

Organic Food Consumers in Dhaka, Bangladesh: A Demography Analysis

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ABSTRACT

The demand for organic food is growing in developing countries, and Bangladesh is no exception. The rising use of pesticides, hormones, and formalin in conventional food items has boosted city-dwellers demand for organic food. This paper aims to study the key demographic variables in an emerging organic food market in Bangladesh. This study employed a random sampling technique, and a face-to-face interview was used to collect data from Dhaka city in Bangladesh. A total of 227 were completed, and valid responses were obtained. SPSS version 23 was used for analyzing data. Frequency distributions, crosstab analyses and Pearson Chi-square (χ^2) difference tests were performed within and across the dimensions of demographic variables to evaluate differences between variables across respondents. Findings from the analysis show that consumers of both gender purchase organic food items; the majority are married and have at least college education. Results also show that marital status and monthly household income tend to impact the amount spent per week on organic food and the length of the time organic food is consumed. Findings also reveal that only a few sources are available for buying organic food items in Dhaka city. Marketers of organic food can use the findings of this study as a basis for market segmentation.

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1. INTRODUCTION

Food consumption patterns are changing because of health and environmental consciousness. Consumers now expect their food to be produced and processed with tremendous respect for ecological safety and have nutritional benefits. Organic foods are foods produced using methods of organic farming – that do not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers. Organic foods are also not processed using irradiation, industrial solvents, or chemical food additives (Mukul et al., 2013). Interest in organically produced food is increasing throughout the world. Global demand for organic products remains strong, with sales increasing more than five-fold since 1999. In 2014, global organic food and drink sales reached \$80 billion (Statista, 2016). The biggest growth in consumption has occurred

in developed countries, such as the United States, Western Europe, and Japan, and they are also major importers of organic foods (Chang et al., 2003). In Asia, the demand for organic food grew by 15% to 20% annually during the last decade (Voon et al., 2011). Over the years, much research has been conducted on the organic food market of developed countries. In contrast, only some studies have been done in the developing countries as the demand for organic foods in the latter is increasing at a comparatively slower rate due to price premiums and lack of infrastructure (Iqbal, 2015, Hsu & Chen, 2014).

Bangladesh is one of the world's most densely populated countries, with more than 150 million people, and Dhaka is the capital city with over 18 million people. Agriculture is one of the main driving forces of the economy of

Bangladesh. This sector plays an essential role in attaining food security, the development of the rural economy, and sustainable socio-economic development. According to the Bangladesh Bureau of Statistics (BBS), it contributed 15.51% to GDP in 2014-15 according to the Bangladesh Bureau of Statistics (BBS) (Budget 2013-14, BBS). The Ministry of Agriculture reports that over 45% of the labour force is engaged in this sector, while 70% of the rural population depends on agriculture for their livelihood. Due to production cost increases, the profitability of rice farming has largely suffered; thus, commercial organic farming has emerged as an alternative, highly profitable farming enterprise for Bangladeshi farmers. Moreover, the issue of food security is being addressed through organic agriculture and through producing organic fertilizer, organic pesticides, organic crops, organic foods, green fuels etc.

The total GDP of the country in 2014-15 was over \$214 billion, and the growth rate was 12.81% (Budget 2013-14, BBS). The food industry in Bangladesh is one of its fastest-growing sectors, and it employs a significant amount of the working population. The BBS reports that nearly 20% of the industrial manufacturing workforce in the country works for a medium-sized food processing company (Budget 2013-14, BBS). Food processing is a \$4.5 billion industry in Bangladesh and includes product categories such as dairy, cooking oils, sugar, grain milling, tea, meats, and more (BOPMA, 2016).

Previous research has proved the need for organic agriculture in such populous countries as it contributes to purposeful and sustainable socio-economic and ecological development (Sarker & Itohara, 2008). On the other hand, in Bangladesh, the unadulterated use of pesticides, hormones and formalin in food production and preservation is compelling local consumers to look for organic alternatives among producers and retailers, both small-scale and large. Thus, the domestic demand for organic food items is increasing. Many local Non-Government Organizations (NGOs) and several private companies are involved in organic cultivation in Bangladesh, but their main intention is to export. The focus should also be given to the potential of the local market.

