (44.78)	40.5 (45.00)	1.1 (54.73)	49.5 (55.00)	(0.00)	0 (0.00)	2.01 (100)	90 (100)
	Total pulses	2.6 (43.55)	154 (44.46)	3.36 (56.28)	192.4 (55.54)	0 (0.00)	0 (0.00)	5.97 (100)	346.4 (100)
	Edible oil	1.8 (59.41)	162 (77.14)	0 (0.00)	0 (0.00)	1.2 (39.60)	48 (22.86)	3.03 (100)	210 (100)
	Sugar	1.6 (51.12)	72 (91.14)	0 (0.00)	0 (0.00)	1.4 (44.73)	7 (8.86)	3.13 (100)	79 (100)

Note: Figures in parentheses represent percentage to total

Table-7 *Extent of market dependence of agricultural labour households in fruits and vegetables in irrigated region (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Migration	Vegetables	21.50 (83.24)	266.60 (83.24)	4.33 (16.76)	53.69 (16.76)	25.83 (100)	320.29 (100)
	Fruits	4.35 (100)	108.75 (100)	0.00 (0.00)	0.00 (0.00)	4.35 (100)	108.75 (100)
	fruits & vegetables	25.85 (85.65)	375.35 (87.49)	4.33 (14.35)	53.69 (12.51)	30.18 (100)	429.04 (100)
Non- Migration	Vegetables	22.05 (74.37)	273.42 (74.37)	7.60 (25.63)	94.24 (25.63)	29.65 (100)	367.66 (100)
	Fruits	3.83 (100)	95.75 (100)	0.00 (0.00)	0.00 (0.00)	3.83 (100)	95.75 (100)
	Fruits &vegetables	25.88 (77.30)	369.17 (79.66)	7.60 (22.70)	94.24 (20.34)	33.48 (100)	463.41 (100)

Note: Figures in parentheses represent percentage to total

Table-8 *Extent of market dependence of agricultural labour households in fruits and vegetables in rainfed situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Migration	Vegetables	28.10 (86.73)	348.44 86.73)	4.30 (13.27)	53.32 (13.27)	32.40 (100)	401.76 (100)
	Fruits	5.01 (100)	125.25 (100)	0.00 (0.00)	0.00 (0.00)	5.01 (100)	125.25 (100)
	fruits & vegetables	33.11 (88.51)	473.69 (89.88)	4.30 (11.49)	53.32 (10.12)	37.41 (100)	527.01 (100)
Non- Migration	Vegetables	23.40 (78.42)	290.16 (78.42)	6.44 (21.58)	79.86 (21.58)	29.84 (100)	370.02 (100)
	Fruits	2.21 (64.81)	55.25 (64.81)	1.20 (35.19)	30.00 (35.19)	3.41 (100)	85.25 (100)
	Fruits &vegetables	25.61 (77.02)	345.41 75.87)	7.64 (22.98)	109.86 (24.13)	33.25 (100)	455.27 (100)

Note: Figures in parentheses represent percentage to total

Fig-5 Extent of market dependence for fruits and vegetables in irrigated situation

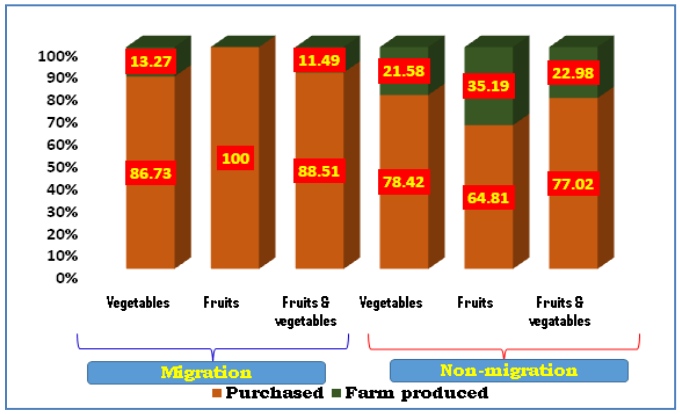

Fig-6 Extent of market dependence for fruits and vegetables in rainfed situation

Market Dependence of households in milk, egg and meat

Consumption of egg, meat and milk, which are rich in minerals, proteins, vitamins etc..., enhances the strength and working periodicity of agricultural labours.

