

Time for urgent, climate-smart reform in agriculture

Home-grown science offers a roadmap to avert a future food crisis

One of the biggest challenges Bangladesh is facing now—and one that is likely to intensify in the coming years due to climate change—is its food production capacity. Rising salinity in coastal areas, the depletion of groundwater, and increasing temperatures are likely to pose some of the most serious threats to our agriculture in general, and rice production in particular. We must, therefore, urgently address this issue if we are to avert a future food crisis.

In Bangladesh, the average temperature has risen by 0.24 degrees Celsius per decade since 1981, and is estimated to climb another 1.5-2 degrees by 2050, according to the Bangladesh Meteorological Department and the IPCC's Sixth Assessment Report. Agro-scientist Mohammad Kamruzzaman Milon, in a recent article published by this daily, predicts that rice yields may dip by 15-20 percent "unless irrigation, fertiliser, and varietal strategies are re-engineered" for future resilience. The author also pointed out some significant innovations already achieved by our scientists, the timely implementation of which could help significantly mitigate those critical problems.

Through field research in Gazipur, Rajshahi, and Satkhira, a set of low-carbon agronomic practices has been developed that can simultaneously raise yields, conserve resources, and cut greenhouse gas emissions. The findings suggest that Bangladesh can pioneer climate-smart measures that produce more rice with less water, less energy, and a lower carbon footprint. The author identified several innovations that are already in place and can contribute significantly to combating the impact of climate change on our food production system. These are scientifically proven and have been recognised internationally as acceptable options.

What we urgently need now is the required funding as well as changes in our policy direction. The author makes five suggestions that we find worthy of consideration: making all climate and satellite datasets publicly available to enable research by universities and other competent bodies, including those interested in funding such initiatives; integrating verified efficiency and mitigation indicators into the agricultural credit scoring framework of Bangladesh Bank; introducing performance-based incentives that reward farmers for reducing carbon emissions; expanding concessional credit and capacity-building programmes for women- and youth-led agritech ventures; and building a unified monitoring, reporting and verification framework that links agronomic data with financial data.

We seldom write editorials on views expressed in our op-ed columns. However, we find the suggestions made by Mohammad Kamruzzaman to be of sufficient merit and practical value to urge the government and relevant authorities to take immediate note and attach the highest priority to their implementation. We often desperately search for solutions to the myriad problems we face. But this is a case where solutions may already be in our hands. All we need to do is focus on them, coordinate the various bodies that need to be engaged, provide the necessary funding, and expedite implementation. After all, climate challenges must be addressed urgently. We urge immediate action in this area.

Close the health gap for the vulnerable

Stark inequalities in child survival, maternal care remain

The latest Multiple Indicator Cluster Survey (MICS) 2025 lays bare an unsettling truth: poverty and low education are shaping life and death outcomes in Bangladesh. Children from the poorest households are almost twice as likely to die before their fifth birthday compared to those from the richest homes. Among mothers with little or no schooling, the under-five mortality rate rises to 48 per 1,000 live births—more than double that among women with higher education. This is not just a health issue; it reflects deep-rooted social and economic inequities. Development over recent decades has not been inclusive enough, leaving poorer families on the margins of essential services.

Maternal care remains one of the biggest fault lines. While 99 percent of pregnant women in wealthier households receive at least one antenatal care (ANC) visit, this drops to 84 percent among the poorest. The gap widens further for proper, repeated care as only 23 percent of pregnant women in the poorest quintile receive the recommended four or more ANC visits, compared to 68 percent in the richest group. With limited public investment in health and nutrition, low-income families are often forced to rely on private facilities they can hardly afford. The economic strain has only intensified since the pandemic, as rising inflation and food prices have compromised both nutrition and healthcare access. These pressures are reflected in child stunting and wasting rates, which are far higher among poorer households. Moreover, only 21 percent of children from low-income families complete upper secondary schooling, compared with 66 percent among those from wealthier families.

Other indicators reinforce the extent of these disparities. After decades of decline, the total fertility rate has climbed to 2.4, with significantly higher rates among poorer and less-educated women. Adolescent births are also far more common among low-income households—120 per 1,000 women, compared with 61 per 1,000 in the richest group. These trends are linked closely to widespread child marriage, with 65 percent of women in the poorest households married off before 18, while the rate drops to 13 percent among the richest. Education once again emerges as a decisive factor, as adolescent fertility is sharply lower among women with higher levels of schooling.

The survey's findings demand urgent, targeted action. Improving maternal healthcare, expanding nutrition programmes, and ensuring access to quality education for girls—particularly in low-income and low-literacy regions—must be treated as national priorities. Free or subsidised ANC, stronger community health services, and safer delivery options are essential steps. Unless the state confronts these inequalities head-on, the poorest mothers and children will continue to bear the heaviest burden.