In Bangladesh, the domestic market is primarily city-based. Most studies have focused on the attitudes and pREFERENCESs of Bangladeshi consumers regarding organic food and its purchase; however, there is insufficient research regarding the profiling of the consumer market. This paper aims to identify the target market in Bangladesh, specifically those living in the city, by considering a few demographic and behavioural variables and identifying their sources of buying organic food items. By understanding the demographic profile of the consumers, marketers of organic food can develop more effective strategies to satisfy the market demand. Moreover, with time, the local demand for organic food

will increase, which will call for more organic farming, with its ecological, social, and economic benefits.

2. LITERATURE REVIEW

Market segmentation aims to serve the needs and wants of each subgroup more effectively and efficiently, and it helps marketers target one or more segments and position their products and brands (Kotler et al., 2013). Market segmentation divides the market into homogenous parts of consumers with similar needs and wants (Liu et al., 2014). Some other factors also contribute to segmenting a consumer market, such as demographic factors (age, income, sex, etc.), socio-economic factors (social class, stage in family life cycle stage), geographic factors, psychological factors (personality traits, lifestyle), consumption patterns (heavy, moderate, and light users), perceptual factors (benefit segmentation, perceptual mapping) and brand loyalty patterns (Jain et al., 2012). However, research states that consumer personalities, values and lifestyles are some important variables that also contribute to segmenting a consumer market (Liu et al., 2014).

Socio-demographic characteristics were found to be significant in explaining the decision to buy organic foods mainly in empirical studies conducted in the USA (Thompson, 1998; Thompson & Kidwell, 1998; Blend & Van Ravenswaay, 1999; Wessells et al., 1999; Loureiro et al., 2001; Onyango et al., 2006; Zepeda & Lin, 2007), while in Europe only age, education and household size were significant (Millock et al., 2004; Lockie et al., 2004; and Tsakiridou et al., 2006). These studies found that some consumers' socio-demographic characteristics and attitudes towards organic food products influence the intention to purchase.

Demography-wise, current research finds that wealthy families, empty nesters, and women generally tend to buy organic foods (Padel & Foster, 2005). Particularly, women are found to be the core buyers of organic food health-conscious men are also found to be increasingly interested in organic foods (Lockie et al., 2002).

Organic knowledge is determined by socio-demographic variables such as education level and income and psychographic variables (values and lifestyles) (Bigné, 1997). Income has been found to be a factor in explaining organic food purchases in some empirical studies conducted in Europe (Torjusén et al., 2001; Millock et al., 2004; Kuhar & Juvancic, 2005; Tsakiridou et al., 2006), while income has not been statistically significant in determining organic food purchases, according to studies carried out for USA consumers (Loureiro et al., 2001; Durham & Andrade, 2005; Onyango et al., 2006; Zepeda & Li, 2007). European studies indicate that income positively influences organic food purchases, implying that consumers with higher income are more likely to buy organic food products.

Awareness and knowledge have become critical factors in changing the attitude and behaviour of consumers towards organic foods, which in turn are expected to drive the growth in the organic food markets (Soler & Sánchez, 2002; Freeland-Graves & Nitzke, 2002). Several studies have investigated consumers' knowledge, awareness, attitude, and behaviour towards organic food in developed and developing countries (Chakrabarti & Baisya, 2007; Compagnoni et al., 2000; Cunningham, 2002). It has been argued that consumer awareness, knowledge, and organic foods consumption are significantly higher in developed countries than in developing countries.

Consumers generally have positive attitudes towards organic products and are perceived as healthier than conventional alternatives (Chinnici et al., 2002; Harper & Makatouni, 2002; O'Donovan & McCarthy, 2002; Radman, 2005). However, the market size for organic foods remains low due to both supply and demand-side constraints (O'Donovan & McCarthy, 2002; Hill & Lynchehaun, 2002; Magnusson et al., 2001; Stefanic et al., 2001; Gil et al., 2000)

Research also shows that some consumers of organic products perceive them to be tastier (Fearne, 2008; Lea & Worsley, 2005; Lyons, Lockie & Lawrence, 2001), although this research has not been substantiated in blind taste tests (Fillion & Arazi, 2002). Another reason why some people consume organic food is that it is perceived to be better for the environment (Aertsens et al., 2009; Bauer et al., 2013; Padilla et al., 2013; Thøgersen, 2010).