Irrigated situation

The extent of dependence of labour households in irrigated situation milk, egg and meat consumption is presented in [Table-9] and [Fig-7]. In migration labour households, 61 per cent of milk consumed was farm produced and it was 62 per cent in non-migration labour households. In case of chicken, migration and non-migration labour household's dependent was 32.32 per cent, 38.65 per cent, respectively on farm produce. In case of egg, 66.77 per cent and 25 per cent consumption was farm produced by the non-migration and migration households, respectively. Migration labour households consumed 60 per cent of mutton and 82 per cent of pork was purchased from the market and non-migration household's consumed 44 per cent of mutton and 26 per cent of pork was farm produced.

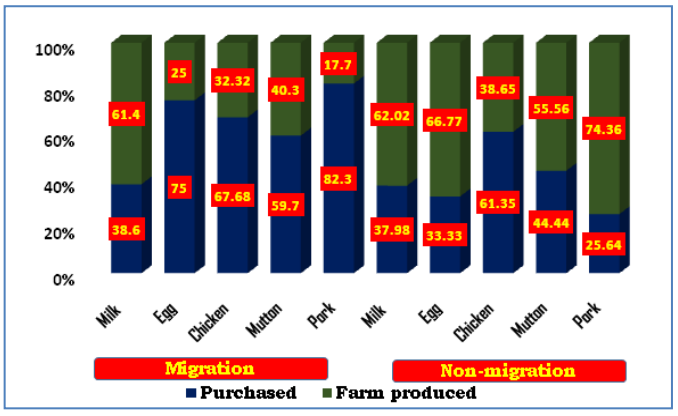

Fig-7 Extent of market dependence on milk, egg and meat in irrigated situation

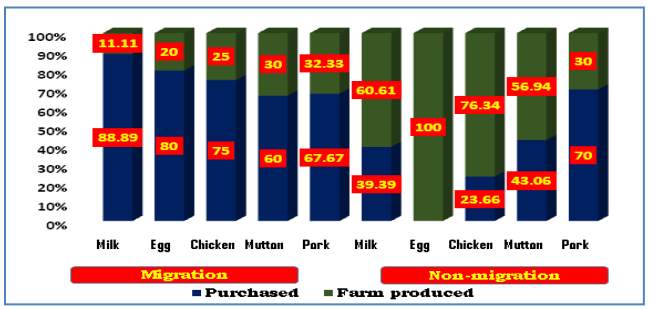

Fig-8 Extent of market dependence on milk, egg and meat in rainfed situation

Rainfed situation

The extent of dependence of labour households in rainfed situation for milk, egg and meat consumption is presented in [Table-10] and [Fig-8]. In case of egg consumption, cent per cent and 20 per cent consumption was farm produced by the non-migration and migration households, respectively. In case of milk, 61 per cent was farm produced in non-migration labour households and 11 per cent in migration households. In case of non-migration households, 76 per cent of chicken consumed was farm produced and in migration households it was only 25 per cent. In case of mutton and pork, migration labour households depended more on market for consumption compared to non-migration.

Table-9 *Extent of market dependence of agricultural labour households in milk, egg and meat in irrigated situation(Per Month)*

Labour Households	Commodity	Purchased		Farm produced		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Migration	Milk (lts.)	2.20 (38.60)	66.00 (38.60)	3.50 (61.40)	105.00 (61.40)	5.70 (100)	171.00 (100)
	Egg(no.)	3.00 (75.00)	15.00 (75.00)	1.00 (25.00)	5.00 (25.00)	4.00 (100)	20.00 (100)
	Chicken	1.34 (67.68)	241.20 (67.68)	0.64 (32.32)	115.20 (32.32)	1.98 (100)	356.40 (100)
	Mutton	0.40 (59.70)	100.00 (59.70)	0.27 (40.30)	67.50 (40.30)	0.67 (100)	167.50 (100)
	Pork	0.93 (82.30)	139.50 (82.30)	0.20 (17.70)	30.00 (17.70)	1.13 (100)	169.50 (100)
Non- Migration	Milk (lts.)	2.45 (37.98)	73.50 (37.98	4.00 (62.02)	120.00 (62.02)	6.45 (100)	193.50 (100)
	Egg(no.)	2.00 (33.33)	10.00 (33.33)	3.00 (66.77)	15.00 (66.77)	6.00 (100)	30.00 (100)
	Chicken	1.00 (61.35)	180.00 (61.35)	0.63 (38.65)	113.40 (38.65)	1.63 (100)	293.40 (100)
	Mutton	0.40 (44.44)	100.00 (44.44)	0.50 (55.56)	125.00 (55.56)	0.90 (100)	225.00 (100)
	Pork	0.20 (25.64)	30.00 (25.64)	0.58 (74.36)	87.00 (74.36)	0.78 (100)	117.00 (100)

Note: Figures in parentheses represent percentage to total

Table-10 *Extent of market dependence of agricultural labour households in milk, egg and meat in rainfed situation (Per Month)*

Labour Households	Commodity	Purchased		Farm produced		Total	
		Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)	Qty. (Kg.)	Value (Rs.)
Migration	Milk (lts.)	20.00 (88.89)	600.00 (88.89)	2.50 (11.11)	75.00 (11.11)	22.50 (100)	675.00 (100)
	Egg(no.)	8.00 (80.00)	40.00 (80.00)	2.00 (20.00)	10.00 (20.00)	10.00 (100)	50.00 (100)
	Chicken	1.50 (75.00)	270.00 (75.00)	0.50 (25.00)	90.00 (25.00)	2.00 (100)	360.00 (100)
	Mutton	0.60 (60.00)	150.00 (60.00)	0.30 (30.00)	75.00 (30.00)	1.00 (100)	250.00 (100)
	Pork	0.90 (67.67)	135.00 (67.67)	0.43 (32.33)	64.50 (32.33)	1.33 (100)	199.50 (100)
Non- Migration	Milk (lts.)	6.50 (39.39)	195.00 (39.39)	10.00 (60.61)	300.00 (60.61)	16.50 (100)	495.00 (100)
	Egg(no.)	0.00 (0.00)	0.00 (0.00)	4.00 (100)	20.00 (100)	4.00 (100)	20.00 (100)
	Chicken	0.31 (23.66)	55.80 (23.66)	1.00 (76.34)	180.00 (76.34)	1.31 (100)	235.80 (100)
	Mutton	0.31 (43.06)	77.50 (43.06)	0.41 (56.94)	102.50 (56.94)	0.72 (100)	180.00 (100)
	Pork	0.70 (70.00)	105.00 (70.00)	0.30 (30.00)	45.00 (30.00)	1.00 (100)	150.00 (100)

Note: Figures in parentheses represent percentage to total

Conclusion

Critically reviewing the above discussions, it is evident that most of the upper forward caste agricultural labourers belong to migration category. Average consumption of cereals (include rice and wheat) and millets (ragi) pulses, vegetables, fruits, milk, edible oil, sugar and egg that are rich in minerals and vitamins was comparatively higher in migration labour households of both irrigated and rainfed situations and comparatively lower in non-migration labour households. Agricultural labour households in irrigated and rainfed situations were below the ICMR norms in cereals and pulses, except non-migration labour households in rainfed situation who are almost on par with the ICMR norms

Due to higher income through remittances, migration labour households purchase more quantity and quality of food items than non-migration labour households.

The programmes already undertaken by government have greater implications on labour and thus are to be pursued further with more vigor to strengthen the household food security. An appropriate policy may be evolved to pass on the benefits of all government programmes especially to those labour household who are working in agricultural fields. In view of the risk of malnutrition faced by the children of labourers, special attention should be paid to meet the nutritional needs by providing nutritional food through different welfare programmes. Special attention should be given to promote the homestead farming to avoid the excess dependence on market for household consumption, which in the long term reduces the soaring prices of food article, thereby reducing food inflation at macro level.

Conflict of Interest: None declared

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