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From Agricultural Roots to Retail Outlets: A Critical Analysis of Price Jumps and Distributional Dynamics in Bangladesh's Vegetable Markets

Shadikur Rahaman[1], Ruhul Amin[2*]
Department of Public Administration, Stamford University Bangladesh[1]
Department of Public Administration, Comilla University, Bangladesh[2]
Corresponding Email: rubelcou@gmail.com

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Abstract

The goal of this study is to determine the individuals and variables causing Bangladesh's vegetable supply chain price volatility. This study seeks to explain unjustifiable price rises for vegetables, which are vital for nutritional balance and achieving daily dietary needs. To answer the research topic, the study uses qualitative and quantitative data. From January 2024 to May 2025, questionnaires, KIIs, and focus group talks were used to collect data in Bogura. Also studied were policy documents and market price notifications. According to the study, popular vegetables are more likely to fluctuate in wholesale and retail prices. In the actor and factor domains, wholesalers, retailers, and intermediaries caused the price increase. Due to policy gaps in market regulation frameworks, a lack of open monitoring, and inadequate institutional responsibility, these firms drive up prices to maximise profits. The study identified corruption by government officials and private market actors like wholesalers and merchants is essential to this issue. Ineffective traditional market management regulation led to the Directorate of National Consumer Rights Protection. A comprehensive policy framework that assures rigorous market regulation, transparency, and accountability to minimise unexpected and undesirable price rises while protecting consumer rights and happiness is proposed in this paper.

Keywords: Vegetable Price, Market, Supply Chain, Corruption, Consumer Rights, Bangladesh.

Introduction

On May 19, 2024, a popular broadcast media reported a startling contrast: while consumers in Dhaka were paying 80 Taka for just one1 kilogram of brinjal, farmers in Bogura were selling 40 kilograms for the same price; a glaring example of the severe market inefficiencies and price disparities that plague Bangladesh's agricultural supply chain and

consumer domain. Price disparity or more popularly known as price hike refers to an abrupt price change over a very short time that is related to a broad range of market phenomena (Lahaye et al., 2011; Lee, 2012; Zheng & Shen, 2008).

Huge price disparities and price hikes have long been common in Bangladesh, even before its independence in 1971 (Bose, 1973) and these practices have continued in the post-independence era also (Emon, 2023). One of the most prevalent manifestations of this mismatch is the huge difference in the price of very essential products, specially vegetables, between villages to towns. The products which are too much affordable in the rural areas become most expensive after reaching in the urban markets. This phenomenon is significantly normal for the vegetables which produced in the rural areas and transported to the urban centers, specially in Dhaka with an estimated 47,000 people per square kilometer (Hossain & Das, 2015). Better employment opportunities and greater access to modern facilities are the main reasons behind this high population density (Mukherjee, 2022)

However, this disparity in vegetable price has a very negative impact for both farmers and urban buyers. Furthermore, rural producers become deprived of fair prices for their crops because of the layers of intermediaries and ineffective market system. On the contrast, the urban people are forced to provide the greater prices for these same vegetables (Haque & Hoque, 2021). By this system, the farmers are not only become discourages to produce the vegetables but also lose their motivation because of unfair prices and it puts an economic pressure to the urban people as they are highly dependent on rural supply chains. By solving these disparities, it is very necessary to ensure the fair price for the farmers and sustainable agriculture for Bangladesh. Secondly, Bangladesh extreme wealth gap (Titumir, 2021) further exacerbates the crisis around price hike. For instance while officially the per capita income of Bangladesh in fiscal year in 2022 was $2,688,(Jahan & Sobhan 2023). In the same time many people lives under poverty line in Bangladesh by earning USD 2.15$ daily (CPD, 2024), with such wealth gap the price hike makes it impossible for poor people to satisfy hunger, let alone nutrition. As a result, they eventually engaged in either criminal activity or migrate to other areas.

