

Gender Differences in Agricultural Empowerment: A Cross-cultural Study in Tripura

Kankabati Kalai¹ and Loukham Devarani²

1. Ph. D Scholar, Department of Agricultural Extension, College of Agriculture, IGKV, Raipur,
2. Asstt. Prof.(Ext. Edu.), School of Social Sciences, College of Post Graduate Studies, CAU, Umiam, Meghalaya,

Corresponding author e-mail: kankakalai@gmail.com

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ABSTRACT

The study was conducted in Charilam block of Sepahijala District of Tripura. From Charilam block, six villages (three tribal and three non-tribal villages) were selected randomly and from each village ten households were selected randomly. From the selected 60 households, the primary women and men were interviewed amounting to a sample of 120 respondents of which 60 numbers were women and 60 numbers were men. Women's Empowerment in Agricultural Index (WEAI) has been used. Literally, tribal and non-tribal, differs in their culture, tradition and views, while, women and men also are differs in their own settings. The results from present study reflect the same. Adequate per cent of men were found more than women in the indicators input in productive decision, ownership of assets, "purchase, sale, and transfer of assets" and "speaking in public", while less per cent adequate in "group membership". Apart from it, tribal women (80.00) were also spotted more adequate than non-tribal women (56.67); tribal men (50.00) more adequate than non-tribal men (30.00). Further findings highlight that percentage of empowered men (61.67) was found more than women (60.00); tribal women (70.00) were found more empowered than non-tribal women (50.00). The score of 5DE also shows that men (0.885) were more empowered than women (0.871). The percentage of men (75.00) with gender parity, were found more than women (71.67). Percentage contribution of indicator input in productive decision, autonomy in production, ownership of assets, purchase sale or transfer of assets, access to and decision on credit, leisure were more or less similar for both women and men, but in case of indicator "group membership" and "workload percentage" contribution was found less in men compared to women.

Key words: WEAI; Empowerment; Gender parity; 5DE; Adequate; Tripura;

Empowerment is the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them (Kabeer, 2001). With emerging population food crisis is going to be major problem for coming years. Agriculture is the only way to overcome these crises. Both men and women contribute more or less equally in agricultural works and other farm activities. Women contribute 43 per cent of agricultural labor force across the developing countries like India (FAO, 2011a). But women in agriculture are less empowered than their men counterparts, especially in owning and access to agricultural resources. Development initiatives also tend to focus only on men farmers, women are generally neglected. If both women and men are not empowered it won't be possible to

increase the agricultural production and overcome the crisis. FAO (2011b) also estimates that if women had the same access to productive resources as men, they could increase yields on their farm by 20-30 per cent. This increase could raise total agricultural output in developing countries by 2-4 percent and reduce the number of hungry people in the world by 12-17 per cent, up to 150 million people.

According to Census 2011, the population of Tripura state of North-East India mainly consists of 31.76 per cent Kok Borok speaking tribal people and 68.24 per cent non-tribal Bengali people. Though the societies here are patriarchal in nature, women were provided a place of considerable socioeconomic importance (Ghosh and Choudhuri, 2011) and were

reported to be more empowered than the other tribal women in the country (*Debbarma, 2011*). However, in the recent times due to various developments and influence of the non-tribal immigrants' culture, there has been growing gender disparity among the tribal affecting women's participation and dominance in agriculture (*Ghosh and Chaudhuri, 2011*). With this background the study was initiated in Tripura state of north east India with the objective to access the differences in agricultural empowerment across farmers belonging to different genders and culture and also find out the contribution of various indicators of empowerment to the overall empowerment score.

METHODOLOGY

The study was conducted in Charilam block of Sepahijala district of Tripura. Six villages consisting of three tribal and three non tribal villages were selected randomly. From each village, ten households were selected randomly and from each household the primary woman and man member was interviewed. Thus a total of 60 women and 60 men constituted the respondents of the study representing equal proportion of tribals and non-tribals.

