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UNSAFE PESTICIDE USE IN BANGLADESH

Are we poisoning our food in the name of productivity?

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Agricultural crops are frequently affected by pests, weeds and diseases, which can significantly reduce crop yields and compromise food security. To address these challenges, pesticides have been widely adopted as an effective tool for protecting crops, minimising losses and enhancing productivity. Over the last few decades, Bangladesh has witnessed a dramatic increase in pesticide consumption. Reports indicate that pesticide imports rose from 3,000 metric tonnes in 1990 to over 45,000 metric tonnes in 2021 (DoE, 2022).

An expert from the Bangladesh Agricultural Research Institute (BARI) reported that chemical fertiliser use has increased from 8.8 kg per hectare to 700 kg per hectare. Data from the Department of Agricultural Extension (DAE) show that approximately 77% of farmers apply pesticides more than twice during a cropping season, while nearly 95% do not observe the recommended pre-harvest interval (PHI) before harvesting. According to scientific research reported by the Soil Resource Development Institute (SRDI) in 2022, about 80% of the country's agricultural land is losing organic matter. The SRDI's research has also raised serious concerns about soil contamination and food safety in the country. A Bangladesh Bureau of Statistics (BBS) survey conducted in 2025 found that 44.37% of farmland is productive and sustainable, but only 1.20% qualifies as highly efficient.

Given the way pesticides are currently used, regulating and controlling their spread and effects is extremely difficult. Pesticides disperse through the air, soil and water, eventually spreading far beyond the areas where they are applied. Once released into the environment, pesticides can have a variety of consequences. Directly applied pesticides may be washed away by surface runoff, or they may percolate through the soil into deeper layers and groundwater. They can alter soil microbial diversity, inhibit soil respiration and contribute to soil infertility. In Bangladesh, pesticide-induced topsoil contamination has become a major environmental concern. One study reported that the application of 1 kg of pesticide per hectare can contaminate the upper 30 cm of soil. Another long-term study conducted in rice fields in the Jhenaidah and Kushtia districts found that the combined use of chemical fertilisers and different pesticides significantly reduced the nitrogen and carbon content of the soil, indicating a deterioration in soil quality.

Farmers in developing countries often have limited knowledge of the proper handling of pesticides and face a higher risk of health hazards due to excessive exposure and inappropriate application procedures. Alarmingly, only 4% of farmers understand proper pesticide use, while 47% are completely unaware of appropriate safety measures and take no precautions. The recurring detection of multiple pesticide residues in vegetables over the past decade underscores the growing risks to human health. Pesticide exposure can cause a variety of health problems, both chronic and acute, among farmers and consumers alike. Major health impacts associated with chronic exposure include cancer, reproductive and endocrine disruption, neurological damage and immune system dysfunction. A survey conducted by the National Institute of Cancer Research and Hospital (NICRH) found that 64% of cancer patients in Bangladesh are farmers, with unsafe pesticide application practices identified as a major contributing factor.

Due to their acute risks to human health and the environment, at least 17 active pesticide ingredients have been classified by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) as highly hazardous pesticides (HHPs) worldwide, particularly because of their persistence, bioaccumulation and long-term harm to non-target organisms. Paraquat and glyphosate are among the most hazardous of these pesticides. Around 70 countries have banned paraquat due to its extreme toxicity, while more than 10 countries have banned glyphosate. However, Bangladesh continues to use both. A study by the Bangladesh Crop Protection Association (BCPA) identified 25 highly hazardous pesticides (HHPs) that are registered and currently used in Bangladesh, raising significant concerns about public health and environmental safety.

These problems are largely caused by weaknesses in pesticide governance, including inadequate monitoring, weak enforcement, poor institutional coordination and limited accountability. Insufficient oversight of pesticide sales and use, along with inadequate training and awareness, has contributed to the misuse and overuse of pesticides. This reveals a significant gap between existing policies and their effective implementation. The Department of Agricultural Extension (DAE), under the Ministry of Agriculture (MoA), is the principal agency responsible for enforcing pesticide-related laws in Bangladesh. Despite its institutional responsibilities, the DAE appears to exercise limited oversight of local markets, where farmers continue to use numerous unknown and unregistered pesticide products. Illegal, expired and highly hazardous pesticides are reportedly entering the country through unauthorised channels and being sold without regulatory approval. Furthermore, the DAE website does not provide up-to-date data on pesticide registration, monitoring or enforcement, limiting transparency and public access to current information.

