Impact Assessment (MGNREGS) on Rural Women Labour Consumption Expenditure Pattern of Food Items in Punjab and Karnataka

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ABSTRACT

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is the important flagship scheme of Central Government aimed for enhancing the livelihood and income security of rural households in the country. In this study, impact on consumption expenditure pattern in food items of rural women labour under MGNREGA in different districts of Punjab and Karnataka was studied during the year 2017-18 was compared. The primary data was collected from Punjab and Karnataka by Phase-wise implementation of the scheme. Total enumeration of all the 12 selected villages was done which covered total 300 sample women workers. The results revealed that in Punjab, in overall terms annual spending pattern of rural women labour under MGNREGS, on food items revealed that after the implementation of MGNREGS, total food expenditure was Rs.12648. The study found that per cent expenditure was highest in food grains (35%), vegetables (15%) followed by meat (10%) beverages and others (13%). Similarly, in Karnataka, annual food expenditure after implementation of the MGNREGS average per worker was increased Rs.16,964. Thereby per cent expenditure was increased in food items in vegetables (13%), milk (12%), meat (11%), fruits (11%) which is statistically significant at 1 per cent level of significance. Gini co-efficient revealed that MGNREGA helped in improving the income and consumption expenditure after its implementation among the rural women labour thereby reducing the inequality level in study areas. Therefore, there is improvement in the distribution of income and consumption expenditure among the beneficiaries due to higher participation in MGNREGS in Punjab and Karnataka.

MAHATMA Gandhi National Rural Employment Guarantees Act is one of the important schemes which launched by United Progressive Alliance (UPA) Government is 2006, where 2,640 crores total person days generated and total expenditure were Rs.5.1 crore since inception. The scheme, executed by Ministry of Rural Development under the National Rural Employment Guarantee Act, which ensures participation of rural women labour in the economic activity by stipulating one-third participation, should be rural women. The budgets allocations were increased about Rs.55,000 crore under MGNREGS for 2018-19. The number of households was provided employment reported 178 crores person days during 2017-18 as on 14 January, 2018. Likewise, 54 per cent were recorded by women, 22 per cent reported by schedule castes and 17 per cent by schedule tribes. Trends from 2012-13 revealed that participation by rural women in the total person days generated was more than 50 per cent (Anonymous, 2018).

The mandate of the act is to provide at least 100 days of guaranteed wage employment in financial year to every household whose adult members volunteer to do unskilled manual work (Anonymous, 2012). In Punjab, the scheme was implemented in a Phased manner. In the first Phase, Hoshiarpur district was selected, with effect from February 2, 2006 and in its second Phase extended subsequently to additional 3 districts in Nawanshahr, Jalandhar and Amritsar with effect from 1st April, 2007 and 15th May, 2007. In the third Phase the rest of the districts of the Punjab state were covered under the Act from 1st April, 2008. Similarly in Karnataka, the scheme was implemented in a Phased manner. In the first Phase, most backward 5 districts were selected, Bidar, Gulbarga, Chitradurga, Davangere and Raichur with effect from 2nd Feb, 2006 and in its second Phase extended subsequently to additional 6 districts with effect from 1st April, 2007 and May, 2007, Bellary, Hassan, Chitradurga, Belgaum, Shivamoga and Kodagu. In the third Phase, the rest of the districts of Karnataka state were covered under the Act from 1st April, 2008. MGNREGS and its impact on rural women beneficiaries in Bangalore rural district opined that 46 per cent, of the respondents was moderate attitude towards MGNREGS and socio-economic impact pre MGNREGA period was found to be 57 and 75 per cent then post MGNREGA period. The study revealed that enhancement of expenditure on food consumption of Rs.2,479 to Rs.5,419 per year (Bhuvana, 2013). MGNREGS was significantly increased the per capita expenditure on food by monthly basis was Rs.26 at about 10 per cent and on non-food items consumption and its expenditure was Rs.12 at about 23 per cent resulted in increased in food security and decrease in consumption of non-food items (Engler and Ravi, 2012). MGNREGS showed that increased in income resulted increased in food consumption both of cereals and non-cereals by all categories of households, however diversification pattern of households was also observed which also strong indicator of better food consumption. Thus, there was increased calorie intake as well protein intake was oberved by different categories of households

leading to decreased in the undernourished and nutrition deficit households by 8 per cent to 9 per cent (Kumar and Joshi, 2013)

MGNREGS was a significant and positive contribution to improve household monthly per capita expenditure. MGNREGS was raised monthly per capita expenditure by Rs.439 on monthly per capita expenditure in the study area (Melkamu and Bannor, 2015).