It is not surprising that price is an often-cited barrier (Lockie et al., 2002; McEachern & Willock, 2004; Shepherd et al., 2005) as organic food carries a price premium when compared with its conventional counterpart. Despite this premium, the price may be reported as a barrier because it is an easy explanation for why consumers do not buy organic food. Some research has uncovered evidence suggesting that determining price is a barrier may be simplistic. Despite complaining about the price, consumers are either unclear about it, unable to specify it, or are simply incorrect when reporting the price paid for individual food products (Lampkin, 2002).

Availability is another commonly cited barrier to purchasing organic food (Buder et al., 2014, Hoppe et al., 2013, McEachern & Willock, 2004; Shepherd et al., 2005). Research has also shown that some consumers do not always notice that food is labelled organic at the point of purchase (Henryks et al., 2014).

Appearance is another barrier to purchase cited by some consumers (Fearne, 2008; Thompson & Kidwell, 1998). Due to the lack of pesticides and insecticides used in the production, some organic fresh fruit and vegetables may have blemishes and imperfect shapes. Fresh food produced by conventional agricultural systems lacks such imperfections and is uniform in size, shape, and colour. Interestingly and conversely, some consumers view pest

markings as a sign that the food is organic (Henryks & Pearson, 2010). Other studies suggest that a lack of information about organic food acts as a barrier to consumers purchasing more of it (Harper & Makatouni, 2002; Yin et al., 2010). Hence, additional marketing communications aiming to popularize organic foods amongst various consumer groups may be important to increasing sales and market share (Hughner et al., 2007; Pearson et al., 2007; Latacz-Lohmann & Foster, 1997).

The same inference may apply to the domestic organic food market in Bangladesh since producers have not been able to serve a viable local market (Sarker & Itoharu, 2008). Many factors were proposed that prevented the domestic growth of organic foods in Bangladesh. Some were price, availability, confidence in the producers and retailers, awareness about organic foods, reliability of the certification process, etc. (Ali, 2013; Mukul et al., 2013).

Food consumption patterns are changing because of health and environmental consciousness. Consumers now expect their food to be produced and processed with greater respect

3. RESEARCH METHOD

Current literature suggests numerous variables for market segmentation purposes, and these can be classified into four major criteria: demographic, geographic, psychographic, and behavioural dimensions (Kotler et al., 2013; Liu et al., 2014; Jain et al., 2012). However, this paper only considers organic food consumers' demography to further study the demographic characteristics of the organic food consumers in Dhaka City and their sources of buying organic food items. For this purpose, this study adopted Sultan et al. (2018) research method and analytical framework. This study considers gender, age, marital status, monthly household income, employment status, educational qualification, average weekly household expenditure for organic foods (WHEFOF) or usage rate, and length of period consuming organic foods (LPCOF).

The study employed a random sampling technique and face-to-face interviews to collect Dhaka City in Bangladesh data. A total of 227 were completed, and valid responses were obtained. To be considered in the research sample, the respondents had to be at least 15 years old and had purchased organic food products sometime in the past. SPSS version 23 was used for analyzing the data. Frequency distributions, crosstab analyses and Person Chi-square (χ^2) difference tests were performed within and across the dimensions of demographic variables to evaluate differences between segmentation variables across respondents' groups. A significance level of 0.05 was used to identify important differences (Sultan et al., 2018).

4. FINDINGS AND DISCUSSION

Twelve studies on the organic food sector in Bangladesh were found in journals and other online resources through extensive searching. Out of these, five studies have been traced to the consumer-end, five have been traced to the farmer-end, and the rest were institutional status reports. Iqbal (2015) pursued exploratory research in identifying salient features of consumer behaviour in the organic food market in Bangladesh. In line with other studies in the Bangladeshi context, the author mentioned that availability, price, and lack of knowledge could be barriers to adopting organic foods. A study conducted by Mukul et al. (2013) also pointed out the city-based organic food culture and discussed similar issues like food safety and availability. Five predictors of consumer perception were also identified. They were food safety, price, nutrition, sensory attributes, and environmental friendliness. The study found that the nutrition content and low pesticide level were essential predictors of organic food perceptions among consumers. Sarker & Itohara (2008) emphasized both the demand and supply side of the organic food sector in Bangladesh. The paper consistently found that upper-income consumers had a

higher level of awareness about organic foods. Organic food consumers were mostly clustered among middle and upper-income groups, and these groups were also high on health and environmental awareness. A majority of organic food consumers were willing to pay a price premium; it was also found that a high proportion of consumers thought that organic foods were not widely available. Consumers often doubt whether the organic foods sold in the domestic market are genuinely organic. Therefore, a lack of confidence in the organic food producers or marketers can be assumed to be a barrier to organic food adoption.

4.1 Demography

In our study, Table 1 shows the demographic profiles of the respondents (n=227). The survey results show that the number of male respondents is relatively larger than female respondents, and the ratio is 151:74, (two respondents did not identify their gender). Findings related to the age distribution of respondents show that the majority of the organic consumers (97.7%) are between 20 and 59 years old.

Table 1: Demographics of the respondents' profile

| Variables | % | Variables | % |
|---------------------------------|------|---|------|
| Gender | | Employment Status | |
| Female | 32.6 | Full-time | 50.7 |
| Male | 66.5 | Part-time | 7.50 |
| Other | 0.90 | Casual | 1.80 |
| Age | | Self-employed | 24.2 |
| 15-19 | 0.90 | Student | 11.0 |
| 20-24 | 10.6 | Unemployed/Currently seeking work | 3.10 |
| 25-29 | 23.3 | Retired | 1.80 |
| 30-34 | 19.8 | Level of Qualification | |
| 35-39 | 18.9 | No formal qualifications | 4.00 |
| 40-44 | 9.30 | Year 10 or year 12 | 10.6 |
| 45-49 | 7.00 | College graduate | 28.6 |
| 50-54 | 4.40 | University degree | 18.9 |
| 55-59 | 4.40 | Postgraduate qualification | 37.4 |
| 60-64 | 0.40 | Others | 0.40 |
| 65-above | 0.90 | Length of period consuming organic foods (LPCOF) | |
| Marital status | | For less than one year | 18.5 |
| Married/partnered with children | 18.5 | One year | 19.8 |
| Married/partnered | 26.4 | Two years | 16.7 |
| Single | 23.3 | Three years | 11.0 |

| Variables | % | Variables | % |
|---|-------|--|------|
| Empty nesters | 1.80 | For more than three years | 33.9 |
| Widowed/divorced/separated without children | 15.4 | Main grocery shopper | |
| Widowed/divorced/separated with children | 14.50 | Myself | 41.9 |
| Monthly household income | | My partner/wife/husband | 19.4 |
| | | My parents | 15.0 |
| | | We do grocery shopping together | 17.2 |
| Below 44,999 | 28.6 | Other | 6.50 |
| 45,000-54,999 | 20.7 | Average weekly household spending on organic food (WHEOF) | |
| 55,000-64,999 | 12.8 | Below 500 | 22.9 |
| 65,000-74,999 | 13.7 | 500-1000 | 26.9 |
| 75,000-84,999 | 5.30 | 1000-1500 | 22.9 |
| 85,000-94,999 | 4.80 | 1500-2000 | 13.2 |
| 95,000-104,999 | 4.00 | 2000-2500 | 6.60 |
| 105,000 and above | 10.1 | 2500-3000 | 2.20 |
| Prefer not to say | 14.5 | 3000-above | 5.30 |
| | | | |

The current study classified the organic food consumers' monthly household income (gross) into nine categories. The response sample was skewed toward the low monthly household income (28.6% of respondents reported income was below BDT44999). The results also show that 86% of the organic consumers' sample spends between BDT500.00 and BDT2000.00 for household organic food consumption purposes per week. Although the previous literature in the Bangladeshi context (Sarker & Itohara, 2008) revealed that upper-income consumers had a higher level of awareness about organic foods and organic food consumers mainly were clustered among middle and upper-income groups, our study discloses that a significant number (28.6% people have income below BDT45000 and 20.7% have income between BDT45000-BDT55000) of organic customers are of the middle class and upper-middle-class in Bangladeshi context. The disparity in results may be due to the family life cycle stage of this group. These people are usually either single or newly married and thus have few family responsibilities and are free to spend a large portion of their disposable income as they wish. In our study, the age group of organic buyers also indicated the same age group (from 25-29 years consume 23.3% and 30-34 years consume 19.8%) relevant to the single-stage and newly married couple stage in urban society Bangladeshi culture.