At the local level, farmers lack access to lists of registered pesticides and adequate safety guidance. Many are unaware of the importance of personal protective equipment (PPE) or what to do in cases of pesticide poisoning. Consequently, farmers tend to rely directly on dealers and retailers rather than agricultural officers, as dealers are more accessible and readily available. This dependence can contribute to inappropriate pesticide use and increased health risks. However, the Department of Agricultural Extension (DAE) has instructed local authorities to verify pesticide registrations before laboratory testing. It also has the authority to immediately seize unregistered products and initiate legal action through mobile courts in cases of violations. The DAE has also issued instructions prohibiting the sale of pesticides, particularly high-risk chemicals such as glyphosate and paraquat, in damaged packaging or open bottles due to the serious risks they pose to public health, livestock and the environment. Nevertheless, these pesticides continue to be used by farmers without effective regulatory intervention.

The Pesticides Act, 2018, established a comprehensive regulatory framework to control the entire lifecycle of pesticides, including their import, manufacture, formulation, packaging, repackaging, sale, distribution and use, with the aim of safeguarding human, animal and environmental health. The Act mandates the compulsory registration of pesticide brands and prohibits the approval of products that pose risks beyond their targeted pests. It empowers the relevant authorities to cancel registrations, restrict the import of adulterated or misbranded pesticides, revoke the registration of ineffective pesticides and enforce compliance through testing laboratories and expert advisory bodies.

The Act also requires mandatory testing of imported pesticide samples before their release onto the market and authorises inspectors to collect samples, conduct searches and seize products where necessary. It further strengthens the enforcement framework by providing for the confiscation of illegally marketed pesticides and empowering mobile courts to adjudicate certain pesticide-related offences. These provisions have the potential to strengthen regulatory control over the pesticide market, provided that the relevant authorities ensure effective monitoring, accountability and enforcement. However, there is little visible evidence of penalties being imposed or illegal, adulterated or misbranded pesticides being seized, raising serious concerns about the effectiveness of the Act's implementation. Conversely, the Act has certain limitations from a farmer-protection perspective. In particular, it does not establish a clear and comprehensive mechanism for compensating farmers who suffer financial losses, health problems or environmental harm resulting from pesticide contamination, improper application or misuse. The absence of such remedial provisions limits the Act's effectiveness in ensuring adequate protection and access to redress for affected farmers.

Despite these legal provisions, existing regulatory measures have failed to effectively control the use of unsafe pesticides and prevent food contamination. Political and institutional apathy, coupled with weak enforcement, has undermined the effectiveness of the existing legal framework. The government must ensure strict enforcement of the law, hold responsible authorities and pesticide companies accountable for violations, and prioritise the health and interests of farmers and consumers over commercial interests. Without effective monitoring, meaningful penalties and legal accountability, existing laws will remain largely ineffective.

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BANGLADESH'S ARTICLE 26 CHALLENGE

Reforming laws, protecting workers' rights

TASLIMA AKTHER

Just as we cannot breathe without oxygen, we feel suffocated when we cannot speak our minds freely or organise to defend our rights. We lived through such suffocation and isolation under the previous fascist regime. Speaking out could mean losing one's job, being demoted, punished or transferred, or even facing attacks, criminal cases, enforced disappearance or murder. Fear followed us everywhere.

The desire to escape that suffocating sense of isolation is closely connected to Article 26, a term that has attracted considerable attention in discussions about Bangladesh's labour environment in recent years. It encompasses labour law reform, freedom of association, easier trade union registration, the elimination of discrimination and unfair labour practices, and improvements to the government's labour inspection system. Addressing Article 26 is essential to protecting workers' lives, livelihoods and freedom of expression, strengthening Bangladesh's standing in global markets, and sustaining economic growth.

Bangladesh, as a member of the International Labour Organisation (ILO), has ratified three conventions: Convention 81 on labour inspection, Convention 87 on freedom of association, and Convention 98 on the right to organise and collective bargaining. However, Bangladesh's failure to implement these conventions adequately led to a complaint being lodged in 2019 under Article 26 of the ILO Constitution. Today, all three parties in the labour sector, the government, employers and workers, are particularly interested in resolving the complaint and implementing the necessary reforms. International representatives and domestic tripartite stakeholders are also actively engaged in the process. The ILO Governing Body is scheduled to meet this November, and the roadmap sets a deadline of March 2027.

The ILO and the Bangladesh government have identified four priorities in their roadmap for resolving the Article 26 complaint: labour law reform, trade union registration, labour inspection and enforcement of the law, and measures to address anti-union discrimination, unfair labour practices and violence against workers.

LABOUR LAW REFORM: UNDERSTANDING THE PROGRESS

To assess the first priority, the Labour Act 2026, we need to look back at the history of labour law reform in Bangladesh. Of all the amendments made to the Labour Act since 2006, two sets of reforms stand out as particularly significant: those of 2013 and 2026. On 24 April 2013, approximately 1,175 workers lost their lives in the Rana Plaza collapse. Just three months later, the labour law was amended, with changes to 87 provisions.