The tool used for measuring empowerment was the Women's Empowerment in Agriculture Index

(WEAI) developed collaboratively by United States Agency for International Development (USAID), International Food Policy Research Institute (IFPRI), Oxford Poverty and Human Development Initiative (OPHI) (*IFPRI, 2012*). The WEAI is an innovative tool composed of an aggregated index reported at country or regional level that is based on individual-level data on men and women within the same households. It is composed of two indices.

a) Five domains of empowerment (5DE): This sub-index assess whether an individual is empowered across the five domains and the ten indicators examined in WEAI. Each domain is weighted equally, as are each indicator within the domain. An individual is define as empowered in 5DE if she/he has adequate achievements in four of the five domains or is empowered in some combination of the weighted indicators that reflects 80 percent total adequacy. Adequacy or sufficiency is the state to meet the need in the particular area satisfactorily. An individual is said to be adequate or sufficient in particular indicator of domain based on the criteria of each indicator Adequacy cut-off of the indicators are taken as per the guidelines provided in the WEAI module (*Alkire et al. 2013*).

b) Details of the domains, indicators, weight and adequacy cut-off are provided in Table 1.

Table 1. Domains, indicator and weight and adequacy cut-off of WEAI

Domains	Indicators	Weight	Adequacy cut-off as provided in WEAI module
Production	Input in productive decision	1/10	If adequate in at least two sub indicator of the indicator
	Autonomy in productive decision	1/10	If Relative autonomy index is greater than 1 in at least one of four areas of decision making of the indicator,
Resources	Ownership of assets	1/15	If owns at least one asset other that small livestock, non mechanized farm equipment or small consumer durables,
	Purchase, sale and transfer of assets	1/15	Having at least one type of right (sell, give, rent and buy) alone or jointly over at least one type of agricultural assets. Inadequate, if the respondent living in the household do not own any type of agricultural assets
	Access to and decision about credit	1/15	If makes at least one decision relative to credit from at least one source of credit and living in the household. Inadequate, if the individual living in the household do not use any source of credit
Income	Control over the use of income	1/5	Adequate in at least one of the sub indicator, excluding sub indicator for making decisions regarding minor expenditures
Leadership	Group membership	1/10	At least member of one group of the scale
	Speaking in public	1/10	Comfortable speaking in public for at least one of the three reason listed in the scale
Time	Workload	1/10	If the number of hours worked per day was less than the time poverty line of 10.5 hours in the previous 24 hours.
	Leisure	1/10	If ranks, level of satisfaction equal to or higher than 5

Being empowered: An individual is said to be empowered or being empowered if the individual has adequate achievements in four of the five domains or is empowered in some combination of the weighted indicators that reflects 80 per cent total adequacy.

b) Gender Parity Index (GPI): This sub-index reflects the percentage of women who are empowered as men in their households. For a household that has not achieved gender parity, the GPI sub-index shows the gap that needs to be closed for women to reach the same level of empowerment as men. To capture the gap between men and women in the household both primary men and women living in same households were interviewed.

The GPI is a relative inequality measure that reflects the inequality in 5DE profile between primary adult men and women in each household. In most but not all the cases, these are husband and wife, but they can be the primary men and women decision maker regardless of their relationship to each other. The GPI shows the percentage of women who have achieved parity with respect to their men counterparts. In case of gender disparity, the GPI reflects the relative empowerment gap between the women's 5DE score with respect to the

men's. Gender parity reflects two things:

- i. Percentage of women/men who enjoys gender parity. A women/men enjoys gender parity if she/he is empowered or if her/his empowerment score is equal to or greater than empowerment score of primary men/women in her/his household
- ii. *The empowerment Gap:* The average percentage shortfall that a women/men without parity experiences relative to men/women in their household.

RESULTS AND DISCUSSION

Adequacy in indicators: Adequacy or sufficiency is the state to meet the need in the particular area satisfactorily. An individual is said to be adequate or sufficient in particular indicator of domain based on the criteria of each indicator. The indicator-wise distributions of respondents according to their adequacy are given in Table 2.

