

Published with Open Access at **Journal BiNET**

Vol. 10, Issue 01: 536-544

**International
Journal of Business, Management and Social Research**Journal Home: www.journalbinet.com/ijbmsr-journal.html

Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh

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Article Received: 27.09.2020; Revised: 07.10.2020 and Published online: 05 November 2020.

ABSTRACT

The purpose of the study was to determine knowledge of Chakma farm women about homestead gardening. The study was conducted in Sapchari and Kutukchari union of Rangamati Sadar Upazila under Rangamati District. Chakma farm women of Rangamati Sadar Upazila constituted the population of the study. An update list of 400 Chakma farm women who were related to homestead gardening activities was prepared with the help of Sub-Assistant Agricultural Officer of these localities. One hundred farm women were selected as the sample of the study by using random sampling method. A well-structured interview schedule was developed based on the objectives of the study for collecting information. The researcher herself collected data through personal contact. Data revealed that majority (58%) of Chakma farm women had medium knowledge in homestead gardening followed by high knowledge (27%) and low knowledge (15%). Education, contact with extension agent, exposure to mass media and woman status in the family had significant positive relationship with knowledge of homestead gardening. Age, farm size, annual net income and cosmopolitaness had no significant relationship with knowledge of homestead gardening.

Key Words: Home Garden, Hill Tracts, Tribal women, Chakma livelihood and Gardening Knowledge.

Cite Article: Chakma, A., Islam, M. S., Mitu, A. S., Rashed, M. R. U and Haque, M. Z. (2020). Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh. International Journal of Business, Management and Social Research, 10(01), 536-544.

Crossref: <https://doi.org/10.18801/ijbmsr.100120.56>



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I. Introduction

Bangladesh is an agro based country with an area of 147,570 square kilometers. Normally the standard of living of the vast majority of the people in the rural areas is very low. Most of the total labour forces in Bangladesh are engaged in agriculture. Agriculture contributes 13.65 percent to the GDP ([Economic Adviser's Wing, 2019](#)). Bangladesh has become a promising country of the world in its development having a total population is 164,700,000 of which about 14 lacs are aborigines. There are about 29 tribes in Bangladesh among them Chakma, Marma, Tripura, Garo, Hajong, Murang, Santal,

Monipuri are well known in our country (BBS, 1991). The Chakma family and society are governed by patriarchal laws and customs. This means husband is the head of the family. But in Chakma society women also play a vital role to support their family as they engaged themselves in different income generating activities such as fruit and vegetable gardening, poultry rearing, goat rearing, weaving etc. This income meets a part of their household expenditure. But due to the lack of knowledge, utilization of proper technology and proper communication media the production and income remains below the expected level.

Homestead as defined by (Abdullah,1986), if the land owned and occupied by the dwelling unit of the household and immediate area surrounding the dwelling unit including courtyard, pond, road, space used for cultivation of trees and vegetables and unutilized space. Moreover, a vast number of rural people are landless and 55 percent of the land owners are small farmers. Landless families possess a small piece of land in the homestead area. Women of these landless families cultivate different kinds of vegetables, fruits and earn money more than medium and large farm size family (Halim, 1991). In homestead gardening different vegetables like brinjal, cucumber, papaya, bean, tomato, litchi is also grown. Some minor vegetables like amelle, ada ful, holud ful, sabarang are commonly grown by the hilly farmers in homestead area. Women are the key operators of the homestead production. Chakma farm women involve themselves for attaining the benefits of economically and nutritionally. As they live in hilly areas, they are traditional bound and they do not follow modern cultivation practices. They also do not have social interaction with plain land of Bangladesh. But they are not excluded from extension services. Moreover, almost no research work was conducted so far to understand their homestead gardening knowledge. So, Chakma farm women must know about homestead knowledge. And it is essential to provide them adequate knowledge about homestead gardening and training in the various fields of development activities especially increasing homestead agricultural production. (Salauddin, 2003) in his study found that status of women in the family had no significant positive relationship with their homestead farming knowledge.

In order to give proper direction to the purpose of the present study to determine knowledge of Chakma farm women about homestead gardening and to describe the following selected characteristics of the farmers such as age, education, annual income, homestead farm size, cosmopolitaness, contact with extension agent, interpersonal communication, exposure to mass media agricultural programs, women status in the family and knowledge about homestead gardening and to explore the relationship of selected characteristics of the Chakma women farmers and their homestead gardening knowledge.