Bangladesh is highly dependent on agriculture for ensuring the prosperity of economy where vegetables play a huge role here (Ferdous et al. 2021) and there are so many other countries in the world also dependent on agriculture like China, USA, Brazil, India, Russia, France, Mexico, Japan, Germany and Turkey and they are the top 10 agricultural producing countries in the world (FAO, 2025). Many countries focus on several options like some are focus on vegetables, some are on fruits, some are nuts, spices and so on. Bangladesh produce a huge amount of vegetables but the matter of sorrow that the producers or the don't get the proper price for their vegetables but if we see the other countries which produce huge vegetables like Egypt, China, Algeria, United States, Indonesia, India, Italy and so on (FAO, 2025) the price mismatch from villages to towns is very rare there. So, the problem lies in Bangladesh and for this reason day by day farmers become demotivated to produce vegetables (Srishty n.d.) which bears the very negative impact to the economy. Bangladesh got her independence in 1971 and the contribution of agriculture to the GDP was around 60 percent but if we see the last few years it's decreasing massively like going from 17 percent in 2010 to

12.6 percent in 2020 (Seraj, 2023) and in fiscal year 2022-23 it's 11.38 percent where in 2022-23 fiscal year, around 45.4% of the employed population was involved in agriculture. So, we have to save our agricultural sector and make sure a strong a strong contribution to GDP. The objectives and research questions of the study are:

Research Objective

General Objective: This research critically examines price transmission mechanisms and distributional dynamics across Bangladesh's vegetable markets, from farm to retail, to identify the causes of price jumps and their effects on producers, intermediaries, and consumers. Besides, the ***specific objectives*** are follows:

a. To measure vegetable price differences between villages and towns.

b. To identify key factors contributing to the disparity.

c. To recommend measures to minimize unjust price gaps.

Research Questions

1. What is the average vegetable price difference between villages and towns?
2. What factors contribute most to the price disparity?
3. How can market inefficiencies be mitigated?

Importance of the Study

This study is of significant importance for policymakers, producers, and consumers alike. In 2024, Bangladesh's agricultural sector accounted for around 11.52% of GDP, with vegetables playing a crucial role in supporting rural livelihoods and household nutrition. Despite the significant production of winter vegetables during peak season, urban retail prices continue to be notably elevated. At Karwan Bazar, cauliflower was priced at Tk 30–32 per kg wholesale, while retail prices reached Tk 60–70, despite farmers' production costs being as low as Tk 11 per piece. In a similar manner, the price of cucumbers ranged from Tk 16 to 20 per kilogram at the farm level, yet it escalated to Tk 50 to 65 per kilogram in the retail markets of Dhaka. The substantial price discrepancies—varying from 80% to 450% in farm-to-retail spreads—highlight a fragmented value chain characterized by 5 to 6 intermediaries who secure considerable margins.

A supply chain study estimates that the margins per kilogram for middlemen are as follows: Local wholesalers (10–30%), divisional wholesalers (5–7%), regional wholesalers (10–12%), and retailers (15–20%), whereas farmers receive a mere 3–4%. Furthermore, this leakage results in economic inefficiencies and social inequities. Consumers, particularly those from low-income households, are significantly impacted by rising prices. Farmers receive insufficient compensation, and significant post-harvest losses—estimated at 30–40% of perishable produce—intensify the issue, resulting from inadequate cold storage and transportation infrastructure.

This study highlights structural inefficiencies and can inform interventions including cold-chain development, streamlined supply chains, regulatory oversight, and direct market access, ultimately enhancing income equity for farmers and ensuring price stability for consumers.

Literature Review

Study on price hike in least developed countries is significant for various reason, and Bangladesh is not an exception. Despite the fact, the scholarship on this domain ranged from suppl chain, through price hike, to production of vegetables are scarce in Bangladesh. The topic about price hike is of great importance form multiple dimensions. Given below is a review of scholarship of relevant literary pieces to establish the research gap. The agricultural sector specially the vegetable market plays a very crucial role for ensuring food security (Arora, 2018) and nutritional aspect (Duncan et al., 2022). Nevertheless, continuous and unexplained price shifting of the vegetables at both retail and wholesale markets is a matter of great concern. These variations of prices negatively affect the consumers and shows the ineffectiveness of supply chain/existing market system (Sayma et al., 2024). This literature review critically shows the existing works on vegetable supply chain systems, price disparity, involvement of actors and factors and institutional accountability for establishing the basement for this research.

In Bangladesh, the vegetable supply chain is typical linear consists of farmers, local assemblers (Rahman & Saha, 2023), wholesalers (Hossain et al., 2020) transporters and retailers (Iftekhar et al., 2020). Existing literature indicates that the is primarily informal and lacks central coordination. Studies showed that farmers are forced to sell their vegetables at a lower price because of the volatility of the products and shortage of cold storage (Molitor & Braun, 2016). Besides, middleman is another threat for getting fair prices of farmers. According to Jackman (2019) the multiple intermediaries take a huge advantage at various levels which alarmingly decrease the farmers share(Chaudhary, 2010). Although seasonal variation, climatic disruptions and transportational problems are not escapable for the vegetable price volatility in Bangladesh, Karim and Biswas (2016) revealed that wholesalers mainly are responsible for this price hike of vegetables. As they supply the vegetables to the retail market, they took the advantage of their platform and creates higher prices.

In that stage, government has to play a very crucial role for removing this exploitation but here we have identified the institutional limitations. Although the Consumer Rights Protection Act 2009 has been formulated and the Directorate of National Consumer Rights Protection (DNCRP) is responsible for its implementation, price regulation in the vegetable market remains weak. Another significant contributing cause to this price discrepancy is corruption. Here, private actors as well as public officials are directly involved. According to Hasan and Rahman (2021), drivers must pay some unlawful tolls on the roads in order to gain proper access, which raises the cost of vegetables as well.

A study conducted by Alam (2016) focusing on assessing the price differences of vegetables was conducted using open ended questionnaire and collecting data from both rural

and urban retailers covering five districts of Bangladesh, the study find out that the price difference in vegetables is severe, around 125%, the study also cited responsible factors such as political turmoil, weak marketing infrastructure, high transport costs and extortion on highways the reason behind price hike, however the study failed to cover respective stakeholders analysis to draw the conclusion, on top of that it only taken into consideration about factors but not actions. Another study conducted after three years supported the notion by illustrating that popular vegetables have a higher tendency to price hike, and the producers sell for less but the retailers earns a inequal profit compared to both producers and transporters (Siddique, 2019). Despite the proven influence of retailers on price hike for vegetables market, another study argued that middle man plays a crucial role to mandate price hike, the study noted that middle man uses his power to negotiate the price of vegetables by using the facility to deliver the goods or produces using his distribution channel (Mehtaj & Hossain 2022).

Various researchers have focused on different components of the vegetable supply chain and price volatility; however, very few have adopted an integrated approach. Most studies are either supply-side focused—addressing farmer-level issues or consumer-focused, emphasizing the impact of high prices, none to covering the entire chain from root to retail. This study attempts to fill that gap by using a mixed-method approach to present a comprehensive overview of the vegetable supply chain in Bangladesh.

Research Methodology

Using a mixed-methods approach, combining both quantitative and qualitative data collection and analysis methods to find out a comprehensive understanding vegetable price disparities from rural to urban areas in Bangladesh.

Study Area

Data were collected from Bogura and Dhaka district. These locations were selected based on their importance in the perspective of vegetable production and distribution and Mohasthan Hat is one of the biggest vegetable markets in northern part of Bangladesh which is located in Bogura and Dhaka, the capital of Bangladesh which consumes largest number of vegetables in Bangladesh. Behind selecting these locations, availability of market tiers within a comparatively close zone was also the reason.

Sampling Technique

A purposive sampling technique was used for selecting the participants. Total 177 respondents were interviewed, consisting of 5 farmers from Bogura (as primary producers), 5 wholesalers from Bogura and Dhaka (as intermediaries), 5 transporters, 5 retailers from Dhaka (final sellers to the consumers) and 157 consumers.

Data Collection Methods

The study focused on two primary types of data: quantitative and qualitative.

- **Quantitative Data Collection:**

Market surveys were conducted for collecting numerical data of the prices of vegetables from several points like from the farmers, from the Hat where the farmers sell their products, and the town market in Dhaka where the final consumers buy vegetables.

- **Qualitative Data Collection:**
  For complementing the numerical data and getting the deeper insights, semi structured interviews were conducted with the same respondents where we focused on the reasons of this price disparity, transportation cost, impact of intermediaries, people's perception and the role of the government.

Finding and Analysis

Table 1 Demographic table of respondents

Variable	Category	Number	Percentage (%)
Age	18-24 (Young)	12	6.78
	25-45 (Adult)	126	71.18
	46+ (Elder)	39	22.03
Gender	Man	136	76.84
	Woman	41	23.16
Education	Educated	144	81.36
	Uneducated	33	18.64
Monthly Income (in Taka)	<10,000	53	29.94
	10,001-20,000	98	53.37
	20,001-30,000	17	9.60
	30,001+	9	5.08
Living Area	Urban	108	61.01
	Rural	69	38.99
Occupation	Consumer	157	33.90
	Farmer	5	48.02
	Transporter	5	4.52
	Wholesaler	5	7.91
	Urban Retailer	5	7.91

The demographic profile of the 177 respondents presents a wide range of demographic characteristics, including age, gender, occupation, income, education, and residential area. According to the age distribution, adults represented the most in the study and majority (71.18%) belonged to the 25–45 age group. Young responders between the ages of 18 and 24 made up 6.78%, while those aged 46 and above comprised 22.03% of the sample. In terms of gender, 76.84% of respondents were male and 23.16% female. In the perspective of literacy level, the sample had a relatively educational attainment while 81.36% were reported as educated and 18.64& identifying no formal education. In terms of monthly income distribution, more than half (53.37%) of respondents ranged between Tk 10,001 and Tk 20,000 where 29.94% earning were less than Tk 10,000. Fewer proportions earned Tk 20,001–30,000 (9.60%) and over Tk 30,000 (5.08%), and it is clear that most respondents exist in the lower-to middle-income category.

In terms of residence, 61.01% of respondents lived in cities, whilst 38.99% of respondents lived in rural areas. The occupational split showed that consumers made up the

largest group (33.90%), followed by farmers (48.02%), urban retailers (7.91%), wholesalers (7.91%), and transporters (4.52%). In this vocational variation, the involvement of numerous actors across the vegetable supply chain is strongly presented.

Table 2 Comparison of Inflated and Actual Prices of Vegetables at Different Stages of the Supply Chain (in Taka per kg)

Vegetables /Stage	Produce r	Middleman		Wholesaler		Retailer	
		Inflated Price (Tk)	Actual Price (Tk)	Inflated Price (Tk)	Actual Price (Tk)	Inflated Price (Tk)	Actual Price (Tk)
Brinjal	20	30	25	55	35	80	45
Tomato	10	20	15	45	25	70	50
Gourd	15	25	20	50	30	60	40
Green Chilli	30	40	35	55	40	80	50
Cauli Flower	10	17	15	35	20	45	30

The table provides a comparative analysis of inflated and actual prices of five vegetables which were brinjal, tomato, gourd, green chili, and cauliflower at four supply chain stages including producer, middleman, wholesaler, and retailer. The data show a steady trend of price inflation at each subsequent stage, with the biggest differences happening at the retail level. For instance, the market price of brinjal exceeds Tk 80, even if the actual fair price at the retail stage is Tk 45. Likewise, tomato, which ought to cost Tk 50 are sold Tk 70. In the case of green chili, 60% markup is shown in the price, which goes from an actual Tk 50 to an inflated Tk 80.

Across all levels, these price increases are disproportionately high. For instance, gourds are supposed to be sold for Tk 40 at the wholesaler's level, but the inflated price is Tk 60. A similar pattern is identified for cauliflower, where the consumer spends Tk 45 even though the fair market price is Tk 30. These findings reveal how intermediaries, particularly retailers and middlemen, driving up prices frequently without adding value in return. As a result, customers bear an excessive financial burden of this inflation. The evidence suggests the necessity of market interventions, enhanced supply chain transparency, and regulatory monitoring for fair pricing and consumer protection.

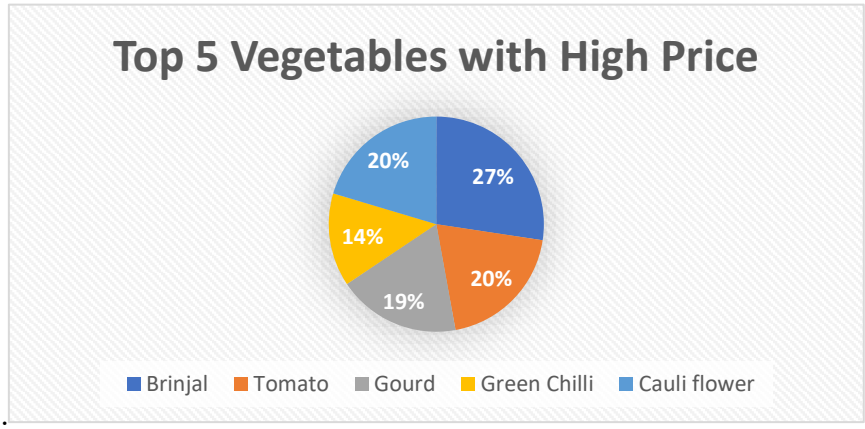

Figure 1 Top 5 Vegetables with High Price

Figure 1 depicts the relative contribution of five commonly used vegetables, brinjal, tomato, cauliflower, gourd, and green chili, to the overall high-price situation found of the local vegetable market and according to the statistics, bears the largest share, accounting for 27% of the perceived cost burden. This implies that due to market manipulation, influences of the middlemen, or supply-demand mismatches, brinjal has emerged as the most inflated vegetable. Tomatoes and cauliflower have a significant impact in the daily vegetable budget also as it consumed 20% of total consumption. As they are essential components of daily cooking, these vegetables are quite sensitive to price changes, and any fluctuation in their market value can have a dramatic impact on the overall expenditures. Gourd, which accounts for 19% of the price pressure, also reflects a significant amount of inflation, while green chili, comprises the least share at 14% but it's is nonetheless a concern due to its crucial role in the local diet and its regular price fluctuations.

The chart clearly shows that 67% of the high price pressure experienced by consumers is caused by three vegetables: brinjal, tomato, and cauliflower. The graph also serves as a guideline for policymakers, indicating where they should focus more to address the unwanted price mismatch in the vegetable market, on which farmers are heavily dependent.

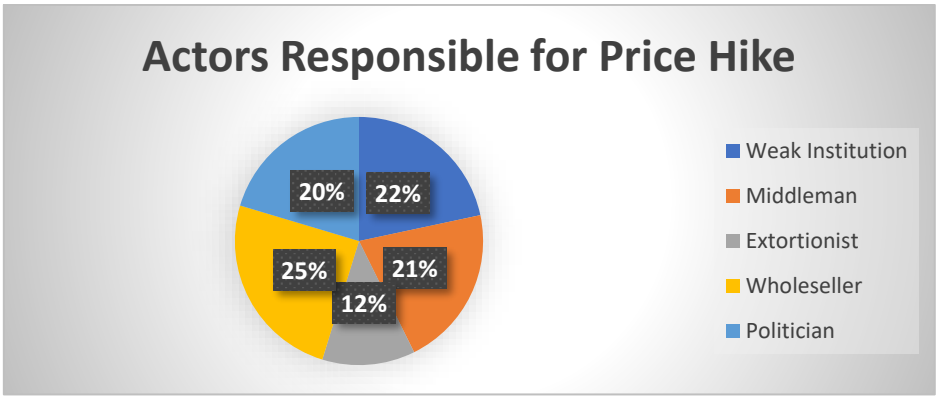

Figure 2 Actors Responsible for Price Disparity

Figure 2 presents the contribution of the top five vegetables to the increased retail prices. Out of these brinjal carries the largest share contributing 27% of the price burden which indicates that this is the highest cost item for the consumers. Followed by tomato and cauliflower which further add 20% which is significant towards household expenditure on food. Gourd contributes 19% and green chili even though being the most used and demanded vegetable contributes the least share at 14%.

The distribution showed in the figure focuses how price pressure in concentrated in three key crops: brinjal, tomato, and cauliflower. These three vegetables mark up 67% of the high-price scenario. This emphasis how urgently their respective supply chains require focused changes. Enhanced monitoring of market transactions, increased intermediary transparency, assistance for efficient farm to market logistics, and effective implementation of equitable pricing mechanisms are a few examples of such interventions. Moreover, the results suggest that these high-burden vegetables should be given priority in any meaningful attempt for stabilizing vegetable prices and protect consumer welfare. Enhancing food affordability for the

general population and establishing more fair price structures may result from addressing inefficiencies or exploitative practices in their distribution chains.

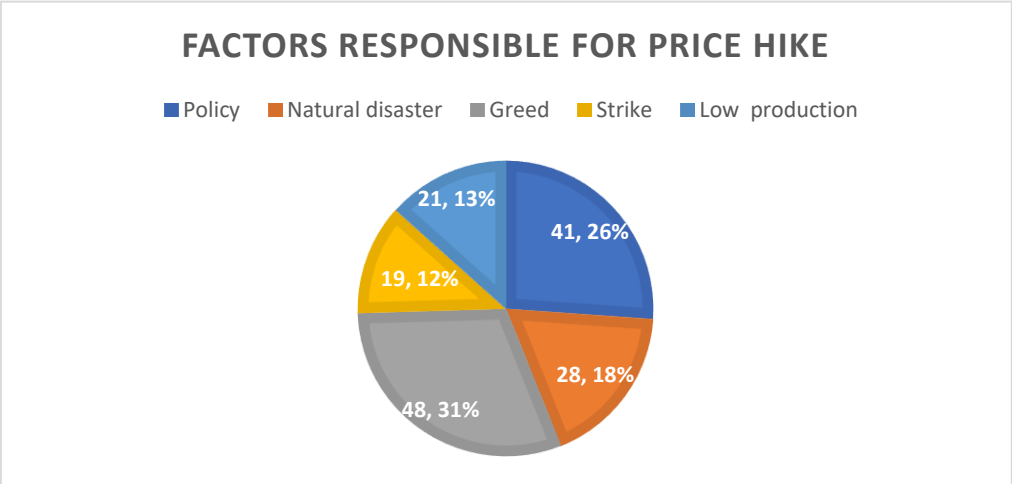

Figure 3 Factors Responsible for Price Hike

Figure 3 reflects the proportionate distribution of five significant vegetables most affected by rising market prices. Brinjal emerges among these as the prime contributor, making up 27% of the overall price inflation and marked as the vegetable which has the greatest disproportionate effect on consumer cost burden. Representing 20% of the total price surge, tomato and cauliflower arrive in second and third, respectively, underscoring their substantial contribution to the higher market pricing. Green chili has the lower share at 14%, while gourd constitutes 19%, indicating comparatively lower price inflation than the other vegetables examined.

According to this distribution, there is a noticing difference across different vegetable items, indicating that some commodities, especially brinjal, tomato, and cauliflower, are more severely impacted by huge pricing pressures within the supply chain. In addition to the reflecting disparities in supply, demand, and market dynamics, the chart's highlight on the inequal pressure suggests structural inefficiencies and possible bottlenecks in veggies' distribution channels.

These results emphasize the urgent need for targeted policy measures and increased regulatory monitoring to boost up supply chain transparency, lower markups by middlemen, and stabilize market pricing. For mitigating high consumer expenditures, ensuring food affordability, and promoting fair access to nutritious vegetables for all consumer segments, these challenges must be addressed. That's why, figure 3 shows insightful information about the vegetable market ecosystem into the priority areas.

Limitations of the Study

Despite utilizing comprehensive mixed-methods approach, this study has several limitations, which are given below:

1. ***Geographical Scope:*** First of all, data were collected only from two districts of Bangladesh, namely, Bogura and Dhaka, which, although significant, may not represent entire stakeholders of vegetables supply chain. It is to be noted that; disparity between rural-urban and local market variations in other areas might differ from selected sample in this study.
2. ***Sample Size and Sampling Technique:*** Although we targeted 177 respondents in purposive sampling, it may limit the generalizability of the findings. If we used larger amounts of samples, it could have reflected more accurate results.
3. ***Temporal Constraints:*** The study didn't cover the seasonal fluctuations and external shocks like natural disasters or the policy effects as it couldn't ensure larger amount of time on data collection.
4. ***Informal Market Dynamics:*** While expressing the nature of vegetable supply chain, the study used a lot of data related to hidden intermediaries, unrevealed transactions and some informal pricing mechanisms which may not be fully accurate or accessible.

Policy Recommendations

To reduce vegetable price disparities and ensure fairness in the vegetable market, the study proposed the following recommendations:

a. Strengthen Market Regulation and Transparency: Regular monitoring and accountability are essential to removing disparities in the vegetable market. Therefore, the government should place strong focus here, so that intermediaries and retailers do not get the opportunity to set exploitative prices.

b. Develop Efficient Supply Chain Infrastructure: By making investments in cold storage, transportation, and logistics, we can lower post-harvest losses and transportation expenses, which will help to mitigate the issues that are now causing the price gap.

c. Empower Farmers through Direct Market Access: Most of the time, farmers can't raise their voices due to the lack of farmers' associations and access to digital marketplaces. These platforms should be established as early as possible.

d. Institutionalize Price Stabilization Mechanisms: For preserving the interest of both producers and consumers and stabilizing the price of the vegetables, such policy tools like minimum price support prices, price ceiling during peak inflation and strategic vegetable reserves should be introduced

e. Capacity building and awareness: Government should immediately take some capacity building and awareness programs to educate farmers, traders, and consumers to ensure fair trade practices. Besides, institutional capacity must be strengthened for enforcement and market oversight.

f. Combat Corruption and Enhance Accountability: As lack of transparency and accountability, corruption, intentional mismanagement are very common in this field, legal enforcement within the marketing bodies and local authorities should be strict and conduct regular audits.

g. ***Support Research and Data Systems:*** Establish updated and modern data systems where the consumers will check the real-time data on prices and supply chain bottlenecks.

Conclusion

A critical challenge in Bangladesh's vegetable supply chain is highlighted by this study: significant price inflation, mainly created by wholesalers, middlemen and market inefficiencies which severely affect urban consumers and reduce farmers' profits. Vegetables like brinjal, tomato, and cauliflower are particularly vulnerable to markup prices at several stages, as the mixed-method analysis shows. This vulnerability is created in absence of regular market monitoring and deficiencies of infrastructure. Solving these issues needs an integrated approach involving regular market regulation, advanced supply chain logistics, enhanced transparency, and empowerment of producers. Without ensuring these reforms, the volatility of vegetables prices will continue to threaten consumer affordability, food security, and rural livelihoods. The findings demonstrate that it's very much urgent that the policymakers, regulators and civil society should work together to establish a more fair, transparent, accountable and efficient vegetable market ecosystem. By giving focused interventions in high-impact vegetables and bolstering governance, Bangladesh can move forward to stabilize price, fair access to fresh produce, and sustainable economic growth.

References

Alam, M. M.-u. (2016). *"Retail Price Differences of Vegetables in Rural-Urban Area of Bangladesh: An Empirical Study". International Journal of Ethics in Social Sciences, Vol.4, No. 1*, ISSN: 2308-5096(P) ISSN 2311-620X (O)

Bose, Swadesh R. 1973. "The Price Situation in Bangladesh? A Preliminary Analysis." *The Bangladesh Economic Review* 1(3):243–68.

Chaudhary, Kalash Ram. 2010. "Analysis of Tomato Marketing System in Lalitpur District, Nepal."

E. Duncan, L. Ashton, A. R. Abdulai, T. Sawadogo-Lewis, S. E. King, E. D. G. Fraser, S. Vosti, J. Haines, F. Knight & T. Roberton. 2022. "Connecting the Food and Agriculture Sector to Nutrition Interventions for Improved Health Outcomes | Food Security." https://link.springer.com/article/10.1007/s12571-022-01262-3.

Emon, Md M. H. 2023. "A Systematic Review of the Causes and Consequences of Price Hikes in Bangladesh." *Review of Business and Economics Studies* 11(2):49–58. doi:10.26794/2308-944X-2023-11-2-49-58.

Ferdous, Zannatul, Farhad Zulfiqar, Avishek Datta, Ahmed Khairul Hasan, and Asaduzzaman Sarker. 2021. "Potential and Challenges of Organic Agriculture in Bangladesh: A Review." *Journal of Crop Improvement* 35(3):403–26. doi:10.1080/15427528.2020.1824951.

Food..... 2025. "Crops and Livestock Products." Online: FAOSTAT. https://www.fao.org/faostat/en/#data/QCL/visualize.

Haider Sayma, Maksuda, Md Rakib Hasan, Mahmuda Khatun, Alimul Rajee, and Amena Begum. 2024. "Detecting the Provenance of Price Hike in Agri-Food Supply Chain Using Private Ethereum Blockchain Network." *Heliyon* 10(11):e30972. doi:10.1016/j.heliyon.2024.e30972.

Hossain SM, Sarker C, Alam MM, Chowdhury KB, and Kamal MG. 2020. "Universepg An Independent International Academic Publisher." *Int. J. Manag. Account.* 2(6):131–46. doi:10.34104/ijma.020.01310146.

Iftekhar, Nasif, Ridwan Uddin Dollar, Md Abdulla al Mamun, and Nahian Ferdouse. 2020. "SUPPLY CHAIN MANAGEMENT OF PERISHABLE GOODS IN SUPERSTORES: A STUDY OF BANGLADESH." *Supply Chain Insider | ISSN: 2617-7420 (Print), 2617-7420 (Online)* 4(1). https://supplychaininsider.org/ojs/index.php/home/article/view/32.

Jackman, David. 2019. "Violent Intermediaries and Political Order in Bangladesh." *The European Journal of Development Research* 31(4):705–23. doi:10.1057/s41287-018-0178-8.

Jahan, Rounaq, and Rehman Sobhan. 2023. *Fifty Years of Bangladesh: Economy, Politics, Society and Culture*. Taylor & Francis.

Karim, Rubayet, and Jony Biswas. 2016. "Value Stream Analysis of Vegetable Supply Chain in Bangladesh: A Case Study." *International Journal of Managing Value and Supply Chains* 7(2):41–60. doi:10.5121/ijmvsc.2016.7205.

Lahaye, Jérôme, Sébastien Laurent, and Christopher J. Neely. 2011. "Jumps, Cojumps and Macro Announcements." *Journal of Applied Econometrics* 26(6):893–921. doi:10.1002/jae.1149.

Lee, Suzanne S. 2012. "Jumps and Information Flow in Financial Markets." *The Review of Financial Studies* 25(2):439–79. doi:10.1093/rfs/hhr084.

Md Atiqur Rahman, Mitul Kumar Saha. 2023. "Analyzing the Existing Value Chains of Fruits and Vegetables in Selected Upazilas of Bangladesh | International Journal of Agricultural Research, Innovation and Technology." *International Journal of Agricultural Research, Innovation and Technology* Vol. 13 No. 1. doi:https://doi.org/10.3329/ijarit.v13i1.68069.

Mehtaj, Mouri, and Dr Belayet Hossain. 2022. "Spatial Price Differences of Vegetables: The Role of Middlemen in Bangladesh." http://space.buft.edu.bd/handle/123456789/50.

Molitor, Katharina, and Boris Braun. 2016. "How Do Smallholders Cope with Food Price Changes? Insights from a Qualitative Case Study in North-Western Bangladesh." *Internationales Asienforum* Vol. 47 (2016)(No. 3–4):227–43.

Mukherjee, Dip. 2022. "ADVANCES IN FACILITIES PREVAIL IN MASS TRANSIT RAILWAY STATION IN ASIAN CITIES INCLUDING DHAKA: A REVIEW."

Naveen Kumar Arora. 2018. "Agricultural Sustainability and Food Security | Environmental Sustainability." https://link.springer.com/article/10.1007/s42398-018-00032-2.

Retail Price Differences of Vegetables in Rural-Urban Area of Bangladesh: An Empirical Study. n.d.

Seraj, Shykh. 2023. "More Attention Needed for the Agriculture Sector." *The Daily Star*, February 11, Online.

Siddique, Shakil Anwar. 2019. "DOCTOR OF PHILOSOPHY In MANAGEMENT."

Social Safety Net Budget of Bangladesh - Catching Some, Missing Many | CPD. 2024. https://cpd.org.bd/publication/social-safety-net-budget-of-bangladesh-catching-some-missing-many/.

Srishty, Mahima Rahman. n.d. "Harvesting Power: Understanding the Dynamics of Agricultural Politics in Bangladesh."

Titumir, Rashed Al Mahmud. 2021. "Poverty and Inequality in Bangladesh." Pp. 177–225 in *Numbers and Narratives in Bangladesh's Economic Development*, edited by R. A. M. Titumir. Singapore: Springer.

Zheng, Harry, and Yukun Shen. 2008. "Jump Liquidity Risk and Its Impact on CVaR." *The Journal of Risk Finance* 9(5):477–92. doi:10.1108/15265940810916139.