Women Vs men: In the indicators 'autonomy in production' and 'control over the use of income' cent per cent women and men were found adequate. The findings by *Alkire et al. (2012)* showed that only 89.8 per cent of women in Bangladesh were adequate, as were 66.3 per cent in Guatemala and 82.3 per cent in

Table 2. Percentage distribution of respondents according to adequacy in the indicators

Domains	Indicators	Women (n=60)			Adequacy in the indicator		
		Tribal (30)	Non-tribal (30)	Overall (n=60)	Tribal (30)	Non-tribal (30)	Overall (n=60)
Production	Input in productive decision	30(100.00)	28(93.33)	58(96.67)	30(100.00)	30(100.00)	60(100.00)
	Autonomy in production	30(100.00)	30(100.00)	60(100.00)	30(100.00)	30(100.00)	60(100.00)
Resources	Ownership of assets	30(100.00)	27(90.00)	57(95.00)	30(100.00)	30(100.00)	60(100.00)
	Purchase, sale and transfer of assets	30(100.00)	24(80.00)	54(90.00)	30(100.00)	30(100.00)	60(100.00)
	Access to and decisions about credit	17(56.67)	11(36.67)	28(46.67)	14(46.67)	12(40.00)	26(43.33)
Income	Control over use of income	30(100.00)	30(100.00)	60(100.00)	30(100.00)	30(100.00)	60(100.00)
Leadership	Group Member	24(80.00)	17(56.67)	41(68.33)	15(50.00)	9(30.00)	24(40.00)
	Speaking in public	24(80.00)	10(33.33)	34(56.67)	29(96.67)	30(100.00)	59(98.33)
Time	Workload	4(13.33)	19(63.33)	23(38.33)	11(36.67)	8(26.67)	19(31.67)
	Leisure	27(90.00)	20(66.67)	47(78.33)	26(86.67)	22(73.33)	48(80.00)

*The figure in the parenthesis indicates percentage to the total

Uganda in the indicator autonomy in production and while, in control over the use of income the adequacy percentage of women was below 80.00 per cent in all the countries (Bangladesh 75.6%, Guatemala 52.3%, and Uganda 79.1%) which was comparatively lesser than women from study area.

Percentage of adequate men were found more than women in the indicators “input in productive decision” (Women, 96.67%; Men, 100.00%), followed by “ownership of assets” (Women 95.00%, Men 100.00%), “purchase sale or transfer of assets” (Women 90.00%, Men 100.00 %), “speaking in public” (Women 56.67 %, Men 98.33 %) and “leisure” (Women 78.33 %, Men 80.00 %). As per the study by *Alkire et al. (2012)* the proportion of women with adequate ‘ownership of assets’ was 90.7 per cent in Bangladesh, 84.6 percent in Guatemala & 88.0 per cent in Uganda; adequate ‘purchase sale and transfer of assets’ were 84.00 per cent in Uganda, 68.40 per cent Bangladesh & 60.60 per cent Guatemala; adequate ‘speaking in public’ was 67.3 in Bangladesh, 64.3 in Guatemala, and 83.7 in Uganda which was observed less than the score of Tripura women. In Guatemala and Uganda the percentage of adequate men was much higher than the percentage of adequate women with differences of 21.5 per cent age points in Guatemala and 5.4 percentage points in Uganda), in Bangladesh the percentage of adequate women is 62.7 percent, compared to 19.7 per cent of men in speaking in public. Bangladesh men’s dissatisfaction with their leisure was higher than women’s. The percentage of women with adequate leisure time is 65.8 per cent in Bangladesh, 83.1 per cent in Guatemala, and 68.3 per cent in Uganda. The score of Uganda is in lined with the score of non tribal women in study area (*Alkire et al., 2012*).