II. Materials and Methods

Study area

The study was conducted in two selected union (Sapchari and Kutukchari) of Rangamati Sadar Upazila under Rangamati district (Figure 01), Bangladesh. Among the village's Sapchari para, Priyomohan dewan para, Manikchari para under the union of Sapchari and under the union of kutukchari kutukchari montala para, kutukchari bazaar alaka, kutukchari bhulchari para were selected as the locale of the study.

Populations and sampling designs

Chakma women farmers of Sapchari union and Kutukchari union of Rangamati Sadar Upazila under Rangamati district constituted the population of the study. An update list of 300 Chakma farm women who were related to homestead gardening was prepared with the help of Sub-Assistant Agriculture Officer of the upazila. Around 100 farm women were randomly selected as the sample of the study by using random sampling method. A reserve list of 10 Chakma farm women was also prepared by the same method so that respondents of this list could be used for interview if the respondents included in the original sample were not available at the time of data collection.

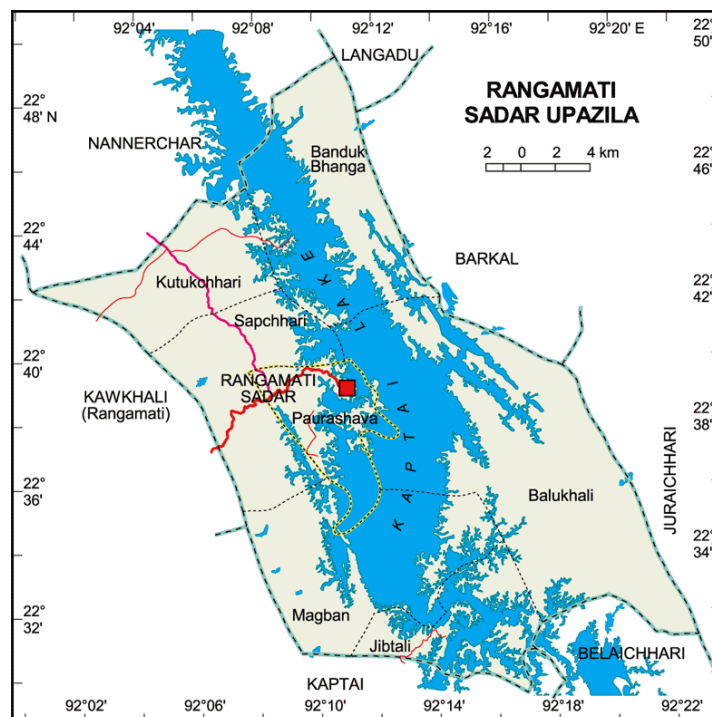


Figure 01. Location of study area (Source: Bangladesh)

Variable of the study-Independent variables

The independent variables were 8 selected characteristics of the Chakma farm women as follows: age, education, homestead farm size, annual income, contact with extension agent, cosmopolitanism, exposure to mass media and women status in the family. Age of a Chakma farm women referred to the period of time from her birth to the day of interview age was measured in terms of complete years. Education was measured by the year of schooling. If a respondent did not know how to read and write, her education score was given zero. Homestead farm size of respondent Chakma farm women referred to the area of land on which her family used for homestead farming and received full benefits for her family. It was measured in decimal for each respondent. Annual income was the total income earned by the respondent and other members of her family from agricultural sources during a year. Contact with extension agent by respondent Chakma farm women was measured on the basis of frequency of her visit to the office of UAO, AEO, SAAO, NGO worker etc. with a view to gather homestead gardening knowledge. Involvement score was assigned in the following way: Responses: Regularly-score assigned-4, Often- score assigned-3, occasionally-scores assigned- 2, rarely- score assigned-1, not at all-score assigned-0. Thus, the extension media contact score of a respondent could range from 0 to 8 where 0 indicate no extension media contact and 8 indicate very high contact with extension agent regarding homestead gardening. Cosmopolitanism score was computed for each respondent to determine his degree of cosmopolitanism on the basis of his visits to different places external to his own social system. The scale used for computing the cosmopolitanism scores is presented below: Extent of visit: Not at all- score assigned-0, rare- score assigned-1, occasionally-score assigned-2, Often-score assigned-3, regularly- score assigned - 4. Cosmopolitanism score of an individual could range from 0 to 10 where 0 indicate no cosmopolitanism and 10 indicate very high cosmopolitanism. Exposure to mass media agricultural programs of the respondent Chakma farm women were measured on the basis of their opinions regarding the exposure to mass media agricultural programs in receiving information on homestead gardening. Hence, the use of each of the three exposures to mass media agricultural programs namely farm and radio talks, TV channels and print media first ascertained by computing their using score. In this regard score was assigned to each of the four types of responses provided by the respondents in the following manner: Responses: Regularly- score assigned-3, frequently- score assigned- 2, occasionally- score assigned- 1, Not at all-score assigned-0. Thus, the exposure to mass media agricultural programs score of a respondent could range from 0 to 12 where 0 indicate no exposure to mass media agricultural programs and 12 indicate very high exposure to mass media agricultural programs. Women status in the family of the respondent Chakma farm women were measured on the basis of opinions regarding the values or social conditions which gave rise to the position of themselves in the family that they belong to the scale used for computing

women status scores of Chakma farm women is presented below: Responses: High- score assigned-4, Medium-score assigned-3, Low-score assigned-2, Very low- score assigned-1.

