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Impact of institutionalisation of labour through labour banks on the rice farming sector in Kerala

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ABSTRACT

Steep fall in the State Domestic Product from the share of agriculture and allied activities from 22 per cent in 1999-2000 to 8.33 per cent in 2014-15 indicates the decline in agricultural sector which was once the backbone of Kerala economy. Kerala agriculture is faced with twin problems of farmers as well as farm labourers abandoning cultivation. Traditional farmers are seen leaving farming due to instability in price of produce and income, seasonal labour scarcity and high labour cost, and ultimately unfavourable benefit cost ratio. Younger generations are not attracted to farming mainly due to lack of life security, social security, social status and drudgery in farming operations. Labour bank initiatives have been undertaken under the auspices of certain local governments to address the problem of labour scarcity and irregular employment opportunities to labourers. Green Army Labour Bank (GALB) was formed as an institutionalized self-sustaining group of skilled labour force fostered by the local body of Wadakkanchery block in Thrissur district in 2008 with modern farm techniques and interventions and farm machineries. A systematic study has been undertaken to assess the impact of GALB on the welfare of the stake holders and status of rice farming. GALB as a labour institution could increase the labour availability and income and thus improve the welfare of its members. These benefits were partially not available for a section of ordinary labourers who were not GA members. The loss in their labour days and income may be compensated by other complimentary employment programmes like MGNREGS, other income generating activities and increasing labour opportunities in the area. GA intervention could bring more area under plough, improve cropping intensity and thus create more labour days. The potential of the labour institutions should be realized and exploited to meet the present challenge of the State, the fallow land utilization. The farmers associated with GA were benefited by higher crop productivity, income and BCR of rice farming. Improving rice area and productivity a will improve the total food grain production . The results of the study will help to evaluate the working of the newly launched 'KarshikaKarmasena' by the State of Kerala. Institutionalising of labour bank system with convergence of Local Self-government, State Governments departments, Co-operative banks and NGO's can be a replicable model for addressing the issues of labour scarcity, lack of capital faced by the farmers and welfare of labourers.

INTRODUCTION

Farmers and farm labourers are like two sides of a coin and form the single pillar of agriculture. Latest census of India taken during 2011 rings the alarm on an agrarian crisis that the number of farmers has reduced by over 8.5 million in the pastdecade. It also disproves the assumption of the emerging shortage of Indian agricultural labour force, the data shows more than 37 million people have taken to farm labour in the last 10 years (Census of India, 2011). However 54.6 per cent of the total workers in India are now part of agricultural sector with a decline of 36 per cent as compared to 2001. Kerala agriculture is also in line with the central trend in this context.

Steep fall in the State Domestic Product from the share of agriculture and allied activities from 22 per cent in 1999-2000 to 8.33 per cent in 2014-15 indicates the decline in agricultural sector which was once the backbone of Kerala economy. Rice farming was the main employment provider for rural population and the area under rice has shown a consistent fall from 8.81 lakh ha in 1974-75 to 1.93 lakh ha in 2013-14. Kerala agriculture is faced with twin problems of farmers as well as farm labourers abandoning cultivation. Traditional farmers are seen leaving farming due to instability in price of produce and income, seasonal labour scarcity and high labour cost, and ultimately unfavourable benefit cost ratio.Younger generations are not attracted to farming mainly due to lack of life security, social security, social status and drudgery in farm operations (Jayakumaran, 2012).

Agricultural labourers are the most unorganized with low income, tedious work conditions, and irregular and periodic (season bound) employment. They are mostly landless and constitute the poorest segment of agricultural population. Institutionalisation of labour has been recommended as a major intervention to combat the low per capita availability and to improve the efficiency of agricultural labor (Parthasarathy, 1993).The local governments (LGs)have not been very successful in generating livelihood opportunities in agriculture, the failure of LGs in agriculture is noteworthy because agriculture is identified as a LG subject (Harilal and Eswaran, 2015). However, labour bank initiatives have been undertaken under the auspices of certain local governments to address the problem of labour scarcity and irregular employment opportunities to labourers. A few institutionalized labour models operating in kerala are Kunnathukal Labour Bank in Thiruvananthapuram district, Food Security Army of Kerala Agricultural University and *Krishisahayi* of KVK, Malappuram.

Green Army Labour Bank (GALB) was formed as an institutionalized self-sustaining group of skilled labour force fostered by the local body of Wadakkanchery block in Thrissur district in 2008 with modern farm techniques and interventions and farm machineries. By infusing modern methods into conventional farming and assuring steady supply of labourers and possible credit support to farmers, GALB could assure better living conditions to both farmers and farm labourers. A systematic study has been undertaken to assess the impact of GALB on the welfare of the stake holders and status of rice farming.

