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Role of Women in Agricultural Sector of Bihar: A Socio-Economic Mapping

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Abstract

The multi-dimensional role of women in agriculture cannot be denied as they contribute in every agricultural operation-from sowing to harvesting of crops and are also active in allied sectors like cattle management, dairying, beekeeping, goat rearing mushroom production and poultry etc. Participation of women in total workforce was assessed 27.44 % as against 72.56 % by male workforce in 2011. Share of women agricultural workforce in total workforce was computed to be 16.57% in 2001 which declined to 6.23% in 2011. Causes of decline may be their participation other sectors with improvement in their literacy rate which rose to 51.50% in 2011 as compared to 33.57% in 2001. The male-female sex ratio has registered a decline of 0.11% as compared to 2001 census. Women holding land account for only 13.31% as against 87.27% by men Bihar. Share of women agricultural workforce in total agricultural workforce was estimated to be 19.32% as per census 2011. Operation wise contribution of women in agricultural activities was assessed to be 35.94% during 2013-14. Women's contribution in agriculture is significant and plays diverse role, still their wages were found 7.04% less than their male counterparts during 2015-16. To strengthen women's participation in agriculture and allied sectors and to improve their access to land, loan and other facilities, Ministry of Agriculture and Farmers Welfare has policy provisions like joint leasing for both domestic and agricultural land under National policy for farmers. Under credit facility provisions government has framed policy for issuing Kisan Credit Cards to women for creating livelihood through livestock practices and agricultural processing. For empowering women government made provision of Home Science wing in every Kishan Vigyan Kendra. Beside all efforts, there is still a wide gender gap in the state which may be addressed properly for overall development of women and the society in particular and state and nation in general. The paper tries to analyze the role women play in agricultural development of Bihar and the issues confronting them.

Key words: Agriculture, Land holdings, Women workforce, Empowerment.

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Introduction

Agriculture is the backbone of economy of not only Bihar but of country as a whole. Changing Environmental conditions, declining water table, unavailability of human labour, higher target of food production, enhancing farmers income and timeliness of agricultural operations and economic feasibility of farm mechanization are the challenging tasks not only for state in particular but nation in general (Singh, et al 2013). In Bihar the average farm size is approximately 0.39 ha, that too is highly fragmented, resulting in many miniscule plots. Mechanization on these smaller farms for operations like land preparation and harvesting is against the economies of scale (CIAE, 2014). Further about 60 percent rural households are landless in the state. This situation is more critical in case of women farmers who hold only 13.31% land which is lower than the national average of 13.50 percent.

Women play multidimensional role in sustainable development of economy through their contribution household and agricultural activities (Singh, et al. 2012). They contribute in every field of agriculture- from land preparation to harvesting of crops. Apart from this, they also manage allied activities like dairy cattle, fodder collection, beekeeping, mushroom production, goat rearing and poultry etc. They contribute substantially in family income generation directly thus help enhancing social status of their families (Shahi, et al. 2018). Income and its source are important measures to understand the level of households' living standard and ways to achieve that level. Income along with households' expenditure and possessions reveal aspects of income volatility and provides an additional measure of inequality (Meena *et. al.*, 2017, Meena et al., 2018).

In the present scenario a proverb “without women we will go hungry” seems suitable. Women play prime role in traditional farming from manual farm activities to agro-processing to homemaking (Majumdar and Shah 2017). On various occasions, women have proved that they can step up farm modernization using modern farm implements, however contribution are less recognized (Shahi, et al 2018). In the era of gender equality and emphasizing women empowerment in all round development of the society can't be denied. Women sacrifices for the family are incomparable. Hence, they are the worst sufferer in all aspects compared to any part of the world. The present investigation is an attempt to access the role of women in the socio-economic and agriculture field in the state of Bihar.

