



Public Policy and Agribusiness Transformation: The Political Economy of Agricultural Training Initiatives in Bangladesh

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To cite this article:

Marufa Begum. Public Policy and Agribusiness Transformation: The Political Economy of Agricultural Training Initiatives in Bangladesh. *International Journal of Multidisciplinary Informative Research and Review*. Vol. 2, No. 3, 2025, pp. 32 - 37.

Abstract: Bangladesh's agricultural sector remains the backbone of its economy and employs more than 40 % of the labour force, even though its share of GDP has declined to around 11 % (World Bank, 2011). Structural transformation, climate change and urbanization are driving a shift from subsistence farming toward commercial agribusiness. Public policy has responded by expanding extension services and training initiatives to equip farmers, dealers and other actors with the skills needed for climate-resilient, market-oriented agriculture. This paper examines the political economy of these training initiatives and assesses their contribution to agribusiness transformation. Based on secondary sources, it reviews policies such as the National Agricultural Extension Policy (NAEP 2020), National Agriculture Policy (NAP 2018), and the National Food and Nutrition Security Plan (NFNSP 2020). It analyzes interventions including BRAC's adaptation clinics, digital extension programs (PlantwisePlus), training of trainers (ToT) on food systems governance, and climate-resilient agriculture workshops. The analysis highlights how political dynamics, gender and class inequalities influence training outcomes and agribusiness transformation. Policy recommendations stress the need for inclusive, long-term training, greater private-sector engagement, digital solutions and institutional reforms to overcome urban bias and support sustainable agribusiness.

Keywords: GDP, Agribusiness, Rural Livelihood, Agriculture, Climate-adaptive training.

1. Introduction

Agriculture is central to Bangladesh's food security and rural livelihoods. Approximately three-quarters of the population depend directly or indirectly on farming, and the sector employs roughly 40 % of the labour force while contributing about 11 % of GDP (World Bank, 2011). The Green Revolution boosted rice production through high-yielding varieties and irrigation, but technology adoption has been uneven because of land fragmentation, limited credit, gender inequalities and weak extension services (World Bank, 2011). As Bangladesh urbanizes, policies increasingly aim to transform agriculture into a commercially oriented agribusiness sector that integrates farmers into value chains and creates off-farm jobs. Training and capacity building are key elements of this transformation.

Agricultural training initiatives have proliferated in recent years. The government's New Agricultural Extension Policy emphasizes training extension workers and farmers to adopt modern technology (FAO & Ministry of Agriculture, 2020). The Department of Agricultural Extension (DAE) and various development partners conduct programmes on integrated farm management, high-value crop production, climate resilience and digital extension services (TAAS, 2020). NGOs and private firms also provide training: BRAC's adaptation clinics offer one-stop advisory services and climate-adaptive training to farmers (BRAC, 2025), while PlantwisePlus trains agro-input dealers and agricultural instructors to use digital decision-support tools (CABI, 2024a). However, questions remain about who benefits from these initiatives, how they are influenced by political and economic power structures, and whether they effectively contribute to agribusiness transformation. This paper addresses these questions by examining the political economy of agricultural training in Bangladesh.

2. Methodology

This study uses a qualitative secondary-data approach. Literature from peer-reviewed journals, government policy documents, reports from international organizations, news articles and NGO websites (published through January 2026) were systematically reviewed. Key sources include:

- Academic analyses of agricultural structural transformation and the impacts of extension services (World Bank, 2011; Alam et al., 2024);
- Policy documents such as the FAO–Ministry of Agriculture synthesis of agricultural policies (FAO & Ministry of Agriculture, 2020), the National Food Systems Pathway Document (2025) (UNFSS Secretariat, 2025), and the DLEC desk study on extension services (Huber & Davis, 2017);
- Reports and blogs detailing recent training initiatives—including BRAC’s adaptation clinics (BRAC, 2025; The Business Standard, 2024), CABI’s PlantwisePlus digital extension programs (CABI, 2024a; CABI, 2024b), climate-resilient agriculture training at Bangladesh Agricultural University (BAU) (BSS, 2025a), and Good Agricultural Practices (GAP) certification training for entrepreneurs (BSS, 2025b);
- Articles on the political economy of state interventions in the food-grain sector (Islam, 2014);
- News pieces on the Training of Trainers program for food-systems governance (CGIAR, 2025).