The women income from the MGNREGS revealed a significant increase in the expenditure share of children's clothing and footwear consumption, and that this positive spur happens on account of a significant increase in the expenditure share for boys. Whereas Male NREGS income, has no impact on children expenditure for the considered categories (Bhupal and Abdul, 2014).

Carswell and Neve 2013, reported that scheme has benefited rural women in particular. Major attractions of the MGNREGA work include local availability through the year, it being perceived as relatively 'easy' work with fixed, regular, equal wages for both men and women, and free from caste-based subordination and discrimination.

Harisha *et al.,* 2011, evaluated the impact of MGNREGA on income generation and labour supply in agriculture in central dry zone of Karnataka. They revealed that the number of days worked in a MGNREGA has significantly increased to 201 days, reflecting 16 per cent increase. Gender, education and family size of the workers are the significant factors influencing the worker's employment under the scheme. The increase in income was 9.04 per cent due to additional employment generated from MGNERGA. In the total income, the contribution of agriculture is the highest (63%), followed by non-agricultural income (29%) and MGNREGA income (8%), respectively.

Hazarika (2009) examined the impact of the MGNREGA on only women empowerment to assesses the status of implementation of the MGNREGA in the State of Assam.

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Kareemullah *et al.,* 2013 revealed that the seasonal migration of rural labour has come down significantly due to the opportunities of employment provided under the scheme and its contributions of income to the family from the wages was 12 to 33 per cent. The additional incomes were used by the rural households primarily for food security, education of dependents, health care and debt repayment. There were surpluses beyond these expenses, the households acquired durable assets and created amenities in the households.

The women workers have gained from the scheme primarily because of the paid employment opportunity, and benefits have been realised through income-consumption effects, intra-household effects, and the enhancement of choice and capability (Pankaj and Tankha, 2010).

Parhad and Ashok Ram, 2011 suggested that entitlement of 100 days of employment should be increased in a financial year are in terms of a household.

Shivagangavva *et al.,* 2019, revealed economics of milk production vis-a-vis marketing channels in the study area. Veeresh and Chinnappareddy, 2018, determined the level of technical efficiency of dairy producing farms in Bengaluru city.

Sitarambabu *et al.,* 2014 examined the impact of MGNREGA in terms of direct changes experienced by the beneficiaries during the year 2014-15.

Siwach *et al.,* 2012 revealed MGNREGA is very much helpful in rural women empowerment and ultimately increased their socio-economic status in long-run.

Srikantha and Indumati, 2011 revealed that the impact of MGNREGA wage on the economic scarcity of labour is relatively modest when compared with the impact of hike in non-farm wages

Devi *et al.,* 2016 found that household nutritional security of the rural households of MGNREGS participants covered more than 85 per cent of the requirement of the average recommended calories per capita per day than non-participants (76 per cent.) Hence, participants consumed more calories due to relatively higher purchasing power. This development is due to availability of guaranteed employment and regular wages through MGNREGS to the rural households. In consideration of the above-mentioned research findings, the specific objective of the present study is to study the impact of MGNREGS on consumption expenditure pattern of food items of the rural women workers engaged in the scheme.

