

HOMESTEAD VEGETABLE PRODUCTION IN NORTHERN BANGLADESH: PROBLEMS, SCOPES AND POTENTIALITIES

M. R. Debnath¹, M. Z. A. Rafiq², N. Khatun³, P. N. Nandi⁴ and D. N. Nandi⁵

¹Physiology Department, BJRI, Dhaka; ²Jute Research Regional Station, BJRI, Rangpur

³BFRI, Chittagong; ⁴Freelancer; ⁵Nitol Motors Limited

*Corresponding author's email: manika00474@yahoo.com

ABSTRACT

A study was conducted during the 3rd week of October of 2018 at Uttar Kobaru (Ward no.06) of Rangpur City Corporation to find out the problems and prospects of homestead vegetable production. Data was collected by face to face interview from the farmers on different parameters of socio-economic condition and homestead vegetable production. Different problems like poor marketing facilities, lack of technical knowledge on vegetable production, lack of capital, unavailability of quality seed, high input cost, insect pest attack etc. were identified as the hinderer of homestead vegetable production. Lack of marketing facilities was identified as other major problems which also hinder the homestead vegetable production. Vermicompost and Turkey rearing were very potential sector to improve the socio economic condition of the medium and small scale farmer. There were many scopes for the extension workers, NGOs etc. to improve the living standard of the farmer through homestead vegetable production.

Key words: Marketing, capital, vermicompost, turkey rearing.

Introduction

Homesteads include vegetables gardening, livestock rearing, poultry raising, fish culture, homestead forestry, post-harvest processing and alike activities. The actual area of homestead devoted to vegetable cultivation is very small. In Bangladesh, per capita vegetable consumption is only 28 g where the daily requirement is 200 g (Chadha *et al.*, 1994). Over 30 thousand infants become blind every year due to vitamin 'A' deficiency (BARC, 1990). Vitamin C, iron, and other mineral nutritional deficiency are widespread resulting in different types of diseases, hampering physical growth and retarding brain development. Northern region of Bangladesh was previously suffered by food or work or income which may affect the socio economic condition of the people of that region. As homestead vegetable is the instant source of vitamins and minerals hence a study was conducted to identify the problems and prospects of homestead vegetable production at the northern region of Bangladesh.

Materials and Methods

Uttar Kobaru (Ward no.06) of Rangpur City Corporation is situated at 25.8180588 latitude, 89.2416436 longitude. It is about 18 km away from Rangpur city and western side of the Gagot river and the area of the village is 809.86 acre (Bangladesh Geo Code, Rangpur District, 2017). Agriculture is the main occupation of the villagers with associated of different of farm activities like small-scale business, working in non government organization etc. The information's from the study areas were collected on different parameter which reflects the food security through homestead vegetables production and different socio-economic aspects of the village. Before data collection discussions were done with the govt. and non-govt. officials about the socio-economic condition of the farmers of Rangpur region. The primary data collection was done by face to face interview of the farmer. The farmer selection was done with the help of SAAO, DAE of that region. The information was collected during the year 2018 from the head of the household (sample size was 5% of the targeted households). The collected information was basically related to personal behavior, gardening and adaptation of improved technologies. The marital status of the respondent was indicated by 1 as married and by 0 as unmarried. In case of educational qualification, no education was indicated by 0, can sign only by 1, primary level education by 2, secondary level by 3, higher secondary by 4 and above higher secondary by 5. Extension contact of the respondent was indicated as frequently by 3 (3 or more/month), occasionally by 2 (2/month), rarely by 1 (1/month) and not at all by 0 (0/month). The

farmer faced in homestead vegetable production like lack of quality seed, high input cost, lack of capital etc. was indicated as greatly by 3, moderately by 2, partially by 1 and not at all by 0. The data was analyzed by the statistical software Statistix 10.

Results and Discussion

The different parameters related to personal information was gathered in Table 1. The age of the respondent farmer's ranged from 35 to 70 years, Average age was 47.78 year, mostly were middle aged farmer. Farmers of young age were rarely found there. All of the respondent farmers were married. No divorced or separated farmers were observed there. The conjugal lives of the respondents were happy. Education qualification of the farmer's ranged from only the signing capacity to higher secondary level. The family size of the respondent was 2 to 14, average 5.89. The children of the farmers ranged from 1 to 3. The highest family size was observed in case of joint family. The number of male of the family ranged from 1 to 8, average 2.88 and female 1-6, average 3. Khan *et al.* (2009) reported that male members participated more in land preparation, planting, mulching, fencing and marketing, etc. while female members participated in applying irrigation, weeding, plant protection, and harvesting. Children members also participated in staking, weeding, and harvesting. The farm size of the respondent ranged from 0.22 ha (small) to 0.85 ha (Medium), average 0.57 (small) ha. Annual income of the farmer ranged from 1, 10,000.00 to 12, 22,000.00, average 4,58,889.00. Annual income of respondent from agricultural sources varies from 50,000.00 to 3,82,000.00, average 1,12,838.00 and non-agricultural sources varies from 0 to 10,00,000.00, average 2,99,111.00. The people of that area were mostly depended on agriculture. The variation of agricultural income is lower than the variation of non-agricultural income as the SD of annual income from agriculture sources was Tk. 112838 which was lower than to non agricultural sources as Tk. 364910. The income of the farmer which were depend only agricultural sources was lower than the farmers whose income were come from both agricultural sources and non-agricultural sources (Table 2).

Table 1. Household information's of the respondents at Uttar Kobaru, Burirhat, Rangpur City Corporation

Parameters	Mean	Standard Deviation	Minimum	Maximum
Age	47.78 year	13.86	35 year	70 year
Marital Status	1	0	1	1
Educational Status	2.33	1.11	1	4
Family Members	5.89	3.44	2	14
Male	2.88	2.14	1	8
Female	3	1.8	1	6

Table 2. Farm size and annual income of the respondents at Uttar Kobaru, Burirhat, Rangpur City Corporation

Parameters	Mean	Standard Deviation	Minimum	Maximum
Farm Size	0.57 ha	0.66	0.22 ha.	0.85 ha,
Annual income	4,58,889.00	462360	1,10,000.00	13,00,000.00
Annual income from Agri. source	1,59,778.00	112838	50,000.00	3,82,000.00
Annual income from Non-agri. source	2,99,111.00	364910	0	10,00,000.00

N.B. Landless= 0-49 deci (0.20 ha), Small= 50-150 deci (0.21- 0.60 ha), Medium= 151-499 deci (0.61- 2 ha) and Large < 500 deci (2 ha) (M. A. Islam, 1998).

Different types of vegetables were produced at that village like spinach, bitter gourd, lady's finger, sweat gourd, red amaranth, radish, brinjal, indian spinach, cabbage, tomato, bean, kacha jhal, bottle gourd etc. (Table 3).The habit for vegetable consumption was good and it might be expected that they had little or no mineral deficiency as the vegetables are the source of minerals. Potato was dominating vegetable there. Potato was cultivated at this village in large scale. Bottle gourds were cultivated at almost all household

and bati shak was not at all cultivated at this village. The time spent for homestead vegetable production depends on the season, ranged from 1 to 8 hr per day. The vegetables were mostly consumed by their own family. During vegetable cultivation, farmers were facing problem of unavailability of quality seed, high input cost, lack of capital and technical knowledge on vegetable production, marketing facilities, insect pest attack etc. The marketing of vegetable produce is one of the biggest problems facing traditional vegetable gardeners (Hossain, 2004). Shortage of irrigation water, quality seeds and inputs cost were also the major problems faced by the farmers in homestead vegetable production at Mymensingh region of Bangladesh (Rahman *et al.*, 2008). Hasan and Sultana (2012) also indicated that the farmers faced several problems like lack of capital, lack of irrigation water during dry season and lack of good quality seeds during homestead vegetable production. Islam and Tomohiro (2009) revealed that farmers sell 87.3% of their vegetable in the market. Potato and extra cereals were sold at big hat or village market. The lack of marketing facilities and lack of technical knowledge were very important constraints for vegetable production. Farmers of the studied village were not suffer from flood damage and irrigation problem. Irrigation facilities in drier period were available. The food insecurity was not as prominent as like past there. But still some food insecurity was observed during bangle Vadro, Ashwin and Kartik month (15 August-15 November) which copped with by getting loan, borrowing, adjusting sowing time of crop etc.

Table 3. Standing situation for vegetable production at Uttar Kobaru, Burirhat, Rangpur City Corporation

Parameters	Mean	Standard Deviation	Minimum	Maximum
Kinds of vegetable production	7.66	4.55	1	13
Lack of quality seed	1.89	0.60	1	3
High input cost	1.89	0.60	1	3
Lack of capital	2.11	0.60	1	3
Shortage of irrigation	0	0	0	0
Lack of technical knowledge on vegetable production	2.22	0.44	2	3
Insect pest attack on vegetable production	1.89	0.60	1	3
Lack of marketing facilities	2.77	1.30	0	3
Homestead vegetable damaged by flood	0	0	0	0
Time spent for household activities	4.55	2.40	1	7
Time spent for vegetable production	1.22	0.44	1	8
Place of sale	1.55	1.27	1	3

Table 4. Extension contact and training at Uttar Kobaru, Burirhat, Rangpur city Corporation

Parameters	Mean	Standard Deviation	Minimum	Maximum
Contact with extension officials	1	1.22	0	3
Contact with BADC officials	0.11	0.33	0	1
Contact with input dealers	0	0	0	0
Visit to Agril activities	0	0	0	0
Read newspaper, books, booklets, leaflets	1.11	1.45	0	3
Enjoyed agril. Fair, TV/Radio program	2.22	1.30	0	3
Getting Trainings	10.78 day	23.67	0 day	70 day

The frequency of getting help from the department of extension was rare (Table 4), ranged from not at all to frequent visit, help from BADC was very poor, their ranged from not at all to rare visit to the farmer. There was no contact with input dealers with the respondent. The people of the area mostly get technological help related to agriculture from Television, Radio, Fair and newspaper. The people get training opportunity ranged from 0 to 70 days, on an average 10.78 days. Almost all the training program was arranged by IAPP project except little by other organization by BJRI. The adaptive improved technological practices like sex pheromone trap, light trap, high yielding and hybrid crop variety, line

sowing, following proper seed rate, vermicompost production, turkey rearing were practiced there. But there was enough lack of consultancy from the department of extension and research organization. They were thirsted to get agricultural consultancy at their village at any day of the week other than Mon day (At Mon day was the Haat day of that village) and most desirable time is the morning time. The farmer of the area Uttar Kobaru (Ward no. 6) did not believe only on fate. All of them believed that both good luck and hard working was required for prosperity in life. The entire respondent of the village Uttar Kobaru thought that family planning was required for happy life.

Conclusion

Lack of marketing facility was very prominent there. Lack of agricultural machineries was also prominent. So, proper steps should be taken to solve those problems at the village Uttar Kobaru, Rangpur. If proper technical supports were given to the farmers then it will become very popular day by day and will increase the socio-economic status of the farmer of the village. There also should take further more intensive initiatives of extension department and department of fisheries and livestock.

References

- Bangladesh Geo Code, Rangpur District, 2017. Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Dhaka.
- BARC. 1990. Farming Systems Agribusiness Newsletter Vol. 1 No.2. Bangladesh Agricultural Research Council, Farmgate, Dhaka.
- BBS. 2005. Census of Agriculture-1999. Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Dhaka.
- Chadha, M. L., Shanmugassundram, S., Hossain, A. K. M. A. and Hossain, S. M. M. 1994. Vegetable research and development in Bangladesh. AVRDC, BARI, Gazipur.
- Hasan, S. S. and Sultana, S. 2012. Food and economic security through homestead vegetable production by women in flood affected "Char" Land. *The Agriculturists*. 9(1-2) DOI: 10.3329/agric.v9i1-2.9478.
- Islam, A.K.M. N. and Tomohiro, U. 2009. Contribution of homestead vegetable farming to the social wellbeing of rural Bangladesh. https://www.jstage.jst.go.jp/article/arfe/45/2/45_2_243/_pdf
- Islam, M.A. 1998. *Analysis of basic needs dimension of poverty*. Voll.III. BBS 1998, pp.5-6.
- Khan, M. A. H., Ali, M. Y., Quayyum, M. A., Nazrul M. I. and Hossain, M. J. 2009. Year Round Homestead Vegetable Production: A means of reducing poverty and nutritional deficiency for small farm. *Bangladesh J. Agril. Res.*, 34(1): 169-174
- Rahman, F., Mortuza, M., Rahman, M., and Rokonuzzaman, M. 2008. Food security through homestead vegetable production in the smallholder agricultural improvement project (SAIP) area. *J. Bangladesh Agric. Univ.*, 6(2), 261-269. <https://doi.org/10.3329/jbau.v6i2.4820>.