While, on the other hand adequate women outnumbered their counterpart slightly in ‘access to decision about credit’ (Women 46.67%, Men 43.33%), ‘group membership’ (Women 68.33%, Men 40.00%) and ‘workload’ (Women 38.33%, Men 31.67%). The proportion of adequate women in ‘access to and decision about credit’ was 39.6 per cent in Bangladesh, 20.3 per cent in Guatemala, and 24.3 per cent in Uganda; in ‘group membership’ 34.7 per cent in Bangladesh, 47.7 per cent in Guatemala, and 62.9 per cent, in Uganda, the percentage of women with manageable workloads is 81.1 per cent in Bangladesh, 62.00 per cent in Guatemala, and 55.7 per cent in Uganda (*Alkire et al., 2012*).

Tribal vs. non-tribal: Tribal and non-tribal have different culture, tradition, different views and way of living. The finding from the present study highlights the same. The number of women who achieved adequacy in most of the selected indicators was more for tribal women tribal as compared to non-tribals. The differences were more distinct in the indicators ‘purchase sale and transfer of assets’ (tribal women 100.00%, non-tribal women 80.00%), ‘access to and decision about credits’ (tribal women 56.67%, non-tribal women 36.67%), group membership (tribal women 80.00%, non-tribal women 56.67%), speaking in public (tribal women 80.00%, non-tribal women 33.33%) and leisure (tribal women 90.00%, non-tribal women 66.67%). Only in the indicator workload the non-tribal women had more adequacy than tribals (tribal women 13.33%, non tribal women 63.33%). This indicates that tribal women are more overburdened with work as compared to their non-tribal counterparts. In the indicator, ‘input in productive decision’, ‘autonomy in production’, ‘ownership of assets’ and ‘control over use of income’ the number of adequate women were very high and almost similar for both tribal and non-tribal.

If we see for men, almost all tribal and non-tribal men were found adequate in the indicators ‘input in productive decision’, ‘autonomy in production’, ‘ownership of assets’, ‘purchase, sale and transfer of assets’ and ‘control over use of income’. The percentage of adequate men in the other indicators was found to be lesser but tribal men outnumbered non-tribal in all the indicators. In ‘access to and decision about credit’ (tribal men 46.67%, non-tribal men 40.00%), ‘group membership’ (tribal men 50.00%, non-tribal men 30.00%), ‘workload’ (tribal men 36.67%, non-tribal men 26.67%) and ‘leisure’ (tribal men 86.67 per cent, non-tribal men 73.33%).

Calculation of 5DE, GPI and WEAI : 5DE indicates the empowerment level of the categories of respondents’ in the selected domains of WEAI (Table 3). The 5DE score of men (0.885) was slightly higher than that of women (0.871). For men, the 5DE score was almost same for tribal men (0.884) and non-tribal men (0.884). However, for the women the score of tribal women (0.912) was much higher than that of the non-tribal women (0.830). Tribal women’s 5DE score was the higher than that of the men’s. Bangladesh weighted average of the 5DE sub-index value of men was 0.799

Table 3. Calculation of 5DE, GPI and WEAI score

Particulars	Women (n=60)			Men (n=60)		
	Tribal (30)	Non-tribal (30)	Overall (30)	Tribal (30)	Non-tribal (30)	Overall (30)
% of empowered individuals (H_c)	21(70.00)	15(50.00)	36(60.00)	18(60.00)	19(63.33)	37(61.67)
% of individuals who are not empowered (H_n)	9(30.00)	15(50.00)	24(40.00)	12(40.00)	11(36.67)	23(38.33)
% of domains in which disempowered individuals have adequate achievements (A_a)	70.74	66.00	67.78	71.11	68.79	70.00
Average empowerment score	0.83	0.75	0.79	0.83	0.78	0.81
5DE = $H_c + H_n A_a$	0.912	0.830	0.871	0.884	0.885	0.885
% of respondents without (H_w)	4(13.33)	13(43.33)	17(28.33)	7(23.33)	8(26.67)	15(25.00)
% of respondents with gender parity (H_p)	26(86.67)	17(56.67)	43(71.67)	23(76.67)	22(73.33)	45(75.00)
Average Empowerment Gap (R_p)	0.2167(21.67)	0.1667(16.67)	0.19(18.82)	0.1476(14.76)	0.1542(15.42)	0.1511(15.11)
GPI=1- H_w (R_p)		0.971	0.928	0.947	0.966	0.959
WEAI=0.9(5DE)+0.1(GPI)	0.918	0.840	0.879	0.881	0.892	0.893