Knowledge about homestead gardening

Homestead gardening knowledge referred to the knowledge gained by the respondent farmers in homestead gardening. 40 questions on different aspect of homestead gardening were asked to the respondent Chakma farm women to ascertain their knowledge score. The score was assigned as 1 for full correct answer and zero (0) for incorrect or no answer for each question.

Data collection procedure

The researcher collected the data from the sample respondents through personal contact with the help a pre-tested interview schedule. Whenever any respondent faced difficulty in understanding questions, more attention was taken to explain the same with a view to enabling the farmers to answer properly. Data collection was started in 12 July, 2015 and completed in 10 August, 2015.

Compilation of data

After completion of field survey all the interview schedule were compiled, tabulated and analyzed according to the objectives of the study. In this process all responses in the interview schedule were given numerical coded values.

Categorization of respondents

For describing the various independent and dependent variables the respondents were classified into various categories. In developing categories, the researcher was guided by the nature of data and general consideration prevailing on the social system.

Data analysis

Data collected from the respondent were compiled, coded, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures such as frequency counts, percentage distribution, average and standard deviation were used in describing data. SPSS (version 16) computer program were used for analyzing the data.

III. Results and Discussion

Characteristics of the respondents

There are different interrelated characteristics of the respondents Chakma farm women that influence their homestead gardening knowledge. However, the most important features of nine selected characteristics of Chakma farm women such as age, education, homestead farm size, annual net income, contact with extension agent, cosmopolitaness, exposure to mass media, women status in the family and knowledge about homestead gardening.

Age: The score of the Chakma farm women who have involvement in homestead gardening ranged from 23 to 53 with a mean and standard deviation of 39.01 and 6.235 respectively. Considering the observed age score of the farmers they were classified into three categories namely 'young (up to 30)', 'middle aged (31-45)' and 'old aged (above 45) years' aged.

Table 01. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Age (years)	Young aged	up to 30	7	39.01	6.235
	Middle aged	31-45	77		
	Old aged	>45	16		

Table 01 indicates that an overwhelming majority (77 percent) of Chakma farm women belonged to middle aged category followed by old aged (16 percent) and young aged (7 percent) with same value. Data contained in the table also indicate that number and percent of young Chakma farm women is less than rational average. From this context, it can be said that number and percent of middle aged

farm women is more than national average. So, the middle aged farm women were generally tented to involve in homestead gardening activities than the young aged and old aged respondents. In fact, middle aged Chakma farm women have more responsibility for household works including homestead gardening.

Education: The level of educational scores of the Chakma farm women ranged from 0 to 10 with the mean and standard deviation of 1.83 and 3.095 respectively. Based on educational scores they were classified into three categories such as 'no education (0)', 'primary education' (1-5), 'above primary education (6-10)'. The distribution and percentage of the Chakma farm women according to their level of education has been presented in [table 02](#).

Table 02. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Education	No education	0 to can sign	71	1.83	3.095
	Primary education	only 1-5 class	11		
	Above primary education	6-10 class	18		

[Table 02](#) shows that an overwhelming majority (71 percent) of Chakma farm women belonged to no education category, followed by primary education (11 percent) and above primary education (18 percent). This is absolutely frustrated educational scenario for tribal people of Bangladesh. We know the tribal people of our country live in very remote areas and their living standard is very low rather than other people in our country. So, they are mostly uneducated and do not have much knowledge about modern technology and information of homestead gardening knowledge.

Homestead farm size: The score of homestead farm size of the respondents ranged from 1 to 6 decimal which is comparatively very small in size with a mean and standard deviation of 3.59 and 1.138. Based on their farm size score respondents were classified into two categories. These categories were very small size (1-3 decimal) and small size (4-6 decimal). The distribution of the Chakma farm women according to their homestead farm size has been presented in [table 03](#).