METHODOLOGY

Presently MGNREGS has been implemented in all the states and union territories of India. The study is based on primary as well as secondary data. The primary data was collected from all over Punjab and Karnataka by Phase-wise implementation which was presented in Table 1 and Table 2. A total of 300 respondents were enumerated in all the 12 selected

TABLE 1

Districts, blocks and villages in sample distribution from Punjab

| Phase-wise | Punjab | | | |
	District	Block	Village	No. of Respondent
Phase I	Hoshiarpur	Hoshiarpur II	Mona- Kalan	25
			Patti	25
Phase II	Nawanshahr	Balachaur	Dr. Ambedkar Nagar	25
			Jat Majri	25
Phase III	Ludhiana	Ludhiana I	AyaliKalan	25
			Jhammat	25
Grand Total	3	3	6	150

TABLE 2

Districts, blocks and villages in sample distribution from Karnataka

Phase-wise	Karnataka			
	District	Block	Village	No. of Respondent
Phase I	Chitradurga	Hiriyur	Muskal	25
			Babbur	25
Phase II	Ballari	Hospet	Malapanagudi	25
			Hampi	25
Phase III	Kolar	Kolar I	Huttur	25
			Sugatur	25
Grand Total	3	3	6	150

villages was done covering both Punjab and Karnataka. Pre-tested and well-designed question naire has been used to collect the information regarding the employment and income of the rural women labourers in selected villages. The secondary data was collected from DMU report available at official website of MGNREGA (www.nrega.nic.in) and NSSO reports. The information was subjected to various statistical tools to draw meaningful conclusions.

To analyze the impact of MGNREGS of rural women labour on consumption expenditure pattern before implementation of MGNREGS was calculated and this was compared with after MGNREGS. Paired t test was used for the comparison of two correlated samples. The analysis was from two dependent samples and sample data regarding the economic factors of the participants before implementation of the MGNREGS was compared with the sample data regarding the same after implementation of MGNREGS to see whether the scheme has influential effect on these parameters.

Multiple Linear Regression Analysis

Multiple linear regression analysis was used to explain the relationship between one continuous dependent variable and two or more independent variables. Here it follows.

Factors Affecting Annual Food Expenditure of Rural Women Labourers under MGNREGS in Punjab and Karnataka

The empirical model used was analyzed in relation to observe impact on consumption expenditure : In order to examine the factors influencing the consumption expenditure pattern on food, the annual spending on food items was analysed in relation to the age, education, size of the family, agricultural income and non-agricultural income and MGNREGS income. Following regression equation was used for the purpose:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + e$$

Where,

Y = Annual food expenditure of rural women labour under MGNREGS in rupees

a = Intercept, a scale parameter, X_1 (Age in years), X_2 (Education in years), X_3 (Family size in number), X_4 (Annual income from agriculture in rupees), X_5 (Annual income from non-agriculture activities in rupees), X_6 (Annual MGNREGS income in rupees), e = Random disturbance term.

Gini Coefficient

Gini coefficient was estimated to measure the inequality in income and consumption expenditure among the rural women labour worked under MGNREGS. It lies in between 0 to 1. Here, 0 representing perfect income equality (*i.e.,* everyone

has the same income) and 1 representing perfect income inequality (*i.e.,* one person has all the income, while everyone else has zero income)

Gini coefficient is calculated by using the formula :

$$G = 1 + 1/n - 1/Yn^2 [y_1 + 2y_2 + 3y_3 + \ldots\ldots + ny_n]$$

Where,

G = Gini coefficient, N = average net MGNREGS income, Y_1, y_2, y_3….yn are net MGNREGS income of each sample rural women labour arranged in ascending order of magnitude.

RESULTS AND DISCUSSION

Socio-Economic Profile of The Sampled Rural Women Labourers

The sample revealed that in Punjab, majority of the labourers 37 per cent were middle aged rural women labourers, in the age group of 38 to 47 years. Similarly, 21 per cent were range between 48 to 57 years and 5 per cent of them attained old aged. Therefore, in study area, middle aged women and old aged women labourers were predominantly working under MGNREGS. While in Karnataka, it was reported that