*The figure in the parenthesis indicates percentage

and women 0.746, Guatemala men (0.871) which is much more than women (0.690) and findings from Uganda highlights that 5DE sub index value of 0.878 for men and 0.789 for women in all the cases more or less men scored more than their women counterparts (Alkire et al., 2012).

GPI score indicates the percentage of respondents who are in empowerment parity with their other gender counterpart in the household. The parity index was more for the tribal women (97.10%) while their male counterparts had a little lower score (96.60%). In case of non-tribal, the score was higher for the men (95.90%) and women scored only 92.80 per cent. This indicates more gender parity households among tribal women while in non-tribal households women were lesser empowered as compared to their male counterparts. The GPI for the Western Highlands of Guatemala shows that 35.8 per cent of women have gender parity with the primary males in their households and 54.4 per cent of women in Uganda have gender parity with the primary males in their households (Alkire et al., 2012).

The overall WEAI score was little higher for men (0.893) than women (0.879). In category wise scoring, the score of tribal women (0.918) was the highest followed by non-tribal men (0.892), tribal men (0.881) and non-tribal women scored the lowest (0.840). The WEAI for the sample areas in south-western Bangladesh for women is 0.762, Guatemala 0.702 and

Uganda 0.800 (Alkire et al., 2012).

A very high WEAI score of the tribal women reconfirm their important role and contribution to agriculture. Men of both cultural categories had somewhat similar WEAI score. But lowest WEAI score was found in the case of non-tribal women. The cultural differences and the resulting differences in the norms, values and customs do not seem to affect the men. However, the differences were very distinct in the case of women indicating that women of the two cultural groups had distinctly different empowerment level in agriculture. Tribal women are more involved and more better placed than their tribal counterparts.

Percentage contribution to empowerment (5DE) by indicators and domains: This highlights the weighted contribution of indicator and domain to WEAI of the categories of the respondents. For all the categories of the respondents, highest contribution to their respective 5DE score was provided by the domains production and income followed by resources and leadership. Lowest contributions were recorded from time domain. Indicator wise contribution was found highest from 'control over use of income' followed by 'input in productive decision' and 'autonomy in production' for all categories of respondents. Other indicators' contributions were relatively less and seem to differ among the categories.

Domain wise contribution of tribal women was observed more in "resources" and leadership and less

Table 4. Percentage contribution to empowerment by indicators and domains for women

Statistics	Production		Resources			Income	Leadership		Time	
	1	2	3	4	5	6	7	8	9	10
Weightage	0.1	0.1	0.067	0.067	0.067	0.2	0.1	0.1	0.1	0.1
Tribal Women (DE=0.912)										
Censored headcount	1.000	1.000	1.000	1.000	0.567	1.000	0.800	0.800	0.133	0.900
% contribution	11.97	11.97	8.02	8.02	4.55	23.94	9.58	9.58	1.60	10.77
Contribution	0.109	0.109	0.073	0.073	0.041	0.218	0.087	0.087	0.015	0.098
% contribution by domain	23.94		20.59			23.94	19.15		12.37	
Non-tribal Women (DE = 0.830)										
Censored headcount	0.933	1.000	0.900	0.800	0.367	1.000	0.567	0.333	0.633	0.667
% contribution	12.41	13.30	8.02	7.13	3.27	26.60	7.54	4.43	8.42	8.87
Contribution	0.103	0.110	0.067	0.059	0.027	0.221	0.063	0.037	0.070	0.074
% contribution by domain	25.72		18.42			26.60	11.97		17.29	
Overall Women (DE=0.871)										
Censored headcount	0.967	1	0.95	0.9	0.467	1	0.683	0.567	0.383	0.783
% contribution	12.18	12.60	8.02	7.60	3.94	25.20	8.61	7.14	4.83	9.87
Contribution	0.106	0.110	0.070	0.066	0.034	0.220	0.075	0.062	0.042	0.086
% contribution by domain	24.78		19.56			25.20	15.75		14.70	