Table 03. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Homestead farm size	Very small size	2-4 decimal	74	3.59	1.138
	Small size	5-6 decimal	26		

[Table 03](#) indicates that an overwhelming majority (74 percent) of Chakma farm women belonged to very small farm size category followed by small farm size is (26 percent). The findings of the study revealed that all the Chakma farm women were landless. They devoted themselves to harvest vegetables and fruits from their tiny land possession.

Annual net income: Annual net income score of the respondents Chakma farm women ranged from 9000 to above 16000 with a mean and standard deviation of 6855.90 and 5206.646, respectively. On the basis of their annual net income, Chakma farm women were classified into three categories, viz. low income, medium income, high income. The distribution of the Chakma farm women according to the annual net income categories has been represented in [Table 04](#).

Table 04. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Annual net income	Low income	up to 9000	71	6855.90	5206.646
	Medium income	9001-16000	11		
	High income	above 16000	18		

Table 04 shows that an overwhelming majority (79 percent) of Chakma farm women belonged to low income category, followed by medium income (15 percent) and high income (6 percent). Chakma farm women had no good income as their farm size were so tiny equivalent to landless. In fact, annual net income was calculated only from homestead farm source.

Contact with extension agent: Contact with extension agent of the respondents Chakma farm women ranged from (0 to 6) against possible range (0 to 16) with a mean and standard deviation of 1.58 and 2.133, respectively. Based on their contact with extension agent, the respondents were classified into four categories. These categories were no contact, low contact, medium contact and high contact with extension agent. The distribution of the respondents Chakma farm women according to their contact with extension agent score presented in Table 05.

Table 05. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Contact with extension agent	No contact	0	57	1.58	2.133
	Low contact	1-3	20		
	Medium contact	4-6	21		
	High contact	above 6	2		

Data contained in the Table 05 reveal that about two-third of Chakma farm women had no contact with extension agent. The remaining 43 percent had little contact. Contact with extension agent may happen in two way- i) by extension agent himself ii) by Chakma farm women. No contact with extension agent of Chakma farm women indicate that the respondents received no technological information from extension agent.

Cosmopolitaness: Cosmopolitaness score of the respondent Chakma farm women ranged from 0 to above 8 with a mean and standard deviation of 5.45 and 1.904 respectively. According to cosmopolitaness score the respondents Chakma farm women were classified into four categories. These categories were no cosmopolitaness, low cosmopolitaness, medium cosmopolitaness and high cosmopolitaness.

Table 06. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Cosmopolitaness	No cosmopolitaness	0	1	5.45	1.904
	Low cosmopolitaness	1-4	28		
	Medium cosmopolitaness	5-8	65		
	High cosmopolitaness	above 8	6		

Data contained in Table 06 reveal that more than seven-tenths of Chakma farm Women had cosmopolitaness ranged from medium (65%) to high (6 %). The remaining three-tenths had either no cosmopolitaness or low cosmopolitaness. Comparing the obtained score with possible score it can be safely said that 99% of the Chakma farm women showed cosmopolitaness but their frequency of cosmopolitaness was found to be very low.

Exposure to mass media agricultural programs: Exposure to mass media agricultural programs of the respondent's Chakma farm women ranged from 0 to 11 with a mean and standard deviation of 5.14 and 3.379, respectively. The categories were no mass media exposure, low mass media exposure, medium mass media exposure and high mass media exposure to agricultural programs.

Data presented in the Table 07 indicate that an overwhelming majority (92%) of Chakma farm women had exposure to mass media. This is encouraging. But if we compare the obtained range of score with highest possible score it becomes frustrating. Data also indicate that Chakma farm women were not so

much interested to watch agricultural programs or the agricultural program producer could not produce information for the Chakma farm women.

Table 07. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Exposure to mass media agricultural programs	No mass media exposure	0	8	5.14	3.379
	Low mass media exposure	1-4	40		
	Medium mass media exposure	5-8	31		
	High mass media exposure	9-11	21		

Women status in the family: Women status in the family of the respondent's Chakma farm women ranged from 14 to 36 with a mean and standard deviation of 26.32 and 2.233, respectively. The categories were low, medium and high status.

Table 08. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Women status in the family	Low status	14-21	2	26.32	2.233
	Medium status	22-29	96		
	High status	30-36	2		

Data contained in Table 08 indicate that all the Chakma farm women enjoyed family status ranged from low to high status. From the responses of the Chakma farm women it is evident that family members including husband, parents, in-laws respect and give value them for their recognizable status role. The main status roles are regarded as homestead gardener, good decision maker, no interference in participation in social and family functions.

Dependent variable

Knowledge about homestead gardening: Homestead gardening knowledge of the respondent's Chakma farm women could range from 7 to 30 with the mean and standard deviation of 19.27 and 4.983, respectively. The categories were low knowledge, medium knowledge and high knowledge.

