Research Article

IMPACT OF GOVERNMENT SCHEMES ON AVAILABILITY OF AGRICULTURAL LABOURS IN THE KARNATAKA STATE, INDIA - AN ECONOMIC ANALYSIS

Abstract- This study investigates the labour supply behaviour of agricultural labourers at different wage rates. The objectives of this study are to test the Impact of rural development schemes on availability of agricultural labours supply and to observe agricultural labours responsiveness to changes in the wage rates by using 2013 cross-sectional data. The reason for sub-optimal utilization of labour offerings was the provision of food in the public distribution system, which upsurges the food availability and security for a month with only one or two person days of labour offering. If agricultural labourers were food secure, then they have every reason to prefer leisure. On demand side, most of the farmers also opinioned that, labour availability has reduced due to implementation of MGNREGA and migration of agricultural labour to other regions had a more significant role. In addition, in the rural areas, due to increased wages in the non-agricultural sector, there appears to be operation of backward bending supply curve of labour at two levels.

Keywords- Government Programs, Labour supply, Food expenditure, Migration, Backward bending, Transaction cost, Leisure, Availability

Introduction

Economists have traditionally identified three factors of production *viz*: land, labour and capital. Capital became the critical economic factor due to the revolution of industry. Production of goods and services, human resources plays a significant role in an economy. The study of human resources, their quality and problems is thus of immense importance for manpower planning in both developing as well as developed economies (Shanmugam and Govindarajan, 2011). It has been observed that the agricultural labourers are socially and economically poorest section of the society. Agricultural labour households constitute the historically deprived social groups, displaced handicraftsmen and dispossessed peasantry. They are the poorest of the poor in rural India.

Most of the agricultural labourers are landless and meager in land holding size, they mainly depends on employment in agriculture as a labour. Majority of the agricultural labours belongs to backward classes of the society. Their income has always been meagre, resulting in poor living and heavy indebtedness.

It has been found that agricultural workers are basically unskilled; they may not be skilled even in the art of cultivation. Consequences of this, supply of labour by the labourer is perfectly elastic to that their earnings.

Since Independence, the central as well as the state governments have taken some measures to improve the economic condition of agricultural labourer. They include fixation of minimum wages to the agricultural labour, implementation of minimum number of days of employment guarantee programmes and redistribution of land to the landless labours in the rural areas of the country.

The Indian census reports from 1961 to 2011 one of the earliest warning notes about the growth of surplus population on land. It was cumulative effect of a large number of factors like land tenure, monetization and commercialization of the agriculture and decline of the handicrafts, etc. During the period after independence the proportion of agricultural labour continued to be increased. The proportion of agricultural labourers tended to rise with the increasing year in Indian economy. Such proportion was estimated at 28.0 million and 144.3 million in 1951 and 2011, respectively. It has also been observed that the agricultural labourers workforce has increased during the period of 1961 to 1991, whereas, in 2001 it has slightly declined. However, the agricultural labourers workforce has increased in 2011. The percentage of cultivators has also declined during the periods of 1961 to 2011.

Till not very long ago, Indian agriculture was marked by abundant supply of farm labour and a considerable portion of work force was absorbed in it, even when it was not actually required. In recent years, Indian agriculture has undergone an audible change due to fact that shortage of labours to the farming in the rural area of the country. This may be due to the fact that, migration of rural youth from faming to non-farm sector. One of the reasons for low level of productivity of the labourer in agriculture is mainly low level of wage rate and also substitution of labour hors to the leisure. This gave rise to a negative relationship between labour productivity and labour absorption in agriculture currently.

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. 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 irrigated situation, two taluks were selected, from each taluk 15 migrant and 15 non-migrant labour households and 20 farmers were also selected randomly who were practicing farming. Thus, the total sample for the

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study comprised of 60 agricultural labour households and 40 farmers. Similar sampling procedure was adopted for rainfed situation. Thus, the total sample from both the situations was 120 agricultural labour households and 80 farmers.