Methodology

The simple statistical methods like averages and percentage were used to analyze the status of women, gender wise population, literacy, share in total and agricultural workforce, and share in landholdings, wage rate and operation-wise participation. The data were taken from Census 2001 and 2011, different Wages Report, Govt.of India, and for operation wise participation of women in agriculture, unit level data was taken from Cost of Cultivation Scheme, Ministry of Agriculture and Farmer's Welfare running in the state of Bihar.

Results and discussion

Table 1 presents the population of women, their literacy rate and sex ratio in the state. It can be seen from the table that population of women has increased by 25.13% from 2001 to 2011 as compared to national increase of only 17.6%. The faster population increase in population of women is a positive sign of growth of the state. Female literacy rate is still low (51.50%) as compared to male literacy. It is also much below with respect to national female literacy of 65.5% as per census 2011. In sex ratio has declined by 0.11% from 2001 to 2011. But at nation level it has registered increase of 0.75%. Increase in female literacy and population share is good sign of socio-economic growth of the society in particular and state and nation in general.

Table 1: Population and literacy rate of women in Bihar

Particulars	2001	2011	Percentage change from 2001 to 2011
Total population (lakh)	830	1041	25.42
Female population (lakh)	398	498	25.13
Male population (lakh)	432	543	25.69
Female literacy rate (%)	33.57	51.50	-
Male literacy rate (%)	59.70	71.20	-
Sex ratio (female per 1000 male)	919	918	-0.11

Source: Census data for Bihar

Table 2 shows the share of agricultural workers in total workforce, a perusal of table-2 reveals that share of agricultural work force in total workforce has declined from 47.98% in 2001 to 27.46% in 2011. Women's share has also come down from 16.57 % to 6.23% in as per census of 2011. This may be due to increase in literacy rate among women, as literate women are getting engaged in other vocations like SHG's, government and private jobs. Work participation in public and private sector has improved the status of women and socio-economic background of family has also improved. (Meena et al. 2015)

Table 2: Share of agricultural workers in total workforce

Year	Particulars	Work force (lakh)	Agricultural work force (Lakh)	Gender wise participation in total workforce (%)	Participation of agricultural workforce to total work force (%)
2001	Total	279.74	134.22	100.00	47.98
	Female	74.91	46.87	26.78	16.57
	Male	204.83	128.16	73.22	45.81
2011	Total	347.25	95.37	100.00	27.46
	Female	95.28	21.64	27.44	6.23
	Male	252.22	73.73	72.56	21.23

Source: Census data for Bihar

The gender wise worker participation in agriculture in rural and urban Bihar is presented in Table 3. The table reflects that as per census 2011, out of total 54.13 lakh cultivators in the state women cultivators are only 7.24 lakh with majority 7.09 lakhs living in rural area of the state. The share of female agricultural workforce in total agricultural workforce was assessed to be 19.32% in the state. Female agricultural workers in total agricultural worker were computed to be 19.48% and 14.01%, for rural and urban areas respectively.

Table 3: Total workers in agriculture in Bihar

Particulars		2011 (in lakh)		
		Total	Rural	Urban
Cultivators	Total	54.13	52.61	1.52
	Female	7.24	7.09	0.14
	Male	46.89	45.51	1.37
Agricultural labour	Total	95.37	92.26	3.12
	Female	21.64	21.13	0.51
	Male	73.73	71.13	2.60
Total Agricultural workers	Total	149.50	144.87	4.64
	Female	28.88	28.22	0.65
	Male	120.62	116.64	3.97
Total Work force	Total	347.25	313.60	33.65
	Female	95.03	89.23	5.79
	Male	252.22	224.37	27.85
% of female/male in total agricultural work force	Female	19.32	19.48	14.01
	Male	80.68	80.51	85.56

Source: Census 2011 data for Bihar

Operation wise participation of women was calculated from plot level data of Cost of Cultivation Scheme for the year 2013-14 for the state of Bihar and the findings thus obtained are shown in Table 4. The findings pointed out that major participation of women labour was

observed in Harvesting of crops (14.56%) followed by sowing of crops (11.36%). Overall participation in all the farming operations was assessed to be 35.94%.