Table 09. Distribution of the respondents according to the selected variable/Selected Characteristics

Variables/ Selected Characteristics	Categories	Score	Distribution of the respondents (%)	Mean	Standard deviation
Knowledge about homestead gardening	Low knowledge	7-14	15	19.27	4.983
	Medium knowledge	15-22	58		
	High knowledge	23-30	27		

Data presented in Table 09. show that majority of Chakma farm women had medium knowledge on homestead gardening that included vegetables and fruits scored 15-22 out of 36, where more than one-fourths (27 %) of the respondents had high knowledge score 23-30 out of 36).

Knowledge is to be considered as vision of an explanation in any aspect of the situation regarding homestead gardening. Most of the Chakma farm women involved in vegetable cultivation, fruit cultivation and they have medium idea of vegetable and fruit cultivation. With the discussion with them it was clear that they do not know about modern cultural practices about homestead gardening. Majority of Chakma farm women do homestead gardening by their own way which is traditional bound. With discussion with the respondents researcher came to know that Chakma farm women cultivate vegetables and fruits for only their own consumption.

Relationship of Chakma Farm women with their homestead gardening knowledge: Pearson product moment correlation co-efficient was computed in order to find the extent of relationship

between the dependent and independent variables. To reject or accept the null hypothesis at 0.05 and 0.01 level of probability was used.

Based on the above findings (Table 10) it was concluded that, age, homestead farm size, annual income and cosmopolitaness of Chakma farm women had no significant relationships with the homestead gardening knowledge. While contact with extension agent, exposure to mass media agricultural programs and women status in the family had significant positive relationships with the homestead gardening knowledge.

Table 10. Pearson’s product moment co-efficient of correlation showing relationship between dependent and independent variables

Dependent variable	Independent variable	Tabulated value		Value of co-efficient of correlation
		0.05 level	0.01 level	
Knowledge about homestead gardening	Age			0-.194 NS
	Education			0.217*
	Homestead farm size			0.102 NS
	Annual income			0.189 NS
	Contact with extension agent	122.11	133.47	0.287**
	Cosmopolitaness			0.141 NS
	Exposure to mass media agricultural programs			0.262**
	Women status in the family			0.197*

*: correlation is significant at the 0.05 level; **: correlation is significant at the 0.01 level;

IV. Conclusion

The findings indicate that education, contact with extension agent, cosmopolitaness, exposure to mass media had significant positive relationships with the homestead gardening knowledge. This represents that education, contact with extension agent, cosmopolitaness, exposure to mass media of the respondent Chakma farm women were an important factor in homestead gardening knowledge and with the increase of education, contact with extension agent, cosmopolitaness, exposure to mass media of the respondents homestead gardening knowledge also increases.

The findings indicate that Chakma farm women had medium knowledge on homestead gardening activities. Majority of Chakma farm women do homestead gardening by their own way which is traditional bound. With discussion with the respondents researcher came to know that Chakma farm women cultivate vegetables and fruits for only their own consumption.

The results also revealed age, annual income of the respondents had no significant relationships with the homestead gardening knowledge. This represents that age and annual income of the respondent Chakma farm women were not an important factor in homestead gardening knowledge. And in case of farm size, it had no significant but positive relationships with the homestead gardening knowledge. This represents that farm size of the respondent Chakma farm women was an important factor in homestead gardening knowledge and with the increase of farm size of the respondents homestead gardening knowledge also increases.

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HOW TO CITE THIS ARTICLE?

MLA

Chakma, A. et al. "Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh". *International Journal of Business, Management and Social Research* 10(01) (2020): 536-544.

APA

Chakma, A., Islam, M. S., Mitu, A. S., Rashed, M. R. U and Haque, M. Z. (2020). Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh. *International Journal of Business, Management and Social Research*, 10(01), 536-544.

Chicago

Chakma, A., Islam, M. S., Mitu, A. S., Rashed, M. R. U and Haque, M. Z. "Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh". *International Journal of Business, Management and Social Research*, 10(01) (2020): 536-544.

Harvard

Chakma, A., Islam, M. S., Mitu, A. S., Rashed, M. R. U and Haque, M. Z. 2020. Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh. *International Journal of Business, Management and Social Research*, 10(01) pp. 536-544.

Vancouver

Chakma, A, Islam, MS, Mitu, AS, Rashed, MRU and Haque, MZ. Knowledge of Chakma farm women in homestead gardening in the selected villages of Rangamati, Bangladesh. *International Journal of Business, Management and Social Research*. 2020 November 10(01), 536-544.