MATERIAL AND METHODS

Study area:

GALB was formed as a skilled labour bank inorder to solve the labour problems in the farming sector and to improve rice productivity and production by reducing the constraints faced by farmers and agricultural labourers in Wadakkanchery block of Thrissur district. Members were trainedin modern farming techniques and equipped to handle machinery such as tractor, tiller, transplanter, conoweeder, sprayers, reaper, combine harvester, winnower and baler. GALB is functioning on a six level hierarchy system in the order of high power committee, executive committee, Chief Coordinator, Green Army group, Green Army team and Green Army members. It has got 67 transplanters, two combine harvesters, two balers and other machinery worth Rs. 1.52 crores. Wages of the Green Army members is given as salary/month. If a member work for 16 days he get one month salary. At present monthly salariesof Green Army member is Rs. 7600, Deputy leader Rs. 9600, Team leader Rs. 12000 and Group leader Rs. 13600. Members are eligible for pension at Rs. 1500/month once he finishes 1000 working days. Benefits such as welfare funds, bonus, insurance etc. also exist. Rs. 50000 will be given as revolving fund to each field collective for initial common cultivation activities. If additional amount needed interest free loan will be arranged through Peringandoor Service Co-operative bank.

Sampling design:

Simple random sampling was used in the selection of respondents for the study. The total sample size of

120 consisted of 40 Green Army members (agricultural labourers who joined Green Army), 40 conventional agricultural labourers and 40 beneficiary farmers who utilized GALB services.

Statistical tools:

To study the impact of Green Army(GA) on income, consumption expenditure and labour use pattern and other parameters before and after the operation of Gren Army'paired t test' was used. The data on expenditure and income were analysed innominal and real terms by taking into account the deflation factor which is the ratio of consumer price index (CPI) of the base year 2005. The estimated deflation factorsfor 2008 (before GA intervention) is 0.833 and for 2014 (after GA intervention) is 0.502.

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Impact of GALB on labourers :

The basic information of the respondents under the category of GA members (labourers who joined as the members of GA) and conventional labourers (who did not/could not join the GA) are given in Table 1. The notable differences were in the economic category and education. The results of the data in Table 1 indicate that majority of the agricultural labourers are women and institutionalized labour attracted more educated labourers belonging to higher economic category than poor vulnerable sections of the society irrespective of age and social category. The results showed that 42.5 to 50 per cent conventional labourers/GA members belonged to the age group of 40-49 years followed by 30-39 years and 50-59 years. There was nobody less than 30 years in green army indicating that the youth are employed elsewhere other than farm labour. In the case of conventional labourers 35 per cent was above 50 years. It's a clear indication that the youth has to be attracted into farming to keep up the food grain production in our state.

Table 2 shows the effect of institutionalization of labour on the occupational pattern of GA members and conventional labourers. The data revealed that the labourers were dependent on traditional farm labour, work under Mahatma Gandhi National Rural

Table 1 : Socio-economic characters of Green Army members and conventional labourers

Particulars	Green army members		Conventional labourers	
	Number	Percentage	Number	Percentage
Age (years)				
<30	0	0.00	1	2.50
30-39	9	22.50	8	20.00
40-49	19	50.00	17	42.50
50-59	6	15.00	9	22.50
>60	5	12.50	5	12.50
Gender				
Male	8	20.00	3	7.50
Female	32	80.00	37	92.50
Social category				
SC/ST	5	12.50	6	15.00
OBC	26	65.00	23	57.50
General	9	22.50	11	27.50
Education				
No Schooling	0	0.00	0	0.00
Upto 4^{th}	4	10.00	7	17.50
Upto 9^{th}	12	10.00	16	40.00
SSLC and above	24	60.00	17	42.50
Economic category				
APL	18	45.00	4	10.0
BPL	22	55.00	36	90.0

Employment Guarantee Scheme (MGNREGS), household work, quarry work and masonry labour for their livelihood.

The results indicated that institutionalisation of labour has brought a shift in the occupational pattern in favour of agricultural works through GALB for a section of labourers who became GA members. An average of 76 working days through GALB made the GA members to avail almost 5 months regular salary (16 days work is equal to one month) and other benefits which have contributed to enhance their income considerably. They could do all types of other works when GA work is not there. On the other side the plight of the conventional laborers who could not become members of GA were not bright.There was considerable reduction by 51.64 per cent in the working days mainly due to the reduced working opportunity due to the entry of farm machinery which substituted human labour. They could maintain the MGNREGS working days and increase other working days from 16 to 25 per annum. However, there was a total reduction of 55 days per annum equal to 33.13 per cent of their employment opportunities they had before the formation of GA.

The effect of institutionalization of labour on annual income of the GA member and family was significant and positive while it adversely affected the conventional labourers. There was 58.19 per cent increase in the annual income of the GA member consequently 40.51 per cent increase in the annual family income in nominal term due to higher wages and more employment days. However, in real terms it was, respectively -4.67 per cent and -15.32 per cent for the member and family which can be explained in terms of the inflation accounted during the period from 2008-14. In case of conventional labourers there was a decrease in annual income by 49.45 per cent and annual income by 28.08 per cent due to lower number of employment days (Table 3).

The variation in income has reflected in the annual family expenditure (Table 4). The monthly expenditure for food, fuel, education, travel and entertainment, communication, health, clothing and electricity is estimated to be 54.81 per cent higher for GA members after joining while it was only 41.4 per cent for the agricultural labourers. However, in real terms expenditure was decreased by 6.71 and 17.39 per cent, respectively.

Impact of GALB on rice farming :

The rice area in Wadakkanchery block has increased by 44.23 per cent due to GA intervention (Table 5).In three panchayats instead of two seasons an additional crop in *Puncha* season was also taken by farmers as a Green Army initiative.

Increase in production can be achieved by increase in absolute area, increase in cropping intensity and increase in productivity. GA intervention has achieved all these three in Wadakkanchery block.

Table 2 : Occupational pattern of GA members and conventional agricultural labourers

Labour	GA members			Conventional labourers		
	Employment days		Per cent change	Employment days		Per cent change
	Before GA	After GA		Before GA	After GA	
Farm-work outside GALB	78	58	-25.64	122	59	-51.64
Farm-work through GALB	0	76	-	0	0	-
MGNREGS	65	60	-7.69	83	82	0.12
Others (quarry, household and masonry works)	61	31	-49.18	16	25	56.25
Total	203	225	10.84	221	166	22.89

Table 3 : Annual income (Rs.) of the individual and the family of Green Army members and conventional farm labourers

Particulars	Green Army members				Conventional farm labourers			
	Nominal income		Real income		Nominal income		Real income	
	Member	Family	Member	Family	Labourer	Family	Labourer	Family
Before GA	59993	139843	49974	116489	43838	92826	36517	77324
After GA	94903	196490	47641	98638	48674	120263	24434	60372
Difference	34910	56647	-2333	-11851	-4836	27437	-12083	-16952
% change	58.19	40.51	-4.67	-15.32	11.03	29.56	-49.45	-28.08
't' value	7.65*	9.63**	NS	4.56**	2.57*	8.33*	12.46**	18.20*

* and ** indicates significance of values at P=0.05 and 0.01, respectively NS=Non-significant

Labour utilization before and after GA intervention:

The total labour days which included both hired and family labour was 195 for various cultural operations in rice before GA against 87 after GA which showed a 55.38 percentage decrease in the total labour requirement per season (Table 6). Labour substitution through machineries has brought down the manual labour days from 37 for transplanting and 40 for harvesting to as low as 2 labourers for each operation. Herbicidal weed control has reduced the labour days for weeding from 41 to l1. A significant change can be observed in the case of family labour. Before GA 57 family labour constituting 29.23 per cent of the total labour was involved in cultural operations whereas after GA 48 family labour constituting 55.17 per cent of the total labour was involved, a 25.82 per cent increase in family labour use.In general, in the context of Kerala the share of hired labour in the total manual labour is generally very high, the reported percentage being 83 for hired labour and 17 for family labour (Devi, 2012).

Economic benefit to the farmer :

The total input cost due to GA's intervention in nominal term has increased from Rs.35,893 to Rs. 54,500 (51.84 % increase). However, in the real term the input cost decreased from Rs. 29,900 to Rs. 27,359 (8.50 % decrease) (Table 7). More than 9 per cent cost was reduced in case of weeding and harvesting due to GA intervention.

GA intervention has led to better management of crops which resulted in a yield increase of 2432 kg/ha (Table 8). The value of grain was increased by 145 per cent. Paddy straw was collected through baler and 161 per cent increase in price was obtained for straw. The BCR was enhanced from 1.6 to 2.59. If the parameters are considered in the real terms the enhanced BCR is due to reduction in the cost of cultivation, increase in the grain yield and value of the straw collected which was otherwise sold for throw away price.

Conclusion :

GALB as a labour institution could increase the labour availability and income and thus improve the welfare of its members. These benefits were partially not available for a section of ordinary labourers who were not GA members. The loss in their labour days and income may be compensated by other complimentary employment programs like MGNREGS, other income generating activities and increasing labour opportunities in the area.GA intervention could bring more area under

Table 4 : Annual family expenditure (Rs.) of GA members and conventional labourers

Particulars	Green Army members		Conventional farm labourers	
	Nominal expenditure	Real expenditure	Nominal expenditure	Real expenditure
Before GA	55848	46524	39768	33132
After GA	86460	43404	56232	28224
Difference	30612	-3120	16464	-4908
% change	54.81	-6.71	41.4	-17.39
't' value	18.31**	2.12*	17.43**	4.84 *

* and ** indicate significance of values at P=0.05 and 0.01, respectively

Table 5 : Increase in rice area (ha) due to GALB intervention in Wadakkanchery block

Panchayat	Before GA intervention	After GA intervention	Per cent increase
Veloor	447	573	28.19
Varavoor	306	467	52.61
Thekkumkara*	430	790	83.72
Mundathikode	392	658	67.86
Mulloorkkara	187	289	54.55
Kadangode	389	442	13.62
Erumapetty	418	563	34.69
Desamangalam*	289	394	36.33
Wadakkanchery*	303	383	26.40
Total	3161	4559	44.23

*- Panchayats where rice farming in *Puncha* season also started in addition to *Virippu* and *Mundakan* due to GA intervention

plough, improve cropping intensity and thus create morelabour days.

The potential of the labour institutions should be realized and exploited to meet the present challenge of the State, the fallow land utilization. The farmers associated with GA were benefited by higher crop

Table 6 : Labour utilization before and after GA intervention

Cultural operation	Labour used before GA (Labour days/ha)					Labour used after GA (Labour days/ha)				
	Hired		Family		Total	Hired		Family		Total
	M	F	M	F		M	F	M	F	
Land preparation	6	3	11	2	22	6	3	11	2	22
Organic manuring	1	4	3	2	10	1	4	3	3	11
Nursery preparation	2	2	3	1	8	1	2	3	1	7
Transplanting/sowing	1	33	2	1	37	0	0	1	1	2
Weeding	1	31	4	5	41	2	3	2	4	11
Fertilizer application	2	1	2	0	5	2	0	2	0	4
Water Management	6	1	7	0	14	6	0	7	0	13
Plant protection	1	0	2	0	3	2	0	2	0	4
Harvesting	1	35	2	2	40	1	0	1	0	2
Straw baling	1	2	2	2	7	1	1	1	1	4
Post harvest operation	2	2	2	2	8	2	2	2	1	7
Total	24	114	40	17	195	24	15	35	13	87

Table 7 : Cost of cultivation of rice (Rs./ha) as influenced by GA intervention

Particulars	Nominal cost				Real cost		Per cent change
	Before GA	Per cent	After GA	Per cent	Before GA	After GA	
Land preparation	5258	14.65	9185	16.85	4380	4611	2.20
Seed	1517	4.22	2360	4.33	1264	1185	0.11
Nursery preparation	319	0.89	689	1.27	266	346	038
Transplanting/sowing	3421	9.54	8000	14.67	2850	4016	5.13
Weeding	4954	13.80	2378	4.36	4127	1194	-9.44
Organic manuring	1294	3.61	1556	2.86	1078	781	-.0.75
Lime, fertilizer application	5058	14.09	9996	18.34	4213	5018	4.25
Water Management	1685	4.69	2339	4.29	1404	1174	-0.40
Plant protection	2176	6.06	3033	5.57	1813	1523	-0.49
Harvesting	6372	17.76	4633	8.50	5308	2326	-9.26
Post-harvest operations	1112	3.10	1246	2.29	926	625	-0.81
Straw collection (bailing)	274	0.76	5321	9.76	228	2671	9.00
Land Cess	105	0.29	200	0.37	87	100	0.08
Interest on working capital	2348	6.54	3564	6.54	1956	1789	0.00
Total (Cost A1)	35893	100	54500	100	29900	27359	0.00

Table 8 : Benefit to farmers due to Green Army intervention

Particulars	Before GA		After GA	
Grain yield (kg/ha)	4249		6681	
Returns (Rs./ha)	Nominal price	Real price	Nominal price	Real price
Value of grain	51369	42790	125741	63122
Value of straw	5917	4929	15441	7751
Gross income	57286	47719	141182	70873
Cost A1	35893	29900	54500	27359
BCR at Cost A1	1.60		2.59	

productivity, income and BCR of rice farming.Improving rice area and productivity will improve the total food grain production. The results of the study will help to evaluate the working of the newly launched 'Karshika Karmasena' by the State.

Institutionalising of labour bank system with convergence of Local Self-government, State Governments departments, Co-operative banks and NGO's can be a replicable model for addressing the issues of labour scarcity, lack of capital faced by the farmers and welfare of labourers.

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