TABLE 3

Socio-economic General characteristics of Punjab and Karnataka

Items	Punjab	Karnataka	All India
1. *Demographic indicators*			
a. Population 2011 (In '000)	27743	61095	1210855
b. Percentage decadal growth rate of population (2001-2011)	13.9	15.6	17.7
c. Sex ratio 2011 (females per 1000 males)	895	973	943
d. Sex ratio at birth 2013-15 (females per 1000 males)	889	939	900
2. *States HDI and its components*			
a. HDI ranking	5	12	-
b. HDI 2007-08	0.60	0.51	0.46
c. Health index 2008	0.66	0.62	0.56
d. Income index 2007-08	0.49	0.32	0.27
e. Education index 2007-08	0.65	0.60	0.56
3. *Poverty head count ratio*			
a. 2011-12 (Rural)	7.7	24.5	25.7
b. 2011-12 (Urban)	9.2	15.3	13.7
c. 2011-12 (Total)	8.3	20.9	21.9
4. *Rural Urban Disparity*			
a. Rural average MPCE 2011-12 in 000	2345	1561	143.0
b. Rural share of food expenditure (2011-12) in (%)	44.1	51.4	52.9
c. Urban average (2011 -12)	2749	3026	2630
d. Urban share of food expenditure (2011 -12) (%)	41.0	40.1	42.6
5. *Unemployment rate (2015-16)*			
a. Rural (%)	5.7	1.1	3.4
b. Urban (%)	6.2	1.9	4.4
c. Total (%)	5.8	1.4	3.7

TABLE 4

Socio economic profile of the
sampled beneficiaries   (in per cent)

Particulars	Punjab	Karnataka	Overall
I. *Age-wise distribution* (*Years*)			
1. 18-27	6.7	20.7	13.67
2. 28-37	29.3	44.7	37.00
3. 38-47	36.7	26.7	31.66
4. 48-57	20.7	7.3	14.00
5. 58-67	4.7	0.7	2.66
6. 68-77	2.0	0.0	1.00
II. *Religion*			
1. Hindu	49.33	84.67	67.00
2. Christian	-	5.33	2.67
3. Muslim	-	10.00	5.00
4. Sikh	50.67	-	25.33
III. *Caste wise distribution*			
1. SC	51.3	44.0	47.67
2. ST	-	22.7	11.33
3. OBC	38.0	30.0	34.00
4. General	10.7	3.3	7.00
IV. *Marital status*			
1. Unmarried	3.3	14.0	9.00
2. Married	78.0	74.0	76.00
3. Widow	13.3	8.0	11.00
4. Divorced	5.3	4.0	5.00
V. *Educational level*			
1. Illiterate	53.3	14.7	34.00
2. Primary	22.0	45.3	33.67
3. Middle	17.3	26.7	22.00
4. Secondary	6.0	9.3	7.67
5. Undergraduate	1.3	4.0	2.67
VI. *Annual family income* (Rs.)			
1. 30000-40000	21.3	40.0	30.67
2. 40000-50000	55.3	36.7	46.00
3. 50000-60000	19.3	20.7	20.00
4. 60000-70000	4.0	2.7	3.33
Total	100.0	100.0	100.0

Source: Survey data, 2017 - 18

45 per cent were middle aged women labourers, in the age groups of 28-37 years respectively. 27 per cent of them were at the middle-aged ranging from 38-47 years and 7 per cent of them are attained old aged

ranging from 48-57 years. Hence, in Karnataka, middle aged women labourers were predominant working under MGNREGS. Therefore, it was reported that overall 37 per cent of the respondents were at age group of 28 to 37 years in both the states.

Religion Wise Distribution of the Respondents

It was revealed that 50 per cent of the respondents were the Sikhs, 49 per cent were the Hindus and none of them belonged to Muslims and the Christians in Punjab. In Karnataka, 84 per cent of the respondents were the Hindus and very meager per cent of respondents were the Muslims and Christians. Overall respondents were 67 per cent of the respondents were Hindus in both the states (Table 4).

Caste Wise Distribution of the Respondents

It revealed that in Punjab, more than half of the respondents about 51 per cent were from scheduled caste category and 38 per cent from backward classes. Remaining 11 per cent of them belonged to general or other categories. Thus, scheduled caste was predominant caste present and engaged in participation of scheme in study area. As for as the Karnataka, caste distribution was concerned, 44 per cent of them were belongs to scheduled caste category and 23 per cent of them belonged to scheduled tribe category, remaining proportion of the respondents were belonged to general class which came out to be 30 per cent. Hence, scheduled caste and OBC categories were predominant in study area. Therefore, 47 per cent of the respondents in both states belonged to scheduled castes.