It was also found that 4% of the organic food consumers had no formal education, and 0.4% preferred not to

disclose their educational qualifications. The remaining (95.6%) were found to have traditional academic qualifications between year 10 and postgraduate (research) qualifications. The sample included 50.7% full-time and 7.50% part-time workers and 1.80%, retirees. There were also self-employed people (24.2%), casual workers (1.8%), students (11%) and

those who were unemployed/currently seeking work (3.10%). Of them, most of the respondents (41.9%) stated that they were the primary grocery shoppers in their households and that most of them (33.9%) have been consuming organic foods for more than three years.

4.2 Key demographic variables contributing to organic food purchase

According to Hofstede (1991), consumers from a high uncertainty avoidance culture are more likely to be uncomfortable trying new products (the organic concept is almost a recent phenomenon in Bangladesh) and differ from conventional consumption habits. Since Bangladesh fits reasonably with this characteristic, it is one factor that determines the low response to the organic food culture in Bangladeshi customers. Moreover, due to the credence nature (credence products are those for which consumers are not able to evaluate effectively as the benefits of consumption cannot be directly or instantly observed) of organic food, Bangladeshis are likely to be more cautious and doubtful of the authenticity of organic food labels as well as organic benefits. With a lower spending power

than consumers in more developed countries, Bangladeshis are assumed to take less risk in consuming organic food products if they are not confident of the benefits and genuineness of these products.

Apart from that, as a society with high power distance, Bangladeshis are also very aware of their social ranks and tend to be viewed with higher social status or possessing expert opinion in a particular field. This implies that they may be more likely to consume organic food if advised by experts or REFERENCES groups. Likewise, they also tend to put higher confidence in the quality of products that agencies recognize from more developed countries such as the United States, Australia, the U.K., or Japan.

The crosstab analyses, including the Pearson Chi-square difference tests, were performed on several key demographic variables, such as gender, age, marital status, annual household income (AHI) and level of educational qualifications (LEQ) against the two behavioural variables, namely, the weekly household expenditure for organic foods (WHEFOF) and the length of periods consuming organic foods (LPCOF) to examine which of the variables demonstrates significant results in the demographic variables that can potentially contribute to demographic segmentation.

i. Gender-vs-WHEFOF/LPCOF

The Pearson Chi-square difference test results show that the difference between the gender and WHEFOF variables is statistically insignificant: $\chi^2(df=12, N=227)=6.65, p>0.05$. Similarly, the relationship between gender and LPCOF variables is also statistically insignificant, $\chi^2(df=8, N=227)=10.9, p>0.05$. Overall, this means that how much is spent on organic food and how long the respondents have been consuming organic food has no dependency on the ‘gender’ variable.

ii. Marital status-vs-WHEFOF/LPCOF

The crosstab analyses between marital status variables and WHEFOF variables are statistically significant, $\chi^2(df=36, N=227)=47.5, p<0.05$. Similarly, a statistically significant relationship exists between marital status variables and LPCOF, $\chi^2(df=24, N=227)=51.2, p<0.05$. Thus, the organic consumers’ ‘marital status’ does have a strong influence on how much is weekly spent on organic

food and how long organic food is consumed in Bangladesh.

iii. Monthly household income-vs-WHEFOF/LPCOF

A statistically significant difference exists between monthly household income and WHEFOF variables, $\chi^2(df=42, N=227)=119.6, p<0.01$. Similarly, the relationship between monthly household income and LPCOF is also statistically significant, $\chi^2(df=28, N=227)=51.6, p<0.01$. This signifies that the ‘monthly household income’ is another behavioural factor that strongly impacts weekly spending on organic food and how long organic food is consumed.

iv. Educational qualifications-vs-WHEFOF/LPCOF

A statistically insignificant difference exists between educational qualification and WHEFOF variables, $\chi^2(df=30, N=227)=38.9, p>0.05$. Similarly, the relationship between educational qualification and LPCOF is also statistically insignificant, $\chi^2(df=20, N=227)=24.3, p>0.05$.

v. Age-vs-WHEFOF/LPCOF

The crosstab analyses between age and WHEFOF variables are also statistically insignificant, $\chi^2(df=60, N=227)=68.3, p>0.05$. A statistically insignificant relationship exists between the age and LPCOF, $\chi^2(df=40, N=227)=48.9, p>0.05$.

This shows that consumers' educational qualifications and age factors do not influence their organic food consumption behaviour. Analysis shows that only monthly household income and marital status significantly affect the length of periods consuming organic foods and the weekly household expenditure for organic food purchases.

4.3 Sources of organic food items

Table 2 shows the purchase frequency of organic food items and their sources in Dhaka. The results also show that most respondents use Meena Bazar, Kazi and Kazi Farm, Health Food Stores, Online and Farmers’ Market when buying organic food items. Interestingly, online sourcing (66.5%) provides anecdotal evidence regarding the rising popularity of direct sales.

Table 2: Demographics of the respondents’ profile

| Retail Outlets | Frequency of purchasing organic foods (FPOF) (in %) | | | |
|------------------|---|---|--------------------------------------|-------------------------------------|
| | Very infrequently (%) | Occasionally (FPOF≥1-3 times/month) (%) | Often (FPOF≥1-3 times/fortnight) (%) | Regularly (FPOF≥1-3 times/week) (%) |
| Meena Bazar | 22.5 | 44.5 | 19.8 | 13.2 |
| ShasyaProbartona | 63.9 | 21.2 | 10.4 | 4.5 |
| Foshol | 65.2 | 19.8 | 7.8 | 7.2 |
| Proshika | 64.3 | 17.2 | 11.5 | 7.1 |

| | | | | |
|--------------------|------|------|------|------|
| Kazi & Kazi Farm | 49.3 | 27.8 | 14.5 | 8.4 |
| BARI Farmers | 65.2 | 16.3 | 11.0 | 7.5 |
| Health Food Stores | 52.0 | 33.5 | 8.4 | 6.2 |
| Farmers' Market | 42.7 | 26.9 | 16.3 | 14.1 |
| Online | 33.5 | 34.8 | 18.9 | 12.8 |

5. CONCLUSIONS

The objective of this paper was to analyze the demographic profile of the Bangladeshi consumer market for organic food, specifically the consumers in Dhaka City. Several demographic variables were considered, and based on those, a survey was conducted among a sample of organic food consumers. Findings show that consumers tend to be married, have completed at least a college education, and men are more inclined to purchase organic food. This profile resembles findings from studies done in developed countries (see Sultan et al., 2018; Sultan et al., 2020a; Sultan et al., 2020b; Sultan et al., 2021 for more details) except for the gender ratio. In Bangladesh, men tend to buy more products at a premium price than women (Iqbal, 2015; Lockie et al., 2002). They are the primary earners and decision-makers for household purchases.

Further analysis also reveals that marital status and monthly household income significantly influence how much is spent on organic food and for how long the consumers have been buying them. Married people are more concerned about their families' well-being than single people and have more interest in buying healthy and safe food. Also, organic food items have a price premium. These results are also reflected in studies done in developed countries (Sultan, 2014). Buying organic foods includes supermarkets, specialty shops, NGO retail outlets, and online sourcing. Overall, the findings of this study provide some insights for formulating market segmentation strategies based on demographic variables. Organic food producers and marketers can use the results for sales penetration. Organic foods have domestic and export potentials, and hence, the study findings could be a foundation for future policy development and practice guidance.

6. LIMITATIONS AND FUTURE RESEARCH

There are a few limitations to this study. First, the scope of this study was limited to Dhaka city due to limited logistical support. Second, this study considered the essential demographic variables for market segmentation.

Future research should consider psychographic, geographic, and behavioural variables of market segmentation. Future research should also consider regular and potential buyers/consumers and examine differences in market segmentation variables. A large

sample across urban and rural areas would prove a valuable study in future.

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