Thirteen years later, in 2026, another 92 provisions were amended. These changes followed the mass uprising, in which thousands of young people, students, workers and ordinary citizens lost their lives. On 20 November 2025, Bangladesh also ratified ILO Convention 155 on Occupational Safety and Health, Convention 187 on the Promotional Framework for Occupational Safety and Health, and Convention 190 on Violence and Harassment in the World of Work. The stated purpose of these reforms was to strengthen workers' rights to life, livelihood and freedom of expression.

I believe these changes would not have been possible at this time without the mass uprising. History shows that collective movements and the loss of lives compel governments to respond and consider new measures. Both the interim government and the democratically elected government that followed acted on the foundations laid by the uprising.

It cannot be denied that the 2026 law represents positive progress in the history of Bangladesh's labour movement, both in protecting workers' rights and in developing the labour sector. However, some provisions and ambiguities in the law could allow the problems underlying the Article 26 complaint to persist, even if the complaint is formally resolved. There is therefore an urgent need to formulate clear and consistent rules, amend existing provisions and, where necessary, enact further legislation.



When workers cannot speak freely or exercise their rights, society as a whole ultimately suffers. VISUAL: **REHNUMA PROSHOON**

Trade union registration must be simplified, labour inspection and labour courts expanded, and effective action taken against unfair labour practices. These measures will work only if workers remain united, vigilant and properly prepared. Without continued collective engagement and struggle, Article 26 may disappear from the formal agenda while the underlying restrictions remain embedded in other conditions.

FOUR PRIORITIES FOR MEANINGFUL REFORM

Workers, employers and the government must now concentrate on the four priorities identified in the roadmap. The following measures deserve particular attention.

1. Labour law reform and democratic rule-making

The priorities should be to amend the law wherever necessary; formulate implementing rules promptly through a democratic and participatory process; ensure that the drafting of laws and rules is free from intimidation and the undue influence of powerful interests; bring the laws governing export processing zones (EPZs) into line with the Labour Act 2026; guarantee the right to form trade unions in EPZs through appropriate legislation; ensure that workers' representatives can lead initiatives concerning workers' welfare in EPZs; and guarantee access to EPZs for the Ministry of Labour and labour inspectors.

2. Simplifying trade union registration and guaranteeing freedom of association

Trade union registration must become straightforward and free from harassment. Applications should be approved, or reasons for rejection communicated, within the statutory limit of 55 days. The registration system should gradually become fully digital, supported by a proper database.

Employers must maintain accurate worker registers and ensure that both the government and workers have access to them. The number of workers should not be verified through misinterpretations of Section 178(2)(a)(5) of the Labour Act, nor should applicants be required to submit unnecessary certificates or additional documents. Since 20 workers constitute the initial requirement for forming a union, the rules should not impose a separate application form that creates further obstacles. Documents submitted during registration, including workers' membership forms under Form 55A, resolution books and voter identification documents, should be returned within a specified period after objections have been resolved. Pre-registration assistance provided by the Department of Labour must become effective.The geographical boundaries for forming unions across groups of establishments should be determined through a simple process and in consultation with workers' representatives. Above all, workers must be able to exercise their right to bargain collectively and effectively with employers in practice, not merely on paper.

3. Expanding labour inspection and labour courts

The number of labour inspectors, labour courts, Department of Labour offices and Department of Inspection for Factories and Establishments (DIFE) offices must be increased. Inspectors should receive appropriate training, particularly in identifying workplace hazards and occupational health risks. Labour inspection must be thorough and effective, with transparent and accountable procedures. Cases should be resolved within reasonable timeframes. Services provided by DIFE, the Department of Labour and workers' welfare funds should also be made available online to improve accessibility and accountability.

4. Ending anti-union discrimination, unfair labour practices and violence against workers

Effective measures are needed to prevent discrimination, harassment and other unfair treatment in the workplace. Workers must not be dismissed or punished for forming or joining trade unions. Workers and trade union leaders should receive regular training on their responsibilities, legal rights and available remedies. Such training should be organised both separately and through tripartite initiatives.

Trade union leaders should also be trained to serve as trainers themselves. Awareness and vigilance among workers must be strengthened so that they can quickly identify unfair treatment, rights violations and harassment in the workplace and report these incidents to the appropriate authorities. Workers must also be able to pursue their demands collectively through democratic means.

REFORM MUST GO BEYOND THE LAW

We hope that the tripartite efforts to resolve the Article 26 complaint will succeed and that the reforms will be genuine rather than merely symbolic or confined to paper. The process must go beyond appearances. It must be free from political interference, abuses of power and harassment. Otherwise, laws and rules may exist on paper while workers' rights to life, livelihood and freedom of expression remain unprotected.

The absence of a minimally democratic environment, including freedom of expression and freedom of association, benefits neither workers nor employers nor the government. When workers cannot speak freely or exercise their rights, society as a whole ultimately suffers.

The changes discussed here are essential to improving productivity and enabling Bangladesh's economy to meet the challenges it faces in global markets.

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