The analysis synthesizes these sources to identify patterns in training objectives, delivery mechanisms, beneficiaries and political influences. It also situates training initiatives within broader agribusiness transformation and structural change.

3. Agricultural Extension Policies and Training Programs

3.1 Policy frameworks

Bangladesh’s agricultural training landscape is shaped by multiple policies. The National Agricultural Extension Policy (NAEP 2020) aims to develop a decentralized extension system, enhance productivity and mainstream gender, with training of extension workers and farmers as core components (FAO & Ministry of Agriculture, 2020). The DAE strategic plan emphasizes assessing farmers’ information needs, strengthening research–extension linkages and training service providers, while the Seed Policy provides technical support and training for seed production and quality control (FAO & Ministry of Agriculture, 2020). The FAO–Ministry of Agriculture synthesis further recommends a comprehensive training program for farmers, dealers and technicians at the upazila level and community-based group farming training systems (FAO & Ministry of Agriculture, 2020).

The National Food Systems Pathway Document (2025) articulates plans to transform livelihoods through capacity building for women and youth. It pledges to invest in infrastructure, technology, education and extension services to achieve sustainable food systems (UNFSS Secretariat, 2025). Tailored vocational skill training—including literacy skills—will be promoted to empower youth and women and motivate them to engage in agriculture and agribusiness (UNFSS Secretariat, 2025). The document also calls for enhanced access to extension services and formation of producer groups and cooperatives to achieve economies of scale (UNFSS Secretariat, 2025). Overall, these policies recognize training as essential for modernizing agriculture and achieving the Sustainable Development Goals (SDGs).

3.2 State-led and donor-supported programs

Bangladesh’s extension system delivers training through a pluralistic network of public, private and civil society actors. The DLEC desk study notes that extension traditionally focused on rice production but expanded to include livestock, fisheries and vegetables, with training on input selection, soil health, climate change adaptation, post-harvest management and marketing (Huber & Davis, 2017). The DAE implements community-based extension services, high-value crop promotion, integrated farm management via Farmers Field Schools, and climate resilience programs that provide demonstrations and training (TAAS, 2020). The Horticulture Development Board and state research institutes also offer training on production technology and nutrition, particularly to urban women (TAAS, 2020). These programs often receive support from development partners such as USAID, World Bank, FAO and International Fund for Agricultural Development (IFAD).

The government has introduced training programs to support mechanization and value-chain development. For example, the National Agricultural Technology Program (NATP II) trains farmers and technicians on operating and maintaining machinery, although the World Bank notes that service providers often receive only short on-the-job training and lack repair and maintenance skills (Rahman et al., 2021). A recent Good Agricultural Practices (GAP) training under the

Program on Agricultural and Rural Transformation for Nutrition, Entrepreneurship and Resilience (PARTNER) provided 50 farmers and entrepreneurs with information on GAP certification and export standards (BSS, 2025b). The training was presided over by high-level officials from the Ministry of Agriculture, illustrating government commitment to aligning production with international markets.

3.3 Climate adaptation and resilience training

Climate change poses serious threats to Bangladesh's agriculture through extreme weather, salinity and pest outbreaks. To address these challenges, BRAC's Climate Change Program launched Adaptation Clinics in 2018. These clinics serve as one-stop service centres where farmers access information, high-quality inputs and services like crop storage (BRAC, 2025). BRAC reports that more than 180,000 farmers have received climate-adaptive training through this network (BRAC, 2025). The clinics provide office-based advisory services, including soil and water testing and distribution of climate-tolerant seeds and high-value crops. Training covers climate-tolerant techniques such as trellising, raised beds, mulching and vermicomposting (The Business Standard, 2024). To reach women and remote farmers, BRAC also operates mobile adaptation clinics that deliver training and advisory services in village courtyards, enabling women to learn about adaptive technologies and mechanization without leaving their homes (The Business Standard, 2024).

State universities and international organizations conduct climate resilience workshops. In October 2025, Bangladesh Agricultural University (BAU), with support from FAO and the DAE, hosted a three-day training on climate-resilient agriculture focusing on pest management and nature-based solutions (BSS, 2025a). The workshop, part of a regional FAO project, trained 20 participants (including dealers, deputy assistant agriculture officers and students) to adopt science-based pest management and sustainable practices. Such targeted workshops bridge research institutions and field practitioners, though their scale remains limited.

Digital tools are transforming agricultural advisory services. CABI's PlantwisePlus program partnered with the DAE to develop a national e-extension system and train instructors and agro-input dealers. Instructors at Agricultural Training Institutes received training on how to use CABI's Knowledge Bank and online courses (CABI, 2024a). The same program is developing a mandatory certification scheme for agro-input dealers that includes comprehensive training curricula and remedial programs for semi-literate dealers (CABI, 2024b). While these initiatives show promise, corporate interests can influence training curricula toward promoting certain inputs or technologies rather than sustainable practices. Effective governance is needed to balance commercial incentives with public goods.

4. Political Economy of Agricultural Training

4.1 The implementation of agricultural training initiatives is shaped by political and economic power relations

The design and implementation of agricultural training initiatives are shaped by political and economic power relations. An IFPRI study on the political economy of Bangladesh's food-grain sector argues that urban industrial workers and middle classes exercise greater political influence than dispersed small farmers, leading to policies that extract resources from agriculture through low producer prices and favour urban interests (Islam, 2014). This urban bias reduces public investment in rural infrastructure and extension services. Farmers' weak collective organization and dependence on patronage limit their ability to demand better training and support. Consequently, training programs may be underfunded, inadequately targeted or oriented toward the needs of large commercial farmers.

Elite capture can also distort training benefits. Some extension programs prioritize villages or farmers with strong political connections, while marginalized groups—such as landless women or ethnic minorities—receive less support. The DLEC report notes that training has historically focused on rice and men, with limited attention to livestock, fisheries and gender issues (Huber & Davis, 2017). Donor projects introduce gender training, but these efforts may not be sustained outside donor project areas (Huber & Davis, 2017). A 2024 study assessing NGO training for farm women found that short-term training programs had no significant impact on women's household income or food expenditure because they did not assess women's needs and were too short in duration (Wahid et al., 2024). This suggests that training design must account for gendered constraints such as mobility, childcare and land access.

4.2 Competing interests and coordination challenges

Multiple ministries and agencies—Agriculture, Food, Health, Livestock, Fisheries and Women's Affairs—share responsibilities for training and agribusiness development. Coordination across these institutions is often weak. The UNFSS Pathway document emphasizes coordinated governance through an integrated multistakeholder, multi-sectoral and

multi-level approach (UNFSS Secretariat, 2025), but bureaucratic silos and political rivalries often hinder joint planning. Donor-funded programs may create parallel systems that bypass national institutions, reducing sustainability. For example, digital extension pilots rely on project funding and risk discontinuation once donors withdraw (Rahman et al., 2021).

Private sector engagement is growing but remains fragmented. The World Bank's agrifood transformation report notes that private service providers, such as PRAN Foods and contract farming companies, offer training to farmers, but integration with DAE extension services is limited (Rahman et al., 2021). The PlantwisePlus agro-dealer training initiative demonstrates potential for regulatory reform and private-public partnerships (CABI, 2024b). However, corporate interests can influence training curricula toward promoting certain inputs or technologies rather than sustainable practices. Effective governance is needed to balance commercial incentives with public goods.

4.3 Agribusiness transformation and market linkages

Training initiatives are part of a broader agribusiness transformation strategy that seeks to diversify crops, increase value addition and connect farmers to markets. Bangladesh's agricultural policies encourage contract farming, producer groups and cooperatives to achieve economies of scale (UNFSS Secretariat, 2025). High-value crops (e.g., horticulture, dairy, poultry) are promoted through targeted training (TAAS, 2020). Programs supported by the Global Agriculture and Food Security Program train farmers on digital literacy, business planning and climate-resilient practices, enