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Problems and Prospects of Wholesale Marketing of Fresh Produce in Bangladesh Selected Case Studies*

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Abstract

The paper identifies the problems relating to trade, marketing margins, and maintenance of quality and safety standards in fresh agriculture produce in wholesale urban markets. It also examines the prospects of wholesale markets in performing the economic function of buying, selling and value-addition. Four wholesale markets for the supply of vegetables, fruits and fish were surveyed.

The study confirms that the supply of produce from the northwest Bangladesh to Dhaka usually involves middle men between producers and final consumers and entails three successive stages of delivery from farm to local primary market, from primary market to urban whole sale market, and from wholesale market to

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the retail market. Alongside, an organized retailing sector (supermarkets) is emerging that is gaining popularity among the rich and upper-middle income consumers in Dhaka and other big cities. Inadequacies in handling, transportation and storage facilities for fresh produce are noted to be the prime cause of quantity loss and degradation of quality resulting in poor shelf life. Significant informal transactions influence the prices across the market chain.

Collaborative efforts and arrangements among government, private sector, traders and NGOs need strengthened in order to put in place a wholesale marketing system of fresh produce along with strategic policy implementation for improving the marketing environment across the food chain.

Key Words: *Wholesale market, marketing environment, interventions, infrastructure management*

Introduction

With the progress in urbanization, an increasing share of national food consumption takes place at a location other than where it is produced. The marketing system must provide necessary services as producers sell in markets distant from where consumers purchase their food. The urbanization process also influences the composition of the diet. The diet of an urban resident tends to consist of a higher share of processed foods, in part because some foods do not have good keeping quality. Some foods spoil soon after harvest, unless processed. Fresh produce must move to the market soon after production, either directly to the consumer or to the processor. The composition of the national diet also changes as the development process proceeds (HIES, 2005). Consumers tend to seek a wider variety of foods, induced by rising incomes and the demand for convenience in preparation (FAO, 1996; BBS, HIES, 2005). Subject to constraints such as household needs, agro-climatic factors, the available means of production, and the comparative advantage, producers move towards the production of goods that promise highest economic returns. Over time, provided that transportation is reliable and efficient, the flow of food products moving between communities increases, and provides the basis for a further development of the marketing, processing and distribution systems (FAO, 1996).

The flow of food products, namely fresh produce like vegetables, fruits and fishes, increases with the pace of urbanization. For example, the population of Dhaka city has been increasing at a rate of 0.4 to 0.6 million per year (about 4.33% between 1995 to 2005). The growing demand for high-value agricultural commodities—including fruits, vegetables and spices, fish, and livestock products—provides enormous opportunities for producers and suppliers in Bangladesh (World Bank

and IFC[3], 2008). The additional demand for these commodities, according to World Bank, is estimated at about US$8 billion (in 2005 prices). Because high-value agricultural production is typically more labor-intensive than traditional cultivation, this increasing demand also provides an opportunity to raise rural incomes and improve livelihoods.

Although much progress has been made in enhancing food supplies to cities, urban growth will continue to present enormous problems for the marketing of food. On the one hand, incomes of certain segments of the urban population are rising rapidly, leading to increasing demand for more expensive foods such as fish, horticulture produce and livestock products, as well as for products that provide a varied diet and are processed to offer greater convenience. On the other hand, given that majority of urban dwellers in developing countries remain highly disadvantaged, guaranteeing the efficient distribution of low-cost but nutritious food is a challenge. This necessitates an increasingly capable wholesale distribution system along with improvement of rural-urban linkages through continuing investment in marketing infrastructure at all stages of the supply chain.

Developing markets requires a detailed knowledge of the marketing system and realistic forecasts. If marketing chains function inadequately, investment in production becomes both more costly and risky. Poor storage of fresh produce leads not only to food loss but also to wastage of the resources and jeopardizes expensive investments in production facilities. Market modernization, beyond improving basic transport also includes marketing information systems, commodity exchanges, and price-risk management and calls for continuous monitoring, analysis and research of market information. Several studies in Bangladesh have conducted market structure and value chain analysis for fresh produce and have identified the evolution of the market structure and bottlenecks of the whole chain, but little attention has been given on individual market segments, especially the urban wholesale markets. This is critical for transmitting enabling new market opportunities for farmers and guiding their production to meet changing consumer preferences for quantity, quality, variety, and food safety.

This paper is an attempt to identify the constraints of urban wholesale markets of fresh produce, especially for bulk trading of vegetables, fruits and fishes, in urban

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[3] High-Value Agriculture in Bangladesh: An Assessment of Agro-business Opportunities and Constraints by World Bank and IFC (2008) South Asia Enterprise Development Facility (SEDF).

areas. It also analyzes the prospects of wholesale markets by evaluating perceptions of major stakeholders-traders, retailers and key informants.

In the next sections, efforts are made to elaborate the objectives and methodologies, followed by results and discussion on the findings with regard to problems and prospects of wholesale marketing, and provide some strategic recommendations.

Objectives and Methodology

This paper focuses on the wholesale markets for agriculture fresh produce in urban areas in terms of identifying their problems relating to infrastructure (for handling and transportation, storage and packaging), trade, marketing margins and maintenance of quality and safety standards. It also examines the prospects of wholesale markets in performing the economic function of buying, selling and value-addition. The three agricultural commodities considered are vegetables, fruits and fishes. Case studies were conducted in four wholesale market places. The locations were *Kawranbazar*, approximately 5 kilometers from the city, which is the receiving point of fresh vegetables, fruits and fishes from the districts by road, *Swarighat* (for fish) and its adjacent *Shambazar* (for vegetables) and *Badamtali ghat* (for fruits), where products are received from the southern and riverine districts by water transport.

Analysis was carried out using primary and secondary data. The primary data collection was carried out using a set of pretested questionnaires for the wholesalers. Thirty wholesale traders (*aaratders, who owns shops/warehouses*) were interviewed. Of these, 9 were fish wholesalers *(4 from Kawran bazaar and 5 from Swarighat*), 10 were wholesalers of fruits[4], and 11 were wholesalers of vegetables[5], all randomly chosen from the traders in the market. The questionnaire included information on household and socio-economic condition, trade and establishments, facilities available in the shops/markets, personal hygiene, institutional hygiene and sanitation, prevailing problems, risks and their probable solutions, awareness about laws and regulations, involvement in associations/groups, potential barriers and prospects of wholesale trade, etc. In addition, eight Focus Group Discussions (FGDs) with retailers were organized[6].

4 (5 from Kawranbazar and 5 from Badamtoli)

5 (6 from kawranbazar and 5 from Shambazar)

6 (1 for fish, 2 for fruits and 6 for vegetables)

Discussions were also held with 16 Key Informants[7] who were associated with monitoring, research and management and governance of market infrastructure for ensuring safety and quality of food stuffs. These discussions helped to fill information gaps and validate opinions obtained from the traders[8]. A desk review was also conducted to gather information on agriculture and food policies of the country and findings of available studies about market structure and marketing margins across the chain for agriculture produce.

Results, Discussions and Policy Implications

Production of vegetables, fruits and fish in Bangladesh

According to Bangladesh Bureau of Statistics (BBS) reports (1993-2006), the vegetable growing area of Bangladesh increased from 0.196 million hectares in 1993/94 to 0.302 million hectares in 2005/2006. At the same time, the production of vegetables increased from 0.129 million metric tons to 2.05 million metric tons. On the basis of the seasonal production, vegetables can be categorized into winter vegetables and summer vegetables. The winter vegetables are cabbage, broccoli, tomato, brinjal, beans, different types of bottle gourd, radish, carrots, cauliflower, ladies fingers etc., and summer vegetables include sweet gourd, bitter gourd, ribbed gourd, sponge gourd, wax gourd, snake gourd etc. There are more than 90 varieties of vegetables that are grown in this country, among which 50% of different varieties are produced for commercial purpose.

Fruit crops mainly grown in the country are mango, pineapple, papaya, jack fruit, coconut, betel nut, carambola, berfruit, blackberry, guava, litchi, cashew nut and wood apple, covering an area of about 202,024 hectares, nearly 80% of which are in home gardens. Several regions specialize in certain crops, such as banana in Jessore, mango in Rajshahi, pineapple in Chittagong and Sylhet, and betel nut and coconut in the delta regions.

Most of the fruits produced in the country are consumed at domestic level. About 30% of them are generally marketed, especially pineapple from Chittagong area (29% of total production), mango from Rajshahi area (about 15%), and banana from Barisal area (about 15%). For a population of 150 million, the consumption of fruits per head per year is staggeringly low, only 13.6 Kg/head/year (BBS, 2005). This is about one quarter of the fruit consumption in Europe and one-ninth

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7 leaders of wholesale traders association, laborers, consumers, local political elites and central and local government officials

8 Questionnaires administered on wholesalers, retailers (FGDs), and Key Informants may be obtained from the authors, if the interested reader will so desire.

of that in Australia, Hong Kong and Taiwan. This explains why a large number of fruits, particularly in the winter season, are imported to Bangladesh every year.

In general, production of fruits is an attractive alternative for farmers, as gross margins may go up to 10-12 times compared to paddy. But the risk involved is much too high for many fruits, because of price volatility and market gluts during peak season. Like vegetable crops, retail and wholesale price of fruit crops also fluctuates substantially from year to year and also from month to month, depending on the supply situation. The reasons of this price volatility are also similar to those of vegetables.

Bangladesh being a lowland country has rich water resources in and around the country. The total fish production in 2007-2008 was about 2.4 million MT of which nearly 80% were from inland fisheries and 20% from marine sources. Major portion (97%) of the total harvested fish is marketed internally for domestic consumption. About 50% of the inland fish production is consumed in fresh form due to strong consumer preference (Chowdhury, 2004).

Marketing chain of fresh produce in Bangladesh

Several studies have resorted to analyze market structure, value chain analysis, and identified market impediments in Bangladesh. However, this study focuses on only one specific segment of the market chain of fresh produce, especially vegetables, fruits, and fish wholesale markets in Dhaka, the capital city. Studies by World Bank, FAO and others reveal a generalized picture of the market structure of fruits and vegetables as follows: Farmer > Collector > Local Assembly Market >Primary wholesale markets> Secondary wholesale markets> Tertiary Wholesale Market > Retailers (ranging from shops to street hawkers) > Customers (see figure-1). A new dimension has been increasingly visible in the scene, that is, the modern retailing (supermarkets, hypermarkets, convenience stores) driving innovation in the wholesale sector. Thus farm produce from the northwest to consumers in Dhaka usually involves at least three different sets of agents between primary producers and final consumers. They are: collectors, traders, and retailers. It also involves three successive stages, viz., from farm to the local primary market, from the primary market to the urban wholesale market, and from the wholesale market to the retail market. Though not all three agents ensure supply, nor are all these stages always strictly followed, that is how fresh produce goes from farmers to consumers. The extent and usefulness of the wholesale sector in marketing, quality management, and profit sharing for the vegetable sector varies across the region, but the key issues are: modernization

and streamlining of the wholesale sector and improvement of market infrastructure, transport systems, and utilities.

In Bangladesh, vegetables are generally sold by farmers immediately after harvest because of their need for cash and lack of storage facilities. An FAO survey (1996) reveals that about 82% of farmers in all the regions sell horticultural crops immediately after harvest. They use head load and rickshaw vans to carry the produce to markets. Traders, wholesalers and buyers mainly use rickshaw vans and trucks. About 66% of the farmers sell their produce in weekly markets and 22%, in the daily markets. Farmers usually get price information from other farmers, traders, radio, television and newspapers.Marketing channels and involvement of intermediaries vary among regions. The FAO survey indicates that about 19% of retailers, 41% of traders and 21% of consumers buy vegetables directly from farmers. The two major marketing channels are producer-trader-retailer-consumer and producer-trader-wholesaler/ commercial agent-small holder/retailer-consumer. The commission of intermediaries varies by region and from crop to crop. The margin between the trader's price and the retailer's price could be as high as 150% during peak season and 200% during off season[9]. Retail and wholesale prices of vegetables fluctuate substantially from year to year and also from month to month, depending on the supply situation. Seasonality, under-developed marketing and transportation system, poor infrastructure, and insufficient storage facilities intensify price volatility.

The marketing system of fruits is similar to that of vegetables. The FAO survey indicates that about 36% of retailers, 27% of traders and 22% of consumers buy fruits directly from the farmers who usually sell their crops mostly in the weekly markets and partly in the roadside and daily markets.

An IFPRI study (quoted in Chowdhury, S. 2009) suggests a wide price spread between the prices that farmers received and the prices that consumers paid in Dhaka. Between farmer's price and wholesale price, the spread is about 42% to 46%; between farm and traditional retail price it is about 162% to 176%; and between farm and supermarket it is about 181% to 198%. The highest price spread occurs between wholesale and retail. Chowhury, S. (2009), however, observed that the price spread found by IFPRI study was too high.

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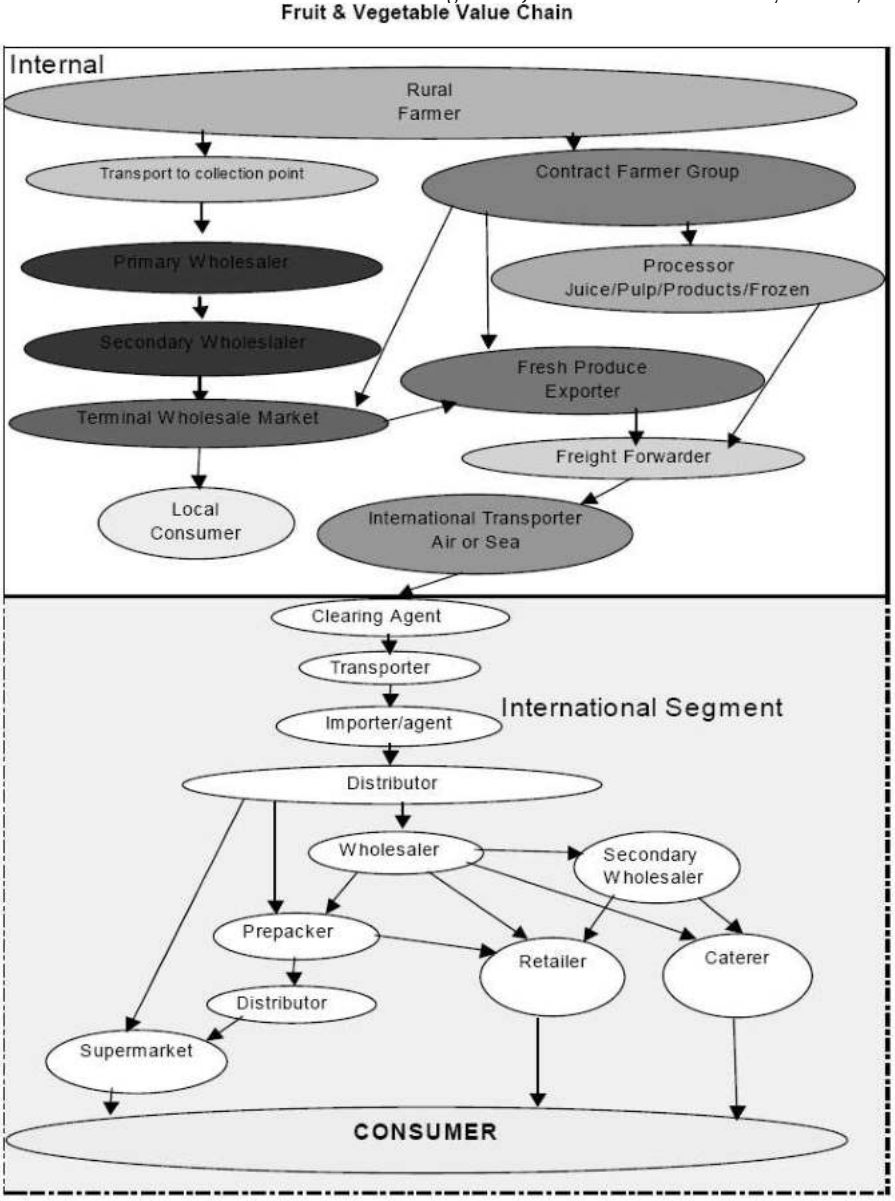
9 For brinjal alone, as revealed from the study by Murshed et al (2009), however, the gross marketing margin of traders (*farias* and *beparis*) is 24.5%, whereas for the *aratder*/wholesalers and the retailers it is 25.83% and 35.58%, respectively.



Source: ITC (2008), *A strategy for developing the Horticulture sector of Banglades,* August

The fish marketing system in Bangladesh is traditional, complex, and less competitive but plays a vital role in connecting the fish producers, and consumers. Fish marketing is almost entirely managed, financed and controlled by a group of powerful intermediaries who play a big role in fish marketing channel. The dominant marketing channel (product route to ultimate consumers) of freshwater fish for domestic consumption includes farmer>*bepary*>*aratdar*>*paiker*>

retailer>consumer (Figure-2 shows a typical structure of Hilsha fish marketing in Bangladesh). This simple channel covers primary and secondary market levels up to Upazila. Beparies handle a large volume of fish and sell their purchases to Aratdars and to Paikers/retailers. Beparies do not generally hold any trade licence, unlike Aratdars. They can be local or non-local traders. Some Beparies get advance business loans from the Aratdars during lean periods on the condition that they will sell their purchases through Aratdars. From the higher secondary markets, fish flow down again to the town and peripheral village primary markets (final consuming markets) through paikers/retailers (FAO, 2009). The communication between the traders in different markets is generally good and takes place by telephone, and nowadays cellular phones are mostly used. This keeps wholesale prices in line throughout the country. The least informed party is the fisherman, because of his physical isolation from the markets. Other factors which weaken the fisherman's bargaining position are his dependence on credit and illiteracy.

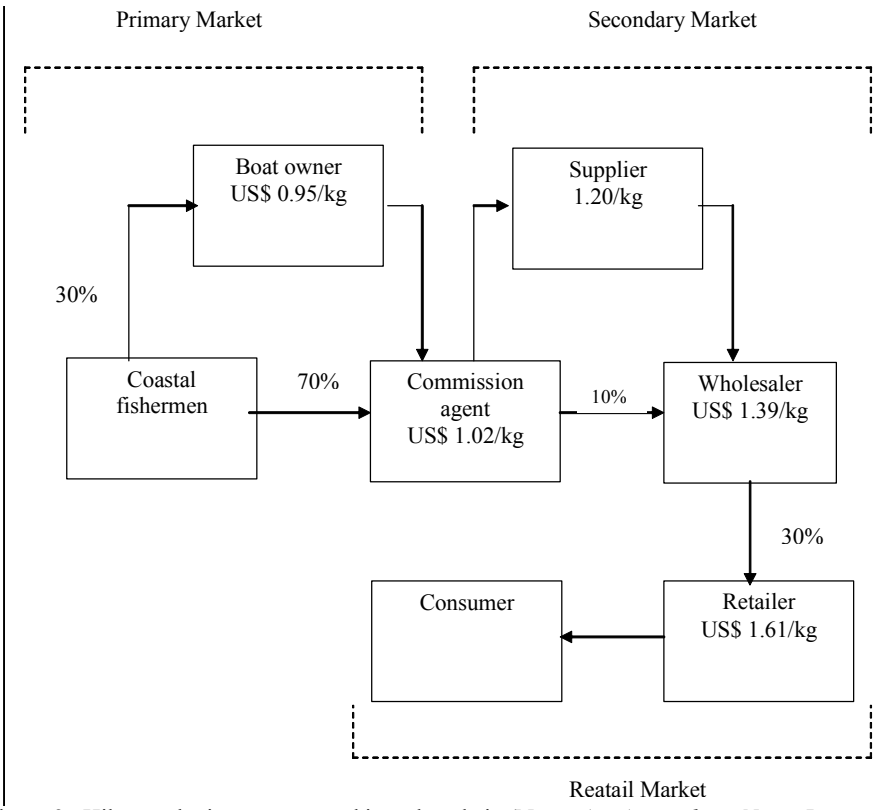


Figure 2 : Hilsa marketing systems and its value chain (Nesar, A., *Aquaculture News*, January 2007)

A new pattern that has recently emerged is that pond fish farmers directly approach Aratdars at the higher secondary market. Fish farmers get 8-10% of the total sale proceeds from the lot of each catch. The farmers bear the transportation costs to the Aratdars in the markets and arrange bidding for open sales of fish to Paikers/retailers. In lieu of providing space for fish landing, icing for some fish and selling, Aratdars get commission at different rates of the sale proceeds. For example, the commission for Hilsa fish is 3%, for carps 4%, rohu, catla mrigal 6.20% in Mymensingh and Kishoregonj markets. The limited number of wholesalers, their joint actions in bidding and close understanding through their associations negate the principles of competitive market structure. Inadequate competition at the Aratdar level means that the Beparies pay relatively higher commission but the burden is born ultimately by the fish farmers/fishermen, who get lower prices. Open auctioning of fish lots by the wholesalers to Paikers/retailers makes the market structure competitive at retailer level in the final consuming markets. Therefore the market structure situation is not the same for all market levels. Exploitation prevails from the farm-gate to the higher secondary market level. This is also confirmed in the present study.

Dhaka wholesale markets- location, ownership and management

The *Swarighat* fish wholesale market is by the side of the Buriganga (the river on which Dhaka stands). It has 71 wholesalers/aratders trading there. It has a landing station on the river bank owned and managed by Bangladesh Inland Water Transport Authority, a state owned organization responsible for facilitating and regulating waterways and inland river ports. The *aaratders* mostly take commission from the sale managed through auctions. The market is privately owned and managed since its inception long back. It has four approach roads linked to it. All are narrow and busy except the Buriganga ring dam, which is about 60 feet wide having waterways adjacent to it.

The *Badamtoli ghat* fruits market is also owned and managed by private entrepreneurs, the traders associations of respective markets. It consists of a large number of independent markets having different fruit wholesale shops housed in them. The markets are in one row facing the Buriganga dam as approach road. However, the markets have other roads in between linked to them. Both imported (such as apples, orange, grapes etc) and locally produced fruits (such as banana, pineapples, mango, guava, etc) are sold here in bulk. The *shambazar*, a vegetable wholesale market, is very old. This is also privately owned and managed, except that the waste disposal is done by City Corporation. It is also adjacent to the city's main inland port (locally called 'sadar ghat').

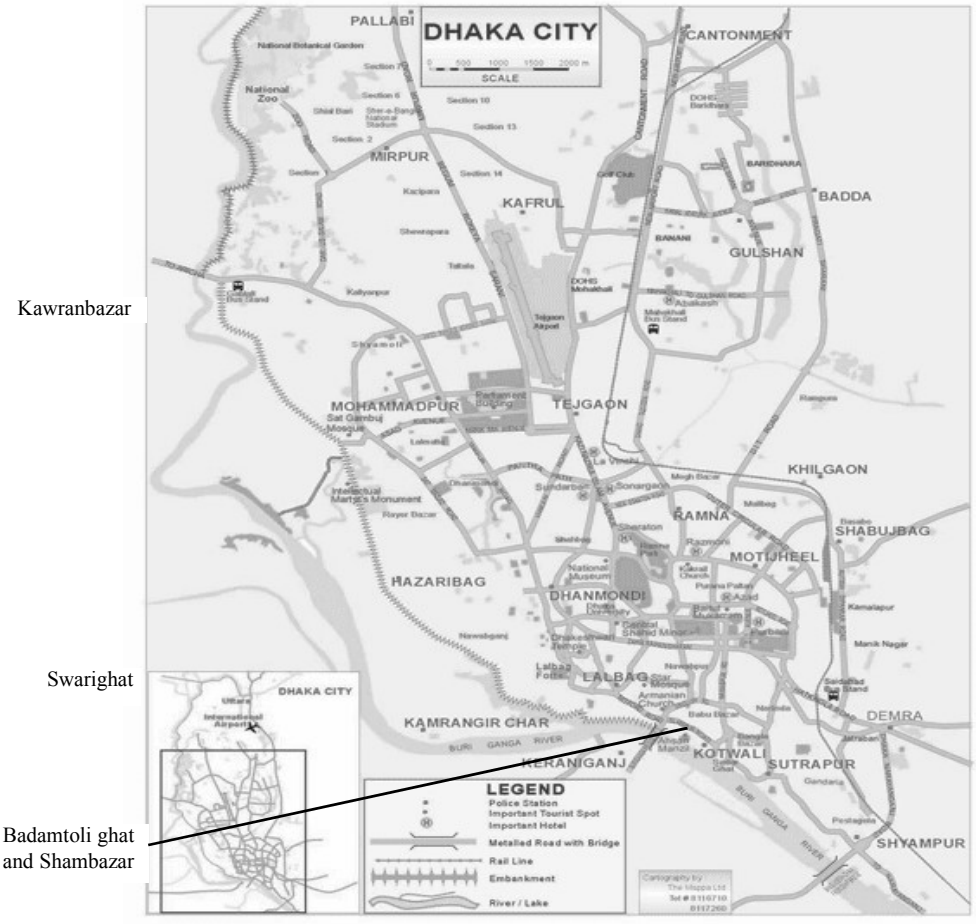


Figure-3: Dhaka city map

The *kawranbazar*, approximately 5 km from the city center, is another market place where all three wholesale markets are available – the fish, the fruits and the vegetables. It is the largest fresh produce wholesale market in Dhaka city, increasingly flourished in the business district of Kawranbazar. While the markets are owned by City Corporation, they are managed by traders association. The approach roads are relatively broader here among the four places depicted in this paper. In all the four markets, the approach roads are very near to the shops as the average distance of the shops from the road/water way is 0.16 km (varying from 0 to 1 km), the modal value being .091 km, that is, about 100 yards (see the map of Dhaka city in figure-1 for the market locations). The wholesalers and retailers are mostly in favour of the existing locations, while the key informants (except the association leaders) are skeptical of the locations saying that the wholesale markets in Dhaka city must be relocated near the different entrances of the city.

However, all insisted upon broadening of the approach roads and more supporting role of city corporation or the government in modernizing and regulating the markets.

The wholesale traders belong to lower middle class and middle class people

The fresh produce wholesale traders are mostly males having average age of 43 years. However, 18 of 30 traders were of age 40 and above. They do not belong to the educated section of the society as their average year of schooling is only 7 (and 7 out of 30 traders have graduated to SSC and HSC). The average size of household is 5.91, slightly above the national average. Out of 30 respondents, 19 live in *pucca*[10] house, the rest in *semi-pucca* and *kacha* house while 3 stay in the shop/arat. They mostly live in two-roomed residences at an average distance of 5.48 km from the market place (the range being 0 to 50 km as three of them stay in the *arat*/shops). The respondents are mostly dependent on this trade (23 of them have income from only fresh produce trade), others do trade plus other economic activities. All these depict the fact that they mostly belong to the middle class or lower middle class of the society.

Personal and institutional hygiene scenario depict poor environment and sanitation

The traders are supported by management and accounts staff and labourers who assist in handling and on/off-loading of fresh produces. So the personal hygiene, the environment of the shops and establishments and the market places themselves are instrumental to maintaining safe food. It was revealed that 19 out of 39 respondents depend on WASA supply for drinking water, while the rest on tube wells and other sources. They mostly drink boiled water, but the staff and labourers do drink WASA supply water mostly. Although the support staff and labourers use sanitary latrines in houses as well as in market places, they seldom use soap to wash their hands after defecation. Only three of the respondents said they use soap for washing hands after defecation, others use only water. They also do not wear globes for handling fresh produces. Moreover, the latrines in the markets are not adequately cleaned. The drainage facilities are inadequate as are the waste disposal arrangements run by the city corporation. The fish markets are filled with filth and bad odour makes it difficult to breath in. The cleaning of the shops are not particularly possible as the floors are muddy, uneven and temporary.

[10] *Pucca* means brick built, *semi-pucca* means houses with brick wall but with tin roofs, *kacha* stands for houses having muddy floors and having walls made of bamboo/tin-wooden structures.

The nature and volume of fresh produce wholesale trade

The size of the shops varies from 25 square feet to 1200 square feet depending on the size of the business, the average median and mode being 216 square feet, 1135 square feet, and 100 square feet, respectively. Twenty-eight out of 30 shops have no other space to store the fresh produce they trade in. Sometimes, they store (fish) in tanks and cold boxes in the office spaces if supply arrives late in the day. Only 2 traders said they had storage of approximately 0.5 tons. The average size of staffing is 4, with 2 office staffs and 2 laborers. However, in most cases, the wholesalers (except for fish wholesalers) do operate the business themselves without taking support of any staff. It is to be mentioned that laborers are mostly part timer, the average number being 6 (0 to 60 in number).

Of the traders, 3 out of 30 have own shops, and the others use rented shops. The mode of rent payment as per contract is of four types – (i) the monthly average rent is taka 9595 (3000-6000 taka for 15 respondents, 6000-9000 for 2 respondents, and above 9000 taka for 5 respondents); (ii) the second mode is temporary, taka 200 per day on sit-in basis (for 2 respondents); (iii) the third mode is a fixed rent plus 1/8 of the commission obtained from wholesale trading especially in the case of fish (1 respondent); (iv) the fourth mode is 6.1 % of sale (1 respondent).

About the rolling capital requirement, the traders need to offer *'dadon*[11]' to ensure steady supply of fish, fruits and vegetables to their aarats/shops. This is a sort of forward buying on their part and forward selling on the part of local suppliers, farmers and fishermen. The average amount of rolling capital need is 1.2 million taka (highly skewed range of taka 20 thousand to 8.0 million, 50 % having capital of 0.3 million taka while the remaining 50% need over 0.3 million taka). The volume of transaction varies with the type of produce they trade in. The daily purchase per fish wholesaler is over 4 tons on average, where as for fruits it is 4.5 tons, and for vegetables it is 1.07 ton. The daily sale is 4.3 tons for fish, 4.3 tons for fruits and 1.0 ton for vegetables. And the average stored quantity is: fish 0.0 ton, fruits 0.22 ton, and vegetables 0.06 ton. The quantity of produce that gets partially damaged is 3.8% for fish, 3% for fruits, and 8.5% for vegetables, whereas the quantity that gets rotten are zero percent for fish, 8% (average 2.4%) for fruits, and up to 20 % (average 10%) for vegetables.

The tax payment by wholesalers is rare as majority of them do not own any shop; however, they need to collect trade licence from the City Corporation (face lot of

[11] Informal credit to local wholesalers and collectors who in turn offer the same to the farmers, fishermen and collectors to ensure steady supply to their ends.

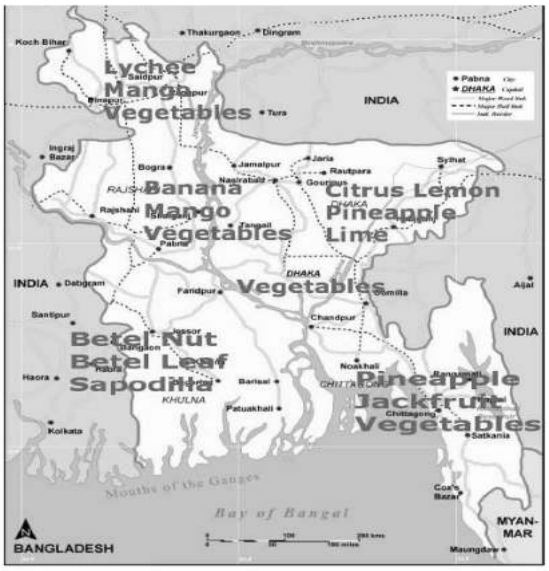
hassle) for doing the business. There are also unidentified costs in the business starting from transportation to sitting with shops. However, majority of the traders did not fully disclose these costs, ostensibly out of fear; but these are identified as extortion in each stage of the business (apart from cleaning of premises, posting night guards and others).

The marketing margin for fish is 5-33% (average is 17.4%) (including the *aaratder* commission of 2-4%), for fruit it is 6-40% (average is 24.3%), and for vegetables it is 10-55% (average is 30%) depending on the variety and location of purchase. The average net income per month by fish wholesaler is 39800 taka (taka 10000 to over taka 75000) depending on the volume of business, price prevailing, and the margin of profit. The net income per month by fruit wholesaler is on average 36977 taka (7200 to 81000), and for vegetables wholesaler it is on average over 33000 taka (9000 to 58000). Some traders have other income sources as well but they felt shy of telling about those incomes.

Sources of supply and transportation

The transports used for bringing fresh produce supply to Dhaka city are mainly trucks for road ways and launches and trawlers for the river ways. The sources of fish are Teknaf in the south-east and Potuakhli in the south-west of the country for sea fish; Chandpur, Barisal and Bhola for Hilsha fish; and Faridpur, Rangamati, Khulna, greater Mymensingh for other inland sweet water fish. Sources of fruits

Figure 4 : Main production areas for fruit and Vegetables



Source: ITC (2008)

are Modhupur of Tangail district for Pineapples, Rajshahi, Dinajpur, Gazipur and Jessore for Mango and Jackfruits, Perojpur, Gazipur and Kaliganj for other domestically produced fruits, whereas import is the main source for apples, oranges and grapes. The sources of vegetables are Natore, Munshiganj, Faridpur, Brahmanbaria, Comilla, Kushtia, Jessore, Chuadanga, Narshingdi, Dhaka and Bogra districts (see Figure-4).

The average time for arrival of fish supply to Dhaka wholesale markets is 11.75 hours (5 to 24 hrs), for fruits it is 12 hrs (1 to 24 hrs), and for vegetables it is 8.24 hours (1.15 to 24 hrs). This implies that adequate measures are needed to preserve the quality of fresh produce on their way to Dhaka wholesale markets – food fit transport and packaging, cool chain where needed, and safe handling practices.

Facilities available in the Dhaka wholesale markets

Modern marketing facilities are largely absent in the wholesale market places of Dhaka city. Six respondents said that they had no facility for water for washing, whereas others used water stored in drums or river water. Majority of the traders spoke of the need for washing the premises after market hours but that was not done regularly due to lack of arrangements for water, manpower or even infrastructure. However, some of the traders said they did not need washing as the produces were washed and retailed by the retailers. They do not get any support from the government organization in terms of information, advice regarding market extension, and inspection of quality and quantity. The adequacy level of transport availability is sufficient according to majority respondents, and the handling system is mostly manual calling for adopting safe handling practices at both ends – at load and discharge. Majority use normal storage without any provision of temperature and moisture control while 9 traders have no storage facility at all. Grading is done by eye estimation depending on the size and quality of the produce (rotten, partially rotten, and good). Majority have no suitable packing facility; others either do not require packing or use boxes, bamboo baskets etc depending on the type of fresh produce. On the availability of labor for handling, majority have no problem, but at times labor supply becomes inadequate. The traders need access to adequate credit, either formal or informal, but most of them favor lesser formalities in having credit. Places when the laborers can take rest are highly inadequate. The markets have no fire fighting facility and there is serious shortage of power supply as well. The traders want adequate security while transporting goods. They want the market infrastructure to be built *pucca*. They want access to associations and easy access to markets with developed grading, storage and credit facilities and asked for government interventions to address these issues and constraints.

Perception of traders about quality, laws and supply

Majority of wholesale traders and retailers are not aware about food quality and safety laws and standards and practices applicable to their business. They could not specify laws they need to adhere to, except that a few cited provisions on trade license and security and other requirements imposed by the traders associations. The majority of traders expressed satisfaction, about the quality of the produce, only four being skeptical about quality. Fourteen respondents said they were satisfied with the quantum of supply while others were not as they faced variability of supply.

Perceptions about groups, market information and role of stakeholders

Fifteen of the traders are members of associations while others are either non-members or abstain from saying anything. The associations are market as well as product specific. However, there are apex associations of traders like Metropolitan Chamber of Commerce and Industry, Dhaka Chamber of Commerce, and the Federation of Bangladesh Chambers of Commerce and Industry. The traders take the view that the associations can try more to promote the business by providing information, creating modern infrastructure and management. This is the view of the key informants as well. The traders say that at present they get market information from local parties (suppliers of produce, may be primary wholesalers and farmers) through mobile phones. The majority of traders find no problem with the location. They reported that only narrow roads and irregular approach of vehicle control by the traffic police cause problems.

Perceptions about risks and suggested solutions

Mr. Xian Zhu, World Bank Country Director in Bangladesh, observed that *"high-value agricultural products tend to be highly perishable, and there are many risks associated with marketing these commodities. Appropriate policies and investments in key infrastructure are needed to make it viable for farmers to switch to these commodities and increase production."* The statement holds good for Dhaka wholesale markets as well. The problems and risks that are faced by Dhaka wholesale markets vary from traders to traders, for types of produce, and over time as well. The major risks and problems if ranked according to severity would follow this descending order: financial risks, risk of quality deterioration, and security risk. The financial risks, as inherent to every business, involve non-realization of *dadon* offered to local suppliers/wholesalers/collectors resulting in shortage of capital and unsteady supply of produce, non-realization of money

under credit sale, price variability resulting in negative profit (in case of fruits and vegetables) or loss of commission (in case of fish wholesalers). The risk is further aggravated by road accident, theft and extortion prevailing in different stages of transportation and handling and finally with the asymmetry in market information – prices, supply and demand. The risk of quality deterioration is influenced by inadequate storage and cool chain facility, inadequate safe handling system, inadequate personal and institutional hygiene, water unavailability, inadequacy of food fit transportation and packaging system,. This risk is likely to translate into financial risk as well. The security risks arise from inadequacy of law and order situation, robbery, theft, fewer security personnel than required in the market places, traffic jam and restricted movements of trucks to Dhaka city etc. All this results in increased transaction cost for the business and affects profit margin. The focus group discussions with retailers and interview with key informants also confirmed the risks described above.

The solutions suggested are to gear up roles of the government, the local authority and traders associations, and private sector initiatives. The measures suggested are as follows:

Risks/problems	**Suggested solutions**
Uncertainty of supply	Measures to boost/sustain production – support to farmers, preserve water bodies for continued fish production and ensure safe reproduction , reduce transportation bottlenecks, investment in road infrastructure, ensure credit to the farmers/fishermen, symmetric market information
Uncertainty of prices	Strengthen market information, streamline supply
Non-realization of *dadon*	Institutional credit, enforcement of private contracts (this would increase the transaction cost though)
Quality deterioration	Improved infrastructure for storage, transportation and handling, *pucca* shops and market establishments, raising awareness about personal and market environment, ensure sanitation and waste disposal, water supply, efficient traffic control, electricity supply etc
Security risks	Improve law and order situation, ensure justice, provision of security guard, efficient traffic control

Perceptions about future barriers and prospects of fresh produce wholesale business

The present risks and problems, if not addressed with adequate focus and sincerity, might cause future barriers to the fresh produce business. The majority

of wholesalers are skeptical of the prospects of the fresh produce wholesale business because of prevailing uncertainties. However, the traders, the retailers and the key informants envisaged good prospect if supply is ensured, market information is made transparent, easy entry and exit of market players are ensured, export chains are established and infrastructural and quality impediments are eliminated. The public-private partnership, the active professional association and improvement of market places management might bring sustained prospect in the trade. This will bring benefit to all: the consumers, the traders, the retailers, and the farmers.

While private sector investment necessarily leads the development of high-value agriculture and agribusiness, the role of the government remains essential in fostering an enabling business environment and investment climate. It does so by providing critical public goods and services and stable and undistorted economic incentives. This is particularly consistent with the 2008 World Development Report '*Agriculture for Development',* which points to agricultural growth as having especially pronounced potential to raise people out of poverty relative to growth in other sectors. In fact, throughout the developing world, the GDP growth that is attributable to agriculture can benefit the income of the poor two to four times more that GDP growth that is attributable to other sectors according to that publication. High-value fresh produce from agriculture, together with new markets and technological innovations, are new opportunities to producers and traders alike.

Need of renewed focus of policies and strategies

The perishability of high value fresh produce like fish, fruits and vegetables requires careful handling, special facilities (packing houses, cold storage, and refrigerated transport), and rapid delivery to consumers to maintain quality and reduce physical and nutritional losses. Like many developing countries, Bangladesh's marketing chains of those products are long and suffer from poor access to roads and electricity. Also, inadequate infrastructure and services in physical markets add to the transaction costs and cause quality deterioration and high spoilage losses. Market infrastructure and facilities in urban market, as revealed from this study, are very much limited and congested, increasing the difficulty of trading such perishable goods.

In addition to the price and supply uncertainty, new and emerging challenges are peeping in – like (i) a new business environment where agri-food business is having an increasing concentration of suppliers, intermediaries, and sophisticated retailers like supermarkets and is likely to stimulate new methods of

differentiation and spur a more intense drive for new supply sources and greater efficiencies in costs and logistics; (ii) a new regulatory environment is emerging as more and more food is traded globally under globalized trading regime, and government is determined to manage the safe food supplies by imposing new barriers to entry in the form standards in production, packaging, marketing, export and even in domestic consumption. The wholesale markets need to cope with the new challenges (otherwise, there is likely ugly fate waiting for them). The present study reveals these signals from the wholesale traders. This could result in disarraying problems for both farmers and consumers. This calls for renewed focus of policies and strategies. Although Bangladesh National Food Policy 2006, the National Agriculture Policy, and the PRSP put emphasis on promoting production and marketing of high value agriculture produces, little steps are being taken to make all market players aware. Especially the urban wholesalers seem to be falling behind (along with farmers) in terms of understanding the risks of losing market access.

The renewed focus of policies should pursue the extent and usefulness of the wholesale sector in marketing, quality management, and profit sharing across the chain and in raising competitiveness among the players. Pragmatic programmes need to be chalked out to address the key issues like modernization and streamlining of the wholesale sector and improvement of market infrastructure, transport systems, and utilities, solve the location issues, issues of increasing transaction cost and financial risk of the traders, access to credit, formal contracts and so forth.

It appears that private sector at the level of leading Chambers and Product Associations is also not adequately tuned up; firstly, because they consider it the responsibility of the government and secondly, possibly, they neither have adequate resources, nor do they seriously feel the punch yet. Only one private sector Foundation (Hortex Foundation) and one NGO (Bangladesh Rural Advancement Committee-BRAC) are apparently working in this area all throughout the chain.

The new strategic policy regime should, therefore, pursue a broad-based capacity building, the means of which could be *awareness and recognition* at the level of users, implementers and policy-makers, *physical infrastructure, human resources/training* and *institutional build-up*. This huge task of capacity building ahead cannot be taken care of by the Government of Bangladesh (GOB) alone. The policy should seek public-private partnership, donor-GOB partnership etc for the implementation of such policy agenda. Fortunately, an initiation of change has

occurred with the establishment of Horticulture Export Development Foundation as a non-profit horticulture development and promotional agency in the private sector. With the support of BRAC, this foundation is working for up-scaling of farmers, but nothing is being done so far to support the wholesale marketing segment in the urban area. The capacity building must adopt a total approach: include all stakeholders, all institutional framework and processes.

The policies need to address the bottlenecks at the operational level, viz., lack of infrastructural facility; lack of access to information; lack of coordination and monitoring system; limited technology choice; vulnerability to market access barriers; diseconomies of scale of operation etc. Associations of wholesale traders have the potential to both facilitate the work of their members and to achieve greater efficiency in the marketing chain. They can increase the possibility that the vital role the traders play in food marketing and distribution is recognised and can assist in improving the infrastructural and regulatory framework under which trading takes place. By working together as associations of traders, they can also contribute to the reduction of marketing transaction costs, reduction of risk, improvement of liaison with market managers, and provide important welfare services.

Conclusion

The wholesale markets provide most small farmers with effective and profitable outlets. They are important for maintaining a sustained flow of fresh produce to the retail markets, thus offering benefits to the low income consumers as well. While the private sector will continue to take the lead in developing high-value agriculture and related agro-business, the role of government remains essential in fostering an enabling business environment for market-led growth through stable and undistorted economic incentives and in providing critical public goods and services where private sector is less interested in. Closer collaboration between the public sector, nongovernmental organizations, and the private sector would be extremely beneficial in addressing the combinations of opportunities, risks, and challenges embedded in the wholesale marketing environment in Bangladesh.

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