Table 5. Percentage contribution to empowerment by indicators and domains for men

Statistics	Production		Resources			Income	Leadership		Time	
	1	2	3	4	5	6	7	8	9	10
Weightage	0.1	0.1	0.067	0.067	0.067	0.2	0.1	0.1	0.1	0.1
Tribal Men (DE=0.884)										
Censored headcount	1.000	1.000	1.000	1.000	0.467	1.000	0.500	0.967	0.367	0.867
% contribution	11.97	11.97	8.02	8.02	3.74	23.94	5.99	11.57	4.39	10.38
Contribution	0.106	0.106	0.071	0.071	0.033	0.212	0.053	0.102	0.039	0.092
% contribution by domain	23.94		19.79			23.94	17.55		14.77	
Non-tribal Men (DE =0.885)										
Censored headcount	1	1	1	1	0.4	1	0.3	1	0.27	0.73
% contribution	12.65	12.65	8.47	8.47	3.39	25.29	3.79	12.65	3.37	9.27
Contribution	0.112	0.112	0.075	0.075	0.030	0.224	0.034	0.112	0.030	0.082
% contribution by domain	25.29		20.33			25.29	16.44		12.65	
Overall Men (DE=0.885)										
Censored headcount	1	1	1	1	0.433	1	0.4	0.983	0.317	0.8
% contribution	12.30	12.30	8.24	8.24	3.57	24.60	4.92	12.09	3.89	9.84
Contribution	0.109	0.109	0.073	0.073	0.032	0.218	0.044	0.107	0.034	0.087
% contribution by domain	24.60		20.05			24.60	17.01		13.73	

1-Input in productive decision; 2-Autonomy in production; 3-Ownership of assets;
 4-Purchase sale or transfer of assets; 5-Access to and decision on credit; 6-Control over the use of income;
 7-Group member; 8-Speaking in public; 9-Workload; 10-Leisure;

in production, income and time compared to non-tribal women. While indicator wise contribution of tribal women was found more in “Purchase sale or transfer of assets”, Access to and decision on credit, group member, speaking in public than non-tribal women. On the other hand contribution of tribal men was spotted more

compared to non-tribal men in indicator group member, workload and leisure. Domain wise contribution was more in leadership and time compared to non-tribal men.

In Bangladesh for both women and men “leadership” contributes more to disempowerment, in Guatemala for women “income” and “leadership” and

for men “resource” contributes to disempowerment, and in Uganda for women “time” and for men “time” and “production” contributes more to disempowerment (Alkire *et al.*, 2012). The detail of the present study is presented in Table 4 and Table 5.

CONCLUSION

The present study brings out the gender differences in the agricultural empowerment of farm households across two different cultures, tribals and non-tribals. Overall data indicates men to be more empowered than women. However, in tribal households women were found to be more empowered than the male counterparts,

but in non-tribal households, the men were more empowered. For both men and women of the two cultural groups, highest contribution to the empowerment was provided by the domains production and income followed by resources and leadership. Men of both categories and tribal women, was found to be constraint of time while for non tribal women they were found to be lacking leadership. The respective deficit areas are good determinants of interventions to be taken up to increase empowerment of the respective categories of men and. The study clearly reveals how differences in culture and gender can determine the empowerment level of farmers.

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