In order to accomplish the objectives of the study, data were analysed by employing different statistical and economical tools were employed to estimate the benefit utilization from the different governmental programmes by the agricultural labour households.

Amortization of benefits availed from developmental programmes

Some of the developmental programmes like Indira Awas Yojana, Bicycle for children studying 8th standard etc... the benefits are extended over time. Thus, the benefit derived by such beneficiaries is amortized using the formula.

$$A = P \frac{r(1+r)^n}{(1+r)^n - 1}$$

Where,

A = Amortized benefit per year from particular developmental programme.

P = Total initial benefit received by the beneficiary farmer.

r = interest rate per period, r is taken as 2 per cent since the benefits are from social welfare schemes over a long period of time

n = total number of years of benefit flow, n is taken as the total number of years for each program (for eg. Indira Awasa Yojana house construction for rural poor's is taken for 20 years, Bicycle scheme for school going children for 10 years).

Results

Benefit to labour households from developmental programmes

Agricultural labour households availing benefits through various developmental programmes are presented in [Table-1] for irrigated and rainfed situation.

Table-1 *Average annual benefit from developmental programmes to agricultural labour households (Rs. /Household)*

SI No.	Name of the Program/Scheme	Irrigated (Mandya)			Rainfed (Bijapur)		
		Migration	Non Migration	Overall	Migration	Non Migration	Overall
1	Ration Card	5136 (26.51)	5410 (27.42)	5273 (26.97)	5352 (25.36)	5593 (31.63)	5473 (28.22)
2	Mid-Day Meal Scheme	768 (3.96)	768 (3.89)	768 (3.93)	768 (3.64)	768 (4.34)	768 (3.96)
3	Yashasvini card	400 (2.06)	333 (1.69)	367 (1.88)	0 (0.00)	527 (2.98)	263 (1.36)
4	KaliyuvaMakkalige Bicycle	2350 [259] (1.34)	2350 [259] (1.31)	2350 [259] (1.32)	2960 [297] (1.41)	2960 [297] (1.68)	2960 [297] (1.53)
5	Old Age Pension Scheme	2140 (11.05)	2280 (11.56)	2210 (11.30)	2200 (10.43)	2800 (15.84)	2500 (12.89)
6	Namma Mane	22500 [1376] (7.10)	0 [0] (0.00)	11250 [688] (3.52)	55000 [3363] (15.94)	60000 [3669] (20.75)	57500 [3516] (18.13)
7	Bhagyalaxmiyojana	600 (3.10)	600 (3.04)	600 (3.07)	600 (2.84)	600 (3.39)	600 (3.09)
8	Bhagyajyothi	982 (5.07)	982 (4.98)	982 (5.02)	982 (4.65)	982 (5.55)	982 (5.06)
9	Indira AwasYojana	26250 [1605] (8.29)	23333 [1426] (7.23)	24791 [1516] (7.75)	53333 [3261] (15.45)	40000 [2446] (13.83)	46666 [2854] (14.72)
10	Bhoochetana Scheme	625 (3.23)	400 (2.03)	513 (2.62)	0 (0.00)	0 (0.00)	0 (0.00)
11	Ambedkar dev board scheme	27500 [1681] (8.68)	43750 [2675] (13.56)	35625 [2178] (11.14)	66666 [2077] (9.84)	0 [0] (0.00)	33333 [1039] (5.36)
12	Nirmala Grama	4393 [489] (2.52)	5000 [556] (2.82)	4696 [522] (2.67)	0 [0] (0.00)	0 [0] (0.00)	0 [0] (0.00)
13	Widow scheme	2400 (12.39)	2800 (14.19)	2600 (13.30)	2200 (10.43)	0 (0.00)	1100 (5.67)
14	MGNREGA	910 (4.70)	1240 (6.29)	1075 (5.50)	0 (0.00)	0 (0.00)	0 (0.00)
	Average	19371 (100)	19729 (100)	19550 (100)	21100 (100)	17682 (100)	19391 (100)