Marital Status of the Respondents

It revealed that in Punjab, 3 per cent were unmarried, 78 per cent were married and 13 per cent were widows, while 5 per cent were divorced. In Karnataka, 14 per cent were unmarried, 74 per cent were married, 8 per cent were widows, while 4 per cent were divorced. Hence overall 76 per cent of the respondents were married rural women labourers in both states.

Education Wise Distribution Level of the Respondents

The educational level of the respondents was reported that 53 per cent were illiterate, 22 per cent of sampled labourers were educated up to primary level and around 17 per cent and 6 per cent of them had educated up to middle and secondary high school level and only small per cent of women labourers had education up to undergraduate or pre university level in Punjab and in Karnataka, overall literacy of rural women labourers showed 15 per cent of labourers were illiterate, 45 per cent of sample labourers were educated up to primary level and around 27 per cent and 9 per cent of them had education up to middle and secondary or higher school level respectively and remaining 4 per cent of the sample women labourers were studied upto undergraduate who attained pre-university level. Hence, overall 34 per cent of the respondents were illiterate rural women labourers, in both the states of the study area (Table 4).

Distribution of Annual Family Income of the Respondents

In Punjab, it was reported that 21 per cent of respondents had annual income of Rs.30000 to 40000. About 55 per cent of respondents had annual income of Rs.40000 to 50000. While 19 per cent of respondents had annual income of Rs.50000 to 60000. Then 4 per cent of respondents had annual income of Rs.60000 to 70000. Therefore, the majority (55 per cent) had their family income between Rs.40000 to 50000. Likewise, in Karnataka, 40 per cent, of the respondents had their family income of Rs.30000-40000, while 37 per cent of respondents have annual family income range between Rs.40000 to 50000 and 21 per cent of respondents have income ranges between Rs.50000 to 60000 and remaining 3 per cent of respondents have range between Rs.60000-70000, respectively. Hence it was reported that overall 46 per cent of the respondents were having annual family income in between Rs.40000 to 50000 in both the states of the study area (Table 4).

Impact of MGNREGS in Consumption-Expenditure Pattern of Rural Women Labourers

Annual Food Expenditure Pattern of Rural Women Labourers in Punjab

Table 5 provides annual spending pattern of rural women labour under MGNREGS, on food items. In Punjab, the results revealed that before the implementation of MGNREGS, annual total food expenditure per rural women labour was Rs.3063. Highest item was food grains Rs.720 (23%), milk Rs.314 (10%), milk products Rs.348 (11%), Meat Rs. 259 (8%) beverages and others Rs.423 (14%) and lowest item was sweets and condiment Rs.130 (4%). Therefore, percentage of spending on various food items was lowest before the implementation of MGNREGS.

After the implementation of MGNREGS, annual total food expenditure per rural women labour was increased to Rs.12648. Highest item was food grains Rs.1102 (9%) cereals and millets Rs. 748 (6%) pulses Rs.1167 (9%), Fruits Rs.1160 (9%) vegetables Rs.1982 (15%), milk Rs.1110 (9%), milk products Rs.914 (7%) meat Rs.1309 (10%), beverages and others Rs.1709, (13%) and lowest item was sweets and condiment Rs.646 (5%). Therefore, percentage ofspending on various food items was increased after the implementation of MGNREGS. Thus, by overall total food expenditure difference before and after the implementation of MGNREGS was Rs.9585 and their paired-t values are statistically significant at 1 per cent level of significance.

Annual Food Expenditure Pattern of Rural Women Labourers in Karnataka,

In Karnataka, it was found that annual spending on consumption expenditure was explained using before and after implementation of the MGNREGS. Food items were analyzed for sample rural women labourers and the results obtained. Table 6 revealed that annual total food expenditure on per rural women labour was Rs.5993. Highest item was food grains Rs.734 (12%),

TABLE 5

Annual food expenditure pattern of sample rural women labour participants
under MGNREGS, Punjab

(mean values in rupees per annum)