Dhaka's fresh fruit economy can't survive on 19th-century logistics



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Dhaka's fruit economy moves through the narrow arteries of Badamtoli, where, before dawn each day, trucks laden with imported Apples from China, Oranges from Egypt, Grapes from South Africa, and dozens of other fruits push through streets never designed for heavy cargo vehicles. By sunrise, several hundred crores of taka in fresh fruit have exchanged hands. This hub, the capital's largest fresh-fruit market, still depends on logistics practices resembling a 19th-century model rather than a modern, temperature-controlled supply chain. The bustling commerce scene at Badamtoli masks a fragile ecosystem overwhelmed by congestion, infrastructural neglect, and a near-total absence of cold-chain facilities. Despite the rapid expansion of both fruit imports and domestic production, the operational methods and the physical environment of Badamtoli have barely changed.

The market grew organically in Old Dhaka, characterised by narrow roads and limited public space. While the location once served modest trade volumes, it is incompatible with the demands of today's import volumes from more than 30 countries and the rise in domestic fruit cultivation. Trucks entering Badamtoli must arrive before 8am or face hours of gridlock. The result is higher transportation and rental costs, frequent failure to meet delivery windows, prolonged queuing under severe heat, and congestion spilling into residential and commuter routes. Without proper warehouses, traders often rely on trucks themselves as makeshift storage, selling fruit directly from non-refrigerated covered vans. Soft citrus, grapes, and berries regularly arrive spoiled, and these losses ultimately cascade down to consumers in the form of higher prices.

Recent increases in storage charges at Chittagong Port Authority have worsened pressure on importers, who already operate under tight margins and strict time constraints. They are now compelled to remove consignments more quickly or face steep penalties. Yet once containers are released, the system offers them nowhere appropriate to go—no temperature-controlled warehouses, no reefer-capable distribution yards, almost no refrigerated vehicles, and continued dependence on informal, non-refrigerated trucks. As a result,



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Badamtoli masks a fragile ecosystem overwhelmed by congestion, infrastructural neglect, and a near-total absence of cold-chain facilities.

importers are forced to push perishable goods into the most congested and least prepared market in the country. Post-harvest losses in Bangladesh's fruit and vegetable sector amount to several crores of taka annually, and the lack of cold-chain infrastructure significantly contributes to this waste.

Bangladesh's problem lies not in a shortage of infrastructure but in its chronic underutilisation. A striking example is the Gabtoli central wholesale market for flowers, constructed with Asian Development Bank financing and recently upgraded by the Department of Agricultural Marketing. Despite featuring modern cold rooms, processing equipment, and six refrigerated vans, the facility has remained largely unused since its inauguration in September 2023. Its gates often stay locked, the vans remain parked for months, and the equipment idle. Political turnover, bureaucratic friction, and disputes among trader groups over stall allocations have rendered this almost 50-crore facility dormant at a time when Dhaka badly needs such a place for its fruit market. Fruit traders—despite facing intense space and storage constraints—have not been strategically integrated into Gabtoli's operations, even though its cold-chain capabilities could immediately relieve Badamtoli's chronic overload.

In efforts to understand why traders

hesitate to adopt improved logistics practices, I engaged multiple times with Serzaul Islam, president of the Bangladesh Fresh Fruit Importers Association (BFFIA). Although our discussions primarily focused on specific operational issues, particularly reefer container use at Pangaon Inland Container Terminal (ICT) and did not encompass a deeper conversation

about systemic needs, they reaffirmed a core truth: at ports, importers face rising cost pressures; outside, they are chronically being underserved by the cold-chain infrastructure. My own tenure as head of Pangaon ICT underscored both the potential and limitations of the facility. We actively promoted reefer-container handling, highlighted the availability of 48 reefer plugs (expandable to more than 200), held consultations with importers, including BFFIA, and encouraged ship operators to adopt realistic riverine freight rates. Yet, structural challenges persisted. Ship operators maintained high reefer freight rates for movement between Chattogram and Pangaon, and Mainline Operators imposed steep inland haulage premiums. Despite adequate technical readiness and available capacity, reefer movement to Pangaon never materialised. But the potential was strong then and remains strong today.

A new opportunity has emerged with the awarding of a 22-year concession for Pangaon ICT to Medlog SA, a global logistics operator. This transition introduces professional management, investment commitments, and dedicated barge services, creating renewed possibilities for Pangaon's revival. If shipping lines cooperate and shipowners rationalise inland reefer freight structures, Pangaon can finally fulfill its intended role. The benefits

are clear: safe and uninterrupted river transport for perishable goods, reduced congestion in Old Dhaka, lower transport costs, reduced spoilage, and the establishment of a modern logistics corridor linking Chattogram to Dhaka. Located just 13-20 kilometres from the commercial core of the capital, Pangaon could profoundly reshape the flow of fresh fruit into Dhaka if properly integrated.

However, the operational paralysis in Dhaka is not solely a logistical issue; it is also a governance issue. Effective reorganisation or relocation of wholesale activities requires coordination between Dhaka South City Corporation (DSCC), which oversees the Badamtoli area, and Dhaka North City Corporation (DNCC), responsible for Gabtoli. Historically, fragmented jurisdiction and the lack of unified direction have prevented progress. Without clear guidance from national leadership, large-scale market reforms rarely advance. Infrastructure alone cannot resolve the bottlenecks; coordinated policy action, economic incentives, and trader participation are essential.

Bangladesh now has an opportunity to modernise its fresh fruit supply chain by connecting Badamtoli, Gabtoli, and Pangaon into a cohesive logistics ecosystem. Gabtoli's cold-chain facilities could be activated and repurposed by allocating space to fruit traders on subsidised terms, deploying refrigerated vans for last-mile distribution, and using cold rooms for short-term storage of high-value fruits. Reefer container movement to Pangaon could be encouraged through reduced inland haulage premiums, temporary incentives such as barge fee rebates or port charge reductions and guaranteed frequent barge services. A pilot initiative involving a small group of Badamtoli traders could test a Pangaon-to-Gabtoli distribution route, demonstrating reductions in spoilage and cost while building trader confidence. Improved connectivity—leveraging the Padma Bridge, expediting the Kalakandi-Hemayetpur corridor, and integrating Pangaon with peri-urban distribution centres—would strengthen the broader logistics chain.

With growing fruit consumption, rising import volumes, and higher domestic production, Badamtoli cannot continue as Dhaka's de facto national fruit gateway, while Gabtoli remains idle despite substantial public investment. Similarly, Pangaon cannot remain underutilised while congestion paralyses Old Dhaka. The country possesses the essential components; what it needs now is the collective will to assemble them into a modern, efficient, cold-chain-driven logistics system that reflects the needs and scale of a 21st-century fresh-fruit economy.

It is time to legally recognise climate refugees



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Every year in Bangladesh, many people are being displaced as rising seas, shifting rivers, and extreme weather conditions steadily consume the land beneath their feet. With every flood, cyclone and erosion event, thousands of people lose both their shelter and legal identity tied to their land, which turns them into refugees in their own country—a new class of citizens who are displaced not by conflict but by climate.

Though river erosion is one of the most visible causes of climate displacement, it is only a part of a larger nationwide emergency. According to a United Nations Framework Convention on Climate Change (UNFCCC) report, approximately sixty lakh people in Bangladesh have already been displaced by climate-related hazards, including cyclones, storm surges, coastal flooding and salinity intrusion. From the drought-prone fields of Rajshahi, Naogaon to the salinity-hit coasts of Khulna, Satkhira, along with the cyclone-devastated shores of Barguna and Bagerhat, the impacts of climate change are uprooting families across the country.

Rising sea levels have turned fertile

lands into saline wastelands due to global warming. Cyclones and floods regularly jeopardise habitats, while droughts decimate productivity in agricultural lands. Climate-driven migrants in Bangladesh come from all kinds of landscapes. Their backgrounds may vary, but they share one reality—Bangladesh's legal framework still lacks formal rights and protective mechanisms for them.

The Constitution of Bangladesh guarantees equal protection under law and the right to life, livelihood, and property for every citizen. But these guarantees lose their true meaning when climate disasters obliterate the only land a person owns.

Existing land laws, especially the State Acquisition and Tenancy Act, 1950, and the Land Management Manual, 1990, were designed for a stable geography. But these particular laws do not account for land that disappears permanently due to climate change. As a result, millions of displaced families have no formal right to rehabilitation, reallocation, or recognition, having their records valid on paper but meaningless in reality.

Some people may argue that

Bangladesh's existing land laws already address river-based land loss through the doctrines of *alluvion* and *diluvium* (natural processes where rivers gradually add or wash away land). However, these statutes are only applied when land reappears and can be reallocated to the original owner. They were crafted for slow and reversible changes but not for

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permanent, large-scale losses caused by climate change.

The rules offer no legal solution when land sinks under the sea or becomes uninhabitable. The law focuses on the movement of rivers but not on the movement of people.

According to the International Organization for Migration (IOM), the number of Bangladeshi people already displaced could reach 1.3 crores by 2050. Yet, none of them are recognised in any national law or international treaty. Bangladesh's Climate Change Strategy and Action Plan (BCCSAP)

2009 acknowledges the problem, but it remains only a policy document, not a binding legal instrument.

Bangladesh can be a leading example by creating a climate displacement law or amending existing land legislation for the betterment of the climate-displaced people. Legal scholars and experts suggest several reforms to strengthen Bangladesh's response to climate-driven displacement, including (i) legal recognition of climate refugees in national law, ensuring that they will not be treated as invisible victims of climate change; (ii) creation of a national climate rehabilitation board under the Ministry of Land to oversee identification, relocation and long-term rehabilitation of affected populations; (iii) rightful and fair allocation of khas-lands for resettlement so that displaced families receive secure tenure and a sustainable livelihood; (iv) providing gender responsive property protection, particularly for widowed, abandoned or landless women, who face severe vulnerability during displacement; and (v) creation of a climate justice fund for providing financial support to the displaced people.

The promise of constitutional rights fades when the ground beneath citizens' feet quietly disappears. Ensuring recognition, rehabilitation, and effective land rights for the climate-displaced people is not just a policy reform but a constitutional and moral obligation. By adopting proper measures, Bangladesh can stand as a global voice for climate justice.