Note: Figures in parentheses () represent percentage to total.
Figures in [ ] represent amortized annual benefit in rupees

Irrigated situation

In irrigated situation, non-migrant labour households benefited on an average Rs 19729 by participating in 14 developmental programmes of which maximum benefit was from Ration card (27.42 %) followed by widow scheme (14.19%) and Ambedkar devboard schemes (13.56 %). In migrant labour households, a beneficiary family derived on an average Rs 19371 of which maximum benefit was from Ration Card (26.51%), followed by widow scheme (12.39%) and Old Age Pension Scheme (11.05%).

Rainfed situation

In rainfed situation, migrant labour households derived maximum benefit Rs 21100 by participating in 10 developmental programmes of which major benefit was from Ration card (25.36%), followed by Namma Mane (15.94 %) and Indira

Awas Yojana (15.45 %). In non-migrant labour households, the average benefit from the programmes was Rs 17682 by participating in 11 developmental programmes. The mojor portion of benefit was from Ration card (28.22 %), followed by Namma Mane (18.12 %) and Indira Awas Yojana (14.72 %).

In both the situations, the major portion benefit was from Ration card and housing schemes like Namma Mane and Indira AwasYojana. The labour households in irrigated situation were relatively more benefited compared to rainfedlabour households due to lack of awareness and participation.

Impact PDS on food expenditure

A majority of the agricultural labour households possess BPL ration card. In irrigated situation, the annual savings [rice, wheat, sugar, edible oil] by a migration

labour household was Rs. 8040 and Rs. 6792 by the non-migration labour households from the benefit received through PDS [Table-2]. In case of rainfed situation, migration labour households saved Rs. 5988 and non-migration labour households saved Rs. 6444 per annum.

As a food security policy of the government, rice and wheat are supplied to BPL families at the rate of Rs.1 and Rs. 3 per kg and with a provision of around 30 kg of food grains per month. Due to this, agricultural labours tend to be satisfied, since their food requirements of the entire month are met with wage income of one or two days. Due to these provisions, agricultural labourers tendency to work may come down.

Table-2 *Impact of PDS on food expenditure of agricultural labour households in the study area (in Rs)*

Particulars	Irrigated (Mandya)		Rainfed (Bijapur)	
	Migration	Non Migration	Migration	Non Migration
Monthly expenditure on commodities purchased through PDS (at issue price)	73	68	86	78
Monthly expenditure on commodities purchased through PDS (at market price)	743	634	585	615
Difference amount	670	566	499	537
Savings per year	8040	6792	5988	6444

Impact of governmental programs on labour availability

Most of the farmers also opinioned that, labour availability has reduced due to implementation of MGNREGA and migration of agricultural labour to other regions had a more significant role [Table-3]. In addition, in the rural areas, due to increased wages in the non-agricultural sector, there appears to be operation of backward bending supply curve of labour at two levels [Table-4] [Fig-1].

Table-3 *Impact of developmental programs on the availability of agricultural labour – opinion of farmers*

Sl.No.	Labour availability has reduced	Opinion (n=80)	
		Yes	No
1.	Due to MGNREGA	71 (88.7)	9 (11.2)
2.	Migration of agricultural labours	64 (80.0)	16 (20.0)