Items	Before				After				Overall (N=150)	
	Per labour	Per cent	S.D.	t-value	Per labour	Per cent	S.D.	t-value	Difference	(Paired-t)
Food grains (Fair price shops)	720.4	23.52	51.07	172.76	1101.84	8.71	34.84	387.3	381.4	81.94 *
Cereals and millets (Fair price shops)	133.12	4.35	20.7	78.46	748.72	5.92	48.87	187.61	615.6	132.95 *
Pulses	186.32	6.08	19.49	117.03	1167.44	9.23	47.86	298.7	981.1	231.60 *
Milk	313.28	10.23	20.90	183.51	1110.28	8.78	43.71	311.07	797.0	220.09 *
Milk products	348.32	11.37	39.54	107.88	914.24	7.23	31.0	361.12	565.9	143.61 *
Fruits	132.96	4.34	21.96	74.14	1160.64	9.18	72.89	195.0	1027.7	162.70 *
Vegetables	178.64	5.83	23.73	92.16	1982.08	15.67	93.63	259.26	1803.4	228.92 *
Meat	259.12	8.46	38.27	82.40	1309.2	10.35	241.01	66.52	1050.1	52.02 *
Edible oils	237.28	7.75	17.81	163.15	798.56	6.31	26.36	370.97	561.3	212.75 *
Sweets and condiments	130.32	4.25	15.85	100.67	646.4	5.11	73.28	108.02	516.1	86.02 *
Beverages and others	423.12	13.81	50.88	101.84	1708.8	13.51	173.46	120.64	1285.7	84.44 *
Total food expenditure	3062.88	100.00	110.17	340.48	12648.20	100.00	362.82	426.94	9585.3	292.13 *

Note: * indicates significant at 1 per cent level of significance; S.D. : Standard deviation

cereal and millets were Rs.1053 (17%), vegetables were Rs.672 (11%), average expenditure in fruits was Rs.502 (8%). After implementation of the MGNREGS, annual total food expenditure on per rural women labour was increased to Rs.16,964, thereby per cent expenditure was increased after implementation of MGNREGS in many food items food grains Rs.1328 (8%), cereals and millets Rs.1455 (9%), Pulses Rs.1564 (9%), edible oils Rs.1038 (6%) and in vegetables was Rs.2227 (13 %), milk was Rs.1985 (12%), meat was Rs.1950 (11%), fruits were Rs.1818 (11%). Therefore, overall food expenditure difference before and after the implementation of MGNREGS was Rs.16,964 as net change with a paired-t value showed statistically significant at 1 per cent level of significance, but only sweet and condiments item which was found to be not significant.

Factors Affecting Food Consumption Expenditure Pattern in Punjab

The study revealed that factors' affecting annual food expenditure was analyzed by using multiple linear regression model and the estimated results are presented in Table 7. The dependent variable annual food expenditure incurred by the rural women labourers was Rs.12,824, while explanatory variables considered were age (-1.57), education (35.68), family size (32.58), agriculture income (-0.001), non-agriculture income (0.01) and MGNREGS income (-0.007). The co-efficient of multiple determinations, R^2 for the model was 0.28 indicating relatively a good fit interpreted as the variation in annual food expenditure was explained by the independent variables by 28 per cent of the selected variables in the model. The co-efficient explained as family size

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TABLE 6

Annual food expenditure pattern of sample rural women labour participants under MGNREGS, Karnataka

mean values in rupees per annum

Items	Before				After				Overall (N=150)	
	Per labour	Per cent	S.D.	t-value	Per labour	Per cent	S.D.	t-value	Difference	(Paired-t)
Food grains (Fair price shops)	734.4	12.25	71.79	125.27	1328.8	7.83	59.14	275.11	594.4	85.41 *
Cereals and millets (Fair price shops)	1053.12	17.57	58.23	221.4	1454.8	8.58	36.74	484.9	401.7	68.89 *
Pulses	346.4	5.78	68.51	61.9	1564	9.22	57.43	333.5	1217.6	178.31 *
Milk	391.6	6.53	51.41	93.28	1984.8	11.70	102.52	237.10	1593.2	163.84 *
Milk products	328.08	5.47	14.96	268.5	1623.6	9.57	101.50	195.89	1295.5	154.00 *
Fruits	502.4	8.38	42.02	146.41	1818.1	10.72	63.9	347.93	1315.6	215.12 *
Vegetables	672.56	11.22	44.32	185.8	2227.2	13.13	32.54	838.13	1554.6	339.37 *
Meat	677.12	11.30	93.90	88.3	1950.0	11.49	64.74	368.8	1272.9	140.21 *
Edible oils	384.4	6.41	46.68	100.85	1038.4	6.12	33.29	381.9	654.0	142.10 *
Sweets and condiments	439.28	7.33	38.09	141.21	442.48	2.61	57.71	93.89	3.20	0.58 NS
Beverages and others	463.44	7.73	32.94	172.26	1532.0	9.03	56.75	330.58	1068.6	197.08 *
Total food expenditure	5992.8	100.00	188.37	389.62	16964.08	100.00	217.81	953.88	10971.3	466.05 *