Table 4: percentage participation of female in different agricultural activities in Bihar (%)

Sl. No.	Operations	Male	Female
1.	Land preparation	2.79	0.01
2.	Sowing	14.34	11.36
3.	Plant protection	0.25	0.00
4.	Manuring	6.32	0.07
5.	Interculturing	3.10	5.00
6.	Irrigation	10.34	0.06
7.	Harvesting	16.46	14.56
8.	Threshing /Winnowing	9.68	4.85
9.	Transport on farm	0.78	0.01
10.	Total	64.06	35.94

Source: Computed from plot level data of Cost of Cultivation Scheme for Bihar of 2013-14.

Ownership of land resources is another issue confronting the women farmers in Bihar. Female land holdings accounted for 8.50 lakh ha in the state (Table 5) which constituted only 13.31% of the total land holdings 66.88 lakh ha of the state. Out of total marginal land holding accounted 14.55% followed by small 12.82%. Total share of male in landholdings in the state was recorded 86.27% which reflected dominance of male in the society.

Meena et al 2018 reported that in Madhubani district of Bihar despite low resources at their disposal women headed households performed all the agricultural operations including taking crucial managerial decisions.

Table 5: Gender wise distribution area (lakh ha) in different classes in Bihar

Particulars	Marginal	Small	Semi-medium	Medium	Large	Total
Female Land holdings	5.34	1.52	1.23	0.38	0.035	8.50
Male Land holdings	31.28	10.29	9.45	3.73	0.36	55.11
Total land holdings	36.69	11.86	10.73	4.15	0.45	63.88
% of female land holding in total land holding	14.55	12.82	11.46	9.16	7.78	13.31
% of male land holding in total land holding	85.25	86.76	88.07	89.88	80.00	86.27

Source: Agricultural census 2010-11

Women agricultural worker represent sizeable proportions continue to receive lower wages than men. The ministry of labour puts the difference at 60% of women wages, while the Indian Labour Journal showed that women are paid 75% of men wages (Yadav, 2014). Low

wage rates of female labour are due to the seasonal and informal nature of employment, wrong pre-assumption that female do less work than their men counterpart (Sakamma and Umesh 2018). Table 6 revealed that the gap between wages of male and female decreased. It was 14.35% in TE-2008 and a wide gap of 17.33% was computed during TE-2011 thereafter, this gap between male wage rate and female wage rate was decreased to 7.04% during TE-2016.

Table 6: Gender wise wage rate (Rs/day) in Bihar for different period

Period	Male (Rs/day)	Female (Rs/day)	% difference
TE-2008	67.33	57.67	14.35
TE-2011	100.00	82.67	17.33
TE-2014	172.00	150.67	12.40
TE-2016	203.67	189.33	7.04

Source: Wages Report, GoI

Conclusions

In Bihar about 30.39% of the total female agricultural workforce of total female work force is engaged in farming occupation. On the other hand share male agricultural worker in total male agricultural workers is assessed to be 47.82%. Thus, women play a key role in the agricultural activities of the state. In spite of these, women have share of only 13.32% in total landholdings of the state and there is a gap of 7.04% between wage rate of men and women during TE-2016.

To strengthen women's participation in agriculture and allied sectors and to improve their access to land, credit and benefit of different Govt. programs, Ministry of Agriculture and Farmers Welfare has policy provisions like joint leasing for both domestic and agricultural land under National policy for farmers. Under credit facility provisions government has framed policy for issuing Kisan Credit Cards to women for creating livelihood through livestock practices and agricultural processing. Further, in each KVK there provision of Subject Matter Specialist (SMS) of Home Science to create awareness among women farmers about their role in upliftment of socio-economic conditions of the society. Men and women are like two sides of a balance. Balance in society can be achieved only when both the sides are considered equal. Hence, ignoring the role of women especially in a developing state like Bihar cannot bring development in real senses.

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