Bangladesh Journal of Public Administration (BJPA) Bangladesh Public Administration Training Centre
Vol. 30 Issue 4 (Special Issue), 2022 (34-48) https://bjpa.bpatc.org.bd/bjpa
ISSN: 1563-5023 (print), 2664-4622 (online)
DOI: 10.36609/bjpa.v30i4.382

Food Consumption Pattern in Rural Bangladesh

Shib Sankar Basak[1]

ABSTRACT

The study was conducted to assess the food habit and dietary patterns of rural people in the Bogura district. A total of 37 households were considered as respondents for the study. A specially designed questionnaire was used as a tool for collecting data. The study revealed the rural people's family background, occupation, consumption patterns and average food intake of carbohydrates, protein, oil, fruits and other food items, factors affecting their food selection, and their satisfaction level regarding food under the specific objectives. The interviewees' mean household size was 5.19, whereas most respondents belonged to agricultural households (35.14%). It was found that rice essentially dominated the average daily food intake per person at 422.60 grams making up 52.37% of total food consumption and also constituted the most share of carbohydrate consumption. The respondent also consumes vegetables (185.10g/capita/day) and leafy vegetables (56.67g/capita/day) in moderate amounts but a lesser amount of fruits(35.45g/capita/day). Nutrition and price were the first and second determinants of food choice (16 and 15 of 37 households), and 54.06% of respondents were satisfied with their present food intake. Most households took protein four days a week, with the highest fish consumption (42.05g/capita/day) as of first preference. By conducting more awareness programmes on the importance of balanced food consumption, nutrition, quality food, and homestead gardening by the governmental agencies and non-governmental organizations working in the study area, the present scenario of quality food consumption can be improved.

KEYWORDS: Food Preference, Rural, Carbohydrate, Protein, Vegetables, Fruit.

[1] Instructor, Agriculture Training Institute, Hathazari, Chattogram, E-mail: ssr.basak@gmail.com

INTRODUCTION

Food is a vital necessity for individuals to survive and thrive, and everyone must eat a balanced diet to live a successful and productive life. Even though ample food is available for everyone in this era, a billion individuals still go hungry each night because of distribution and management issues. By 2010, 925 million people across the globe reported experiencing severe food insecurity (Sinha, 2014). Additionally, since food availability is not consistent over the years and not everyone has a legal right to obtain it, there is persistent concern about the sustainability of meals worldwide.

Food consumption layout and food habits are an integral portion of any civilization. A significant segment of prospering life is the appropriate input of food. The advantages of the characteristic food intake are noted in many studies. There is a considerable variation in food intake patterns in pastoral terrains of our country. The selection of food is deeply associated with the life of an existent. Nourishment habits and consumption constellation are broadly affected by the community's thoughts, faiths, sundries, customs and taboos. Afterwards, these socio-artistic walls, religion, literacy, and profitable agents revamp food selection. The majority of people in Bangladesh eat primarily food staples that have a grain base. When abundant, rice makes up around two-thirds of the total caloric intake, as well as a modest amount of fish, greens, and beans (Jahan and Hossain, 1998).

The content of individual dietary intake has changed recently as a result of financial progress, modernization, changes in vocational structure, the incorporation of more females into the workforce, the introduction of packaged food enterprises or factories, and technical advancements (Kennedy & Reardon, 1994; Popkin & Gordon, 2004; Stuckler et al., 2012). Individuals who switched to a more varied and high-value meal earlier, consisting of animal products, dairy products, fruits, greens, oils, and lipids, instead of a far more predominant diet, did so to maintain their body weight (Pingali, 2007).

Dietary intake affects public expenditure in several ways, including the quantity, nature, cost, and nutritional value of the food consumed. The most important question should be whether people change their overall eating habits when their financial levels rise, global food prices fluctuate,

industrialization, and their countries' radical changes (Pallegedara, 2019). In the scenario mentioned above, it is crucial for state strategists to analyze public purchase patterns in order to outline the nation's socioeconomic aspirations and determine the potential for exporters (Rathnayaka et al., 2019).