Note: * indicates significant at 1 per cent level of significance; S.D. : Standard deviation

TABLE 7

Factors affecting annual food expenditure of rural women labour under MGNREGS in Punjab

Variables	Coefficients	S.E.	t-test	p-value
Constant	12824.63 *	276.84	46.32	0.001
X_1 (Age in years)	-1.577	3.02	-0.52	0.603
X_2 (Education in years)	35.68	20.57	1.73	0.085
X_3 (Family size in number)	32.58 *	16.25	2.00	0.047
X_4 (Annual income from agriculture in rupees)	-0.001	0.008	-0.175	0.861
X_5 (Annual income from non-agricultural activities in rupees)	0.0141	0.013	1.027	0.306
X_6 (Annual MGNREGS income in rupees)	-0.007	0.0051	-1.308	0.193
N=150	R^2=0.28	F value =2.04		d.f=149

Note: * indicates significant at 5 per cent level of significance; S.E. – Standard Error

was found to be significant at 5 per cent level of significance. Age, education, agriculture income, non-agricultural activities income and MGNREGS income, was found to have no significant impact on annual food expenditure in Punjab.

Factors Affecting Food Consumption Expenditures in Karnataka

Factors influencing of various socio-economic indicators on annual food expenditure was analyzed using multiple linear regression and the estimated results are presented in Table 8. The dependent variable was the annual food expenditure incurred by the rural women labourers in Karnataka, coefficient (16726) while the explanatory variables considered were age (2.68), education (0.39), size of family (1.12), agriculture income (0.0033), non-agricultural activities income (0.0039) and MGNREGS income (-0.0034). The co-efficient of multiple determinations, R^2 for the model was 0.16 indicating relatively a good fit interpreted as the variation in annual food expenditure was explained by the independent variables by 16 per cent of the selected variables in the model. None of the variables except constant was found to have no significant impact on annual food expenditure in Karnataka.

Overall Food Expenditure Pattern Rural Women Labourers in Punjab and Karnataka

After the implementation of MGNREGS, therefore, total annual food expenditure of rural women labourers shows positive relation with annual income. The proportion of food expenditure in the total expenditure was less with more income supporting the first law of Engel which revealed that as the family income increases, the percentage of income spent on food amount increases. But the proportion of expenditure on different items varies between categories. Since cereals are considered as inferior item and most consumed food, it is expected that the percentage of expenditure on cereals increases with increase in income was reported by James, 2003. Because, low income labourers families purchase cereals mostly from fair price shops and also in open market at very low prices and also remaining requirement of cereals are met by purchasing low priced produce from others. Relationship between income and expenditure on food items can be better understood by considering milk and milk products which normally have constant prices with not much variation in quality. Since milk is considered as superior, with increase in income percentage expenditure on it increased after the implementation of MGNREGS. Similar observation was made from study conducted by Harish and Vanitha during 2010-11 in their micro level study they revealed that that the annual expenditure of the household beneficiaries before MGNREGS was Rs.25700, however after MGNREGS it was increased to Rs.26,500 at 3 per cent net change. Vanitha, 2011 in their study revealed that annual consumption

TABLE 8

Factors affecting annual food expenditure of rural women labour under MGNREGS in Karnataka

Variables	Coefficients	S.E.	t-value	p-value
Constant	16725.83 *	144.17	116.00	0.001
X1 (Age in years)	2.682	2.20	1.21	0.226
X2 (Education in years)	0.392	6.25	0.063	0.950
X3 (Family size in number)	1.124	9.58	0.117	0.907
X4 (Annual income from agriculture in rupees)	0.0033	0.0090	0.367	0.714
X5 (Annual income from non-agricultural activities in rupees)	0.0039	0.0051	-0.69	0.489
X6 (Annual MGNREGS income in rupees)	-0.0034	0.0030	1.14	0.255
N=150	R2=0.16	F value =0.62	d.f=149	

Note: * indicates significant at 5 per cent level of significance; S.E. – Standard Error

expenditure of the household beneficiaries under MGNREGS was 89 per cent whereas in case of non-beneficiaries it was 82 per cent.

An Overview of Factors Influencing Food Expenditure in Punjab and Karnataka

A multiple linear regression function was fitted to study the factors affecting the annual food and non-food expenditure separately. It was revealed that after implementation of MGNREGS, family size, agriculture income, non-agricultural activities income and MGNREGS income had significant positive influence on annual food expenditure. It is obvious that with increase in family size, food expenditure also increased with increase in income, rural women labourers tend to spend more on quality food, because of which expenditure on food increases. But impact of total income on food expenditure is more from MGNREGS and non-agricultural activities income. Probably due to the reason that MGNREGS income is the major source of income which is utilized to fulfill the basic needs. Variables in this model explained by 28 per cent of variation in Punjab and only 16 per cent of variations in Karnataka.

Gini co-efficient was also calculated to study the equity in consumption expenditure pattern. Value of Gini co-efficient for consumption expenditure in Punjab, *i.e.,* on the annual total food expenditure before implementation of MGNREGS was 0.02 and after implementation of MGNREGS it was 0.01. Similarly, in Karnataka, the total food expenditure

before implementation of MGNREGS was 0.02 and after the implementation of MGNRESGS it was 0.01.Thus, Gini co-efficient indicates the equity in the distribution of income and expenditure. Table 9 revealed that the inequality in general was not much highest within the before and after implementation under MGNREGS had relatively better income distribution than other income categories. Therefore, MGNREGA helped in improving the consumption expenditure after its implementation among the rural women labour thereby reducing the inequality level in study areas. Thus, the results showed that there is improvement in the distribution of consumption expenditure among the beneficiaries due to MGNREGS in Punjab and Karnataka.

The results of the study revealed that female participation rate in Punjab was about 58 per cent, while Karnataka was about 48 per cent and all India it was about 51 per cent. Impact of MGNREGS on rural women labourers revealed that rural women were more participating in the scheme due to social and economic factors. However, there was increased in number of days of employment and their income was due to MGNREGS. In Punjab, rural women labour annual consumption expenditure pattern after implementation of MGNREGS was highest towards food items on food grains, vegetables and meat, whereas in Karnataka, annual spending was highest towards vegetables, milk, meat, fruits. Further, there is a significant shift from food items to the non-food items in the consumption expenditure basket in the

TABLE 9

Gini coefficient for income and consumption expenditure pattern, Punjab and Karnataka

Particulars	Punjab (N=150)		Karnataka (N=150)	
	Before	After	Before	After
Income				
Agricultural income	0.2	0.06	0.143	0.15
Non-agricultural activities income	0.09	0.07	0.07	0.23
MGNREGS income	-	0.23	-	0.12
Consumption-expenditure				
Annual total food expenditure	0.02	0.01	0.02	0.01

study areas of both the states. Due to working under MGNREGS, women workers got equal opportunities of earning a better income which were resulted in control over consumption expenditure pattern on food items. Therefore, MGNREGA helped in improving the distribution of income and consumption expenditure after its implementation among the rural women labour thereby reducing the inequality level in study areas. There is improvement in the distribution of income among the beneficiaries due to MGNREGS in Punjab and Karnataka. For more effective implementation of scheme in Punjab and in Karnataka more activities are needed to be identified for coverage under MGNREGA, so that the beneficiaries may get minimum 100 days of employment in a year. Employment in the scheme may be provided more during agriculturally lean seasons.

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