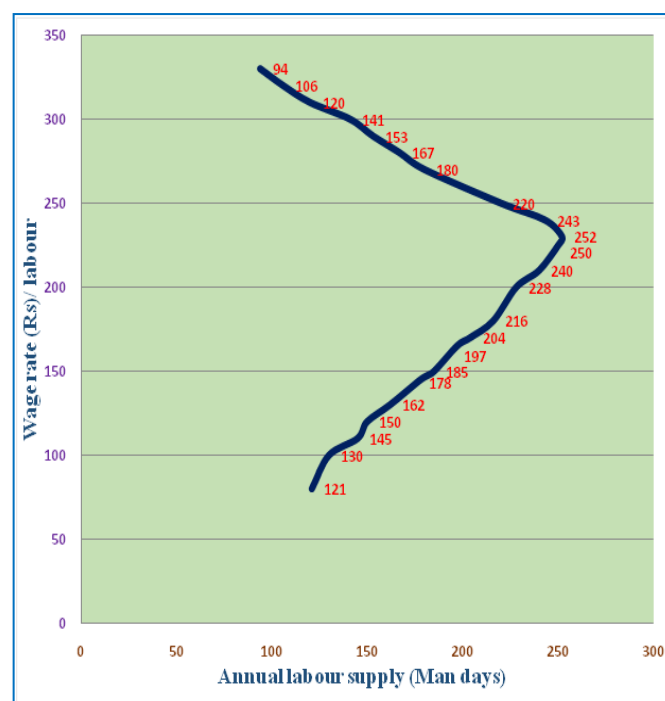| 3. | Expectation of higher wages by the labourer | 52 (65.0) | 28 (35.0) |
| 4. | Due to PDS | 58 (72.5) | 22 (27.5) |

Fig-1 Annual supply of labour at different wage rates by a labour

Backward bending labour supply curve.

At the first level, the backward bending supply was due to provision of food grains for BPL families. This provision of food was independent of inflation and provides the barest minimum food, offering food security to the rural families. At the second level, the backward bending supply of labour operates and around 230 man days of labour in the family were seldom interested to offer their labour. A person who has offered 230 days of labour, if he/she stops working beyond this threshold, sufficiently proves that labour with the increased income prefer leisure over work [Fig-1].

Appendix-I.a *Impact of PDS on food expenditure of agricultural labour households in irrigated situation*

Particulars	PDS price (Rs)	Market price (Rs)	Migration labour households			Non-migration labour households		
			Purchased from PDS (Rs)	PDS Value (Rs)	Market value (Rs)	Purchased from PDS	PDS value (Rs)	market value (Rs)
Rice	1	25	22	22	550	18	18	450
Wheat	3	35	1.2	4	43	1	3	35
Edible oil	40	90	1	40	90	1	40	90
Sugar	5	45	1.3	7	60	1.3	7	59
Total value (Rs)				**73**	**743**		**68**	**634**

Appendix-I.b *Impact of PDS on food expenditure of agricultural labour households in rainfed situation*

Particulars	PDS price (Rs)	Market price (Rs)	Migration labour households			Non-migration labour households		
			Purchased from PDS (Rs)	PDS Value (Rs)	Market value (Rs)	Purchased from PDS	PDS value (Rs)	market value (Rs)
Rice	1	25	12	12	300	13.57	14	339
Wheat	3	35	3	9	105	3	9	105
Edible oil	40	90	1.5	60	135	1.2	48	108
Sugar	5	45	1	5	45	1.4	7	63
Total value (Rs)				**86**	**585**		**78**	**615**

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Table-4 *Annual supply of labour at different wage rates by a labour*

Wage rate (Rs)/ labour	Annual labour supply (Man days)
80	121
100	130
110	145
120	150
130	162
145	178
150	185
165	197
170	204
180	216
200	228
210	240
225	250
230	252
240	243
250	220
270	180
280	167
290	153
300	141
310	120
320	106
330	94

The reason for sub-optimal utilization of labour offerings was the provision of food in the public distribution system, which upsurges the food availability and security for a month with only one or two person days of labour offering. If agricultural labourers were food secure, in other words when their first and foremost need was met, then they have every reason to prefer leisure. Another reason for suboptimal supply of labour for farm operations is the provision of relatively drudgery-free labour and wage in MGNREGA.

Conclusion

The major goal of this paper was to re-examine the issue with more recent data to provide a better understanding of both hours worked and wage rates. The results of this paper offer strong support for the conclusions reached by them. The markedly backward-bending shape of the labour supply curve of working agricultural labour suggests that the income elasticity of demand for leisure is larger relative to the substitution effect for supply of labour by the agricultural labourers.

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