The main objective of the study was to explore the types of food consumed by rural people. The specific objectives were as follows-

1. To determine the amount of per capita intake of various food items;
2. To find out the various factors in choosing food; and
3. To examine the satisfaction level of rural people regarding consumed food.

LITERATURE REVIEW

One of the essential food items in the world is cereal. However, the proportion of grain to energy consumption in advanced and developing nations has changed dramatically due to dietary choices. In developing nations like Africa, cereal intake makes up 70% of the energy consumed (Alexandratos & Bruinsma, 2012). Ingestion of animal foods has increased while grain intake has sharply declined over the past years. In several Asian countries, including Japan, Korea, and Taiwan, paddy usage is declining while the appetite for protein and milk substances is increasing (Huang & David, 1993). In Chile, spending on cereals has fallen while meat demand is growing, especially the ingestion of beef, pork, and chicken. Per capita, fish intake has declined globally (Vio & Albala, 2000). In Latin America, cereal grains are the primary source of energy, while consumption of tubers and legumes is on the decline.

Notwithstanding, an ascending trend has been shown in ingesting flesh, poultry, fish, yolks, yoghurt, and milk items (Bermudez & Tucker, 2003). In emerging nations, daily egg consumption has increased by a factor of two compared to developed nations. However, compared with other developing regions like Brazil and China, many sub-Saharan African nations need to exhibit real growth in egg consumption. In recent years, egg intake has decreased in Australia and the United States (Kearney, 2010).

There was a rise in the demand for packaged foodstuffs and meat items as a result of rising macroeconomic expansion and declining material costs

(Kearney, 2010). The profile of eating habits has shifted as a consequence of rising income, moving away from indigenous staples like grain, bread, and vegetables and toward meat eating. Additionally, oil demand has gone up globally. This rise in income directly affects consumption, which results in disparities in health status (Du et al., 2004).

In intervention areas, Mukta et al. (2015) quantitatively discovered that, compared to the recommended dietary average (RDA), which ranges from 14 to 16 grams for children under the age of two, food consumption from animal sources was 7 to 12 grams at age one and 18 grams at age two. The most significant barriers to serving meals derived from mammals were ignorance, an inadequate understanding of protein insufficiency, and resistance from elderly relatives. Myths such as fish intake create worms and taboos as well as impediments like financial meltdown and lack of supplies in local markets.

Asian meals have shifted away from dietary staples in favour of more meat, vegetables, fruits, dairy products, fats, and oils as a result of economic growth, urbanization, income growth, and globalization. People are observed moving away from conventional rice intake and toward a more Westernized diet as average family incomes improve (Pingali, 2007). In Sri Lanka, where financial growth, industrialization, alteration in the population's demography, and various other societal changes played an essential part in case of shifts in worldwide dietary patterns, According to research by Bandara et al. (2021), there are numerous major disparities between cities and countryside dietary practices, particularly concerning geography. The conventional grain usage in Sri Lankan meals showed a tendency to change in favour of meats, fish, and foodstuffs. The Sri Lankan menu leans away from traditional grain consumption and toward meat, fish, milk items, ready meals, and junk items. This poses a severe threat to Sri Lanka's sustainability and long-term nutrition security. Food consumed outside the home, such as takeout, takeaways, ready meals, and junk foods, has significantly expanded over the past few decades. Such foods may not be very nutritious, as seen by the rise in overweight and obesity that they have caused (Janssen et al., 2018). Urban living and households with two incomes have both contributed to a sharp rise in packaged food intake. Additionally, the wife and the home head typically work in the unorganized sector. As a result, home food preparation can have a much

higher opportunity cost, which could lead to a rise in the use of packaged foods (Mottaleb & Mishra, 2020). Nowadays, people are increasingly aware of their dietary habits. Traditional meals are frequently recommended and given to adults, babies, sick, and pregnant women owing to their health and nutritional benefits (Ravindren, 2020).

It is found that household decision-making has changed in nature as well (Belch & Wills, 2002). At the national scale, both households with female heads of family and those with male heads of household spend the majority of the earnings on food and accommodation. Male-headed households cast aside the majority of their revenue for food and drink, housing, and durable goods. In rural areas, both men-led and women-led households spend most of their income on basic commodities. Rural households led by men also invest more in food and beverages than households headed by women. However, nationally, both households have spent less on food and beverages (Tibesigwa & Visser, 2015).

RESEARCH METHODOLOGY

The study was conducted in purposively selected rural areas of Sherpur Upazila of Bogura district. Two villages named Shimabary and Betkhoir, having different professions, were selected to carry out the research. A total of 37 households containing 192 family members were randomly selected. A structured questionnaire was used to gather information on the village residents' food consumption and socioeconomic status. The quantitative approach was adopted for this study in order to provide a reasonably accurate representation of the entire population. The information was gathered throughout June 2022. Basic statistical methods like percentage and arithmetic means were used to examine a significant portion of the data and explain the respondents' socioeconomic traits, eating habits, and nutritional intake.

RESULTS

Individuals of all genders dwelling together, eating in the same kitchen run and directed by a single individual, have historically made up a family. A household may consist of a wife, a husband, single offspring, parents, siblings, and other persistently residing relatives. In this survey, respondents' families were divided into three sizes: small families (up to three members), medium families (between four and six members), and large families (seven and above members). According to Table 1, the

participants' average household size was 5.19. There was a mean value of 2.75, 4.52, and 8.2 for average small, medium, and prominent families, respectively.

Table 4.1: *Family Size of the Respondents.*

Family Size	No. of households	Total members	Average family size
A small family (up to 3 members)	6	15	2.75
Medium family (4 to 6 members)	21	95	4.52
A large family (7 and above members)	10	82	8.2
Total	**37**	**192**	**5.19**

Amongst the most significant socioeconomic variables is profession. It was found that the participants worked in a variety of professions, including teaching, trade, farming, and other service-related fields (Figure 4.1).

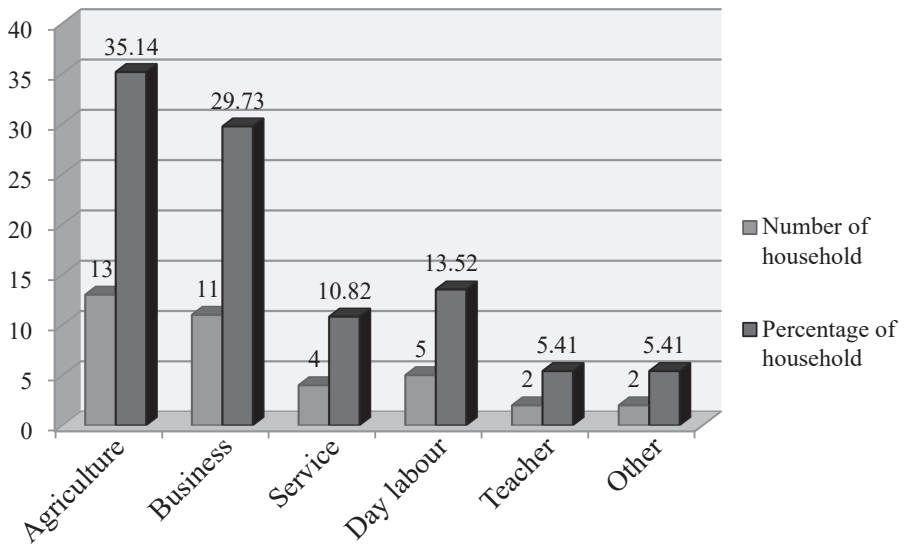

Figure 4.1: *Occupational Distribution of Earning Members of Households.*

About 35 per cent of respondents were engaged in business, and 33 per cent of respondents were engaged in agriculture. Only about 14 per cent of respondents were day labourers, and 11 per cent of respondents worked in service. About 5 per cent of respondents were engaged in teaching, and about 5 per cent were involved in another occupation.

It was examined that most participants took three meals per day (72.97 per cent), 13.51 per cent of participants took two meals per day, 8.11 per cent of participants took five meals per day, and only 5.41 per cent of participants took two meals per day. The additional one or two meals is refreshment, in which only 20 per cent of household ate foods made outside the house.

Looking into the dietary practices of the respondents, results revealed that carbohydrates, notably rice, constitute the most important item of food consumed in the study areas. Rice is the source of the most eaten carbohydrate (Table 4.2) found in the study. The chosen variety is according to budget constraints and per unit retail price. Rice is also consumed as snacks in different forms like Moori (puffed rice) and Chira (flattened rice). Rooti, made from wheat flour, is the second preference for breakfast and dinner.

Table 4.2: *Carbohydrate Consumption at Different Times of a Day*

Name of food	Time	Seven days per week	5-6 days per week	3-4 days per week	1-2 days per week	Never
Rice	Breakfast	3	10	12	12	0
	Lunch	37	0	0	0	0
	Dinner	15	12	7	3	0
Roti	Morning	0	5	7	20	5
	Lunch	0	0	0	0	0
	Dinner	7	4	3	20	3
Puffed rice	Morning	0	12	10	15	0
	Lunch	0	0	0	0	0
	Dinner	0	0	0	0	0
Flattened rice	Morning	0	0	0	5	32
	Lunch	0	0	0	0	0
	Dinner	0	0	0	0	0

Proteins were consumed four days a week by the most number of respondents (32.44 per cent), 27.03 per cent of respondents consumed protein three days a week, and only 8.11 per cent consumed protein one and two days a week (Figure 4.2). Most of the respondents ate fish as their first preferred protein source; chicken and egg were the second priority, and pulses were the third priority in their list of favourite protein sources (Figure 4.3).

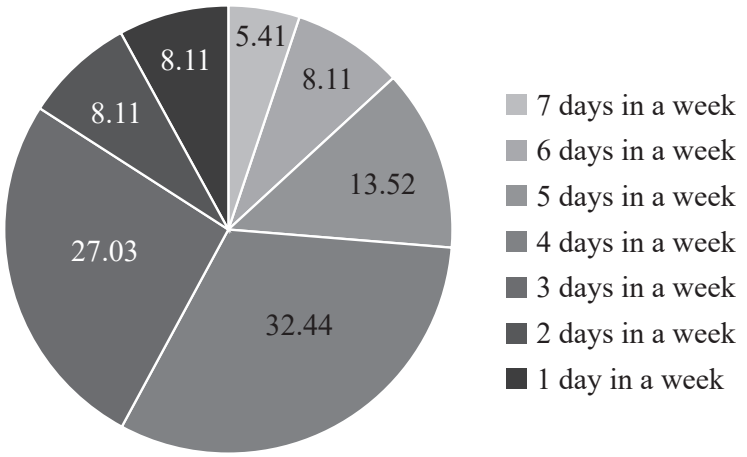

Figure 4.2: *Percentage of Protein Consumption within a Week*

It is evident that vegetables were cooked in every household each day. They brought the vegetables mainly from the market, and only 29.72 per cent family had their products in the field or home garden. The potato was the leading vegetable, followed by brinjal, okra, gourds, cabbage, cauliflower, radish, carrot, tomato, papaya, etc., according to seasonal availability. Vegetables were eaten as cooked or smashed after boiled. The households also found cooking leafy vegetables based on season, two to three times a week. They described spinach, Indian spinach, amaranth, arum leaves, jute leaves etc. were contained in their food.

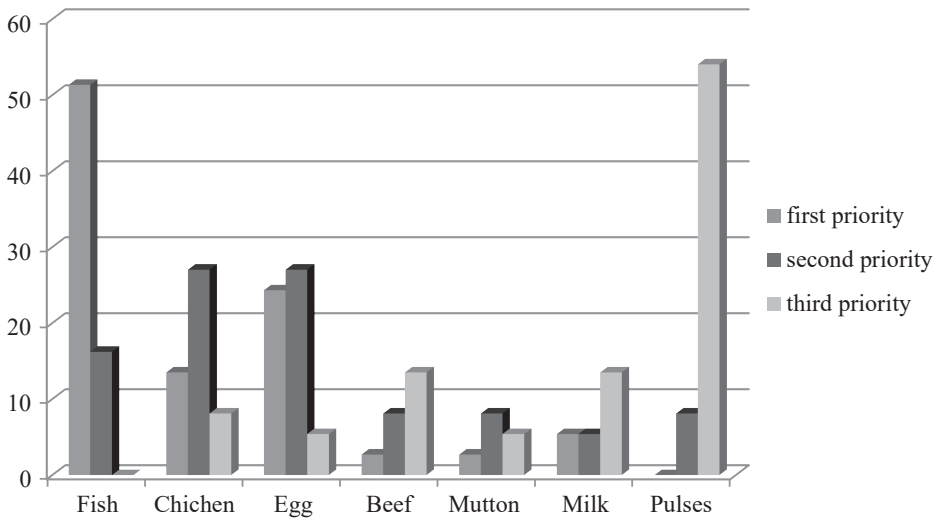

Figure 4.3: *Priority List of Various Protein Sources*

It is observed that no respondent consumes fruits each day of a week, while 5.41 per cent consume six days in a week, 13.52 per cent consume six days in a week, 5.41 per cent consume both four and five days in a week, 32.44 per cent consume both two and three days in a week, and only 2.71 per cent consume one day in a week. Respondents preferred seasonal fruits (like mango, lychee, jackfruit etc.) and bananas at 28.65 per cent and 23.96 per cent, respectively (Figure4.4).

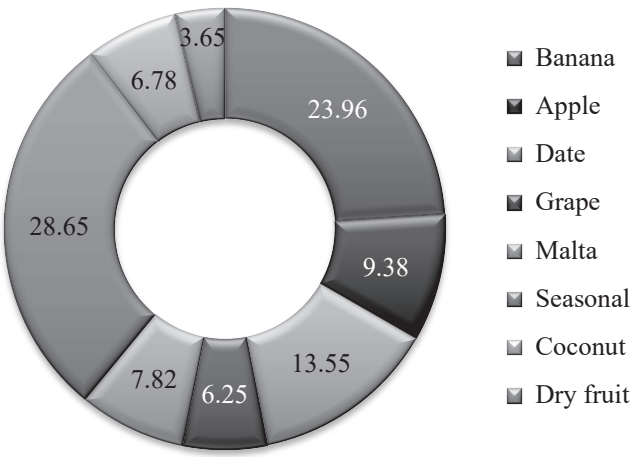

Figure4.4: *Percentage of Different Fruits Consumed by Households*

Most households (81.09 per cent) used soybean oil for cooking, and only 18.91 percent used mustard oil. Different types of spices and condiments were used accordingly for cooking. Among those, garlic, ginger, turmeric, chilli, pepper, fennel, coriander, cumin, cardamom, and cinnamons were mainly used.

It is observed that 54.06 per cent of households used to feed domestic animals (like hens, ducks, goats, cows etc.); in 24.32 per cent of households, there is no leftover food, and in 8.10 per cent and 21.62 percent of households preserved the leftover foods in the refrigerator and eaten on next day.

Cereals and cereal products constituted the highest portion of the average per capita food consumption in rural households, followed by vegetables and tubers. Rice essentially dominated daily food intake at 422.60 grams making up 42.43 per cent of it. The following food item in the ranking were vegetables, leafy vegetables, wheat, fish, fruit and chicken (Table 4.3).

Table 4.3: *Amount and Percentage of Various Foods Consumed*

Food items	Average per capita per day food intake (grams)	Percentage of total consumption
Rice and rice products	422.6	42.43
Wheat	46.09	4.63
Vegetables	185.1	18.59
Leafy vegetables	56.67	5.69
Pulses	34.9	3.51
Fish	42.05	4.23
Egg (60g)	18.9	1.9
Chicken	33.75	3.39
Other meat (beef/mutton)	25.09	2.52
Milk and milk products	30	3.02
Spices and condiment	15.11	1.52
Sugar/gur	7.5	0.76
Edible oil	22.09	2.22
Fruits	35.45	3.56
Miscellaneous (tea, betel leaf, snacks etc.)	20.7	2.08
Total	**996**	**100**

In the case of analyzing various factors during selection, food price, nutrition, and social acceptance were necessary for most households. At the same time, availability and branding were moderately crucial for most of the households, and religious value was meaningful for all households (Table 4.4). Respondents choose nutrition, price and availability as a first, second and third priority, respectively, apart from religious value (Fig 4.5).

There was no provision for cooking different food or menu for children, ill persons and persons with special needs in 67.57 per cent of household and only 32.43 per cent of exceptional household food were managed for those people.

It was found that in 81.09 households, no person has received any training regarding quality food consumption. At the same time, 13.51 per cent got training from NGOs, and only 5.41 per cent of household family members received training or were acquainted with government organizations.

During the time of buying different food and selection of cooking procedure, most of the respondents (59.46 cent households) opinion was not sought from each family member; only21.62 household opinion was sought. However, 18.92 per cent of household children's opinions were taken before those actions.

Table 4.4: *Various Factors Affecting Food Preference and Importance Level of Households*

Factors of food preferences	Very Important (Number of households)	Important (Number of households)	Moderately Important (Number of households)	Slightly Important (Number of households)	Not Important (Number of households)
Price	6	17	8	3	3
Nutrition	12	18	5	2	0
Availability	3	8	14	7	5
Social acceptance	7	15	6	2	7
Religious value	37	0	0	0	0
Branding	2	6	20	4	5

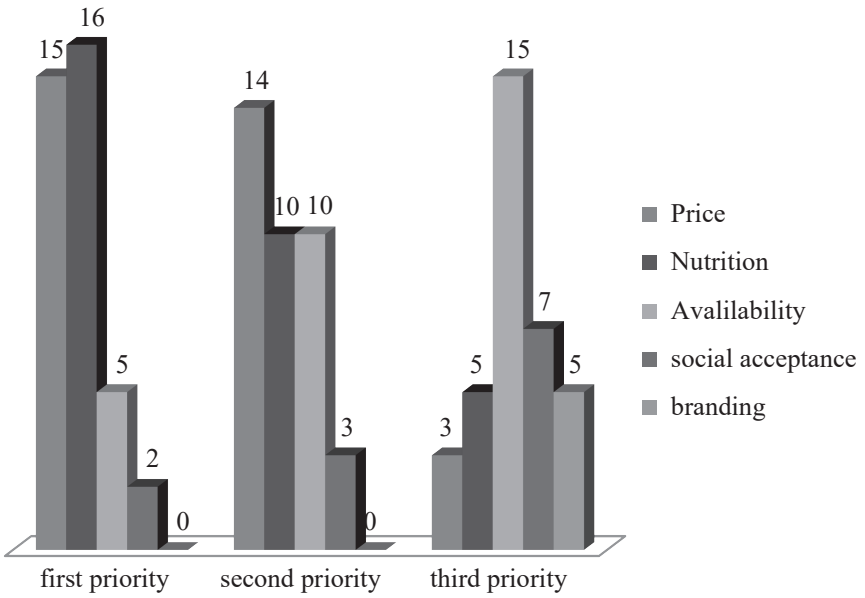

Figure 4.5: *Priority List of Different Factors Affecting Choice of Food*

Data found that a 'majority' (54.06 per cent) of the respondents had a 'satisfactory' food consumption pattern. In contrast, '16.22 per cent of the respondents had a 'moderately satisfactory' food consumption pattern, but '13.51 percent' of the respondents had a not satisfactory' food consumption pattern (Fig 4.6).

Figure 4.6: *Satisfaction Level of Respondents to Their Food*

DISCUSSION

Under the specific objectives, the study tried to reveal the family size, occupational background, food consumption pattern of carbohydrates, protein, oil, vegetables and spices, average food intake, factors relating to the preference for food and satisfaction level of respondents. The mean household size was 5.19, and most of the household's occupation was business (35 per cent). The finding evidenced that most participants took three meals per day, and rice was essentially the dominant daily food intake per person, followed by vegetables, leafy vegetables, wheat, fish and others. It was observed that rural people ingested ample amounts of fruits, primarily seasonal fruits. Respondents were aware of consuming proteins like fish, meats and milk. Ingestion of vegetables, oils, spices and condiments is also practised daily and is a minor consumption rather than homemade food. Some households ensured participation in buying and cooking food items, less ingestion of leftover foodstuffs, and special meals for the ill, elders and children. But the study revealed a lack of homestead cultivation and training on nutrition food and its preparation and other aspects. Food's nutritional and price status plays a significant role in determining foods. Most of the respondents had a satisfactory feeling about their consumption. The interviewees stated the problem of price-hike. They recommended controlling the price of oil, rice and other daily commodities for normal functioning of their daily life, which will help them to provide proper nutrition to their family members.

CONCLUSION

The study assessed food habits and dietary patterns in rural areas of Bangladesh. The present condition of consumption pattern is subject to

the earning and price of daily necessities, and the latter needs to be controlled. Government should supply subsidized daily needs in the rural areas of Bangladesh sufficiently. Micronutrients need to be added to rice varieties; vitamins and minerals would be a potential solution to ensuring food and nutritional security. Training facilities should be provided in rural areas on quality food consumption, food preparation and home garden production, where the involvement of more women would be a potential method to create awareness among both males and females about healthy-nutritious food and a balanced diet. Enhancing gender equality and equity by training more women in the study area needs to be ensured. The government should run a particular programme for the people in the rural area who lack the necessary food. Including women in different income-generating activities and decision-making activities along with males can also be needed to contribute to household food security. Moreover, extensive studies with broader population coverage can be administered to get the generalized pattern of food consumption.

ACKNOWLEDGEMENT

The author is very much thankful to the mentor of BPATC and the respondents who gave their valueable time and support.

CONFLICT OF INTEREST

There is no conflict of interest.

REFERENCES

Alexandratos, N & Bruinsma, J 2012, 'World Agriculture towards 2030/2050: The 2012 Revision,' ESA Working Paper No. 12-03, FAO.

Bandara, S, Kumara, T, Dharmadasa, S, & Samaraweera, R 2021, 'Changes in Food Consumption Patterns in Sri Lanka: Food Security and Sustainability: A Review of Literature,' *Open Journal of Social Sciences,* vol. 9, pp. 213-237. https://doi.org/10.4236/jss.2021.910016

Belch, MA, & Willis, LA 2002, 'Family Decision at the Turn of the Century: Has the Changing Structure of Households Impacted the Family Decision-Making Process?,' *Journal of Consumer Behaviour,* vol. 2, pp. 111-124.

Bermudez, OI & Tucker, K L 2003, 'Trends in Dietary Patterns of Latin American Populations,' *Cadernos de Saude Publica*, vol. 19, pp. 87-99. https:/doi.org/10.1590/S0102311X2003000700010

Du, S, Mroz, TA, Zhai, F & Popkin, BM 2004, 'Rapid Income Growth Adversely Affects Diet Quality in China—Particularly for the Poor,' *Social Science & Medicine*, vol. 59, pp. 1505-1515. https://doi.org/10.1016/j.socscimed.2004.01.021

Huang, J & David, CC 1993, 'Demand for Cereal Grains in Asia: The Effect of Urbanization,' *Agricultural Economics*, vol. 8, pp. 107-124. https://doi.org/10.1111/j.1574-0862.1993.tb00236.x

Jahan, K & Hossain, M 1998, 'Nature and Extent of Malnutrition in Bangladesh, Bangladesh National Nutrition Survey 1995-1998,' Institute of Nutrition and Food Science, Dhaka University, Dhaka.

Janssen, HG, Davies, IG, Richardson, LD & Stevenson, L 2018, 'Determinants of Takeaway and Fast Food Consumption: A Narrative Review,' *Nutrition Research Reviews*, vol. 31, pp. 16-34. https://doi.org/10.1017/S0954422417000178

Kearney, J 2010, 'Food Consumption Trends and Drivers. Philosophical Transactions of the Royal Society B,' *Biological Sciences*, vol. 365, pp. 2793-2807. https://doi.org/10.1098/rstb.2010.0149

Kennedy, E & Reardon, T 1994, 'Shift to Non-Traditional Grains in the Diets of East and West Africa: Role of Women's Opportunity Cost of Time,' *Food Policy*, vol. 19, pp. 45-56. https://doi.org/10.1016/0306-9192(94)90007-8

Mottaleb, KA & Mishra, AK 2020, 'Income, Urbanization, and Consumption of Processed Foods: Implications for Nutrition and Health Policies for India,' Annual Meeting, Kansas City, 26-28 July 2020.

Mukta, US, Chakraborty, B, Sayka, U, Haque, MR & Mia, MMU 2015, 'Identified Factors Behind Low Consumption of Animal Foods among the Children of 6-23 Months Old in Alive and Thrive Intervention Areas in Bangladesh,' *Open Access Library Journal*, vol. *2,* no. 06, p. 1.

Pallegedara, A 2019, 'Food Consumption Choice and Demand by the Sri Lankan Households,' *Journal of Agribusiness in Developing and Emerging Economies*, vol. 9, pp. 520-535. https://doi.org/10.1108/JADEE-01-2019-0014

Pingali, P 2007, 'Westernization of Asian Diets and the Transformation of Food Systems: Implications for Research and Policy,' *Food Policy*, vol. 32, pp. 281-298. https://doi.org/10.1016/j.foodpol.2006.08.001

Popkin, BM & Gordon-Larsen, P 2004, 'The Nutrition Transition: Worldwide Obesity Dynamics and Their Determinants,' *International Journal of Obesity*, vol. 28, pp. 52-59. https://doi.org/10.1038/sj.ijo.0802804

Rathnayaka, SD, Selvanathan, ES & Selvanathan, S 2019, 'Consumption Patterns in Sri Lanka: A Decomposition Analysis,' *Applied Economics*, vol. 51, pp. 4056-4072. https://doi.org/10.1080/00036846.2019.1588950

Ravindren, A 2020, 'Personal Factors and Traditional Food Behavior—An Anthropological Study in Batticaloa District, Sri Lanka,'*International Journal of Engineering Applied Sciences and Technology*, vol. 5, pp. 133-136. https://doi.org/10.33564/IJEAST.2020.v05i05.023

Sinha, G 2014, 'Linkages between Food Consumption Patterns Food Security and Sustainable Food Systems,'http://shodh.inflibnet.ac.in:8080/jspui/bitstream/123456789/2060/1/synopsis.pdf

Stuckler, D, McKee, M, Ebrahim, S & Basu, S 2012, 'Manufacturing Epidemics: The Role of Global Producers in Increased Consumption of Unhealthy Commodities Including Processed Foods, Alcohol, and Tobacco,'*PLoS Medicine*, vol. 9, no. 6, e1001235.https://doi.org/10.1371/journal.pmed.1001235

Tibesigwa, B & Visser, M 2015, 'Small-Scale Subsistence Farming, Food Security, Climate Change and Adaptation in South Africa: Male-Female Headed Households and Urban-Rural Nexus,' Economic Research Southern Africa (ERSA).

Vio, F & Albala, C 2000, 'Nutrition Policy in the Chilean Transition,'*Public Health Nutrition*, vol. 3, pp. 49-55.https://doi.org/10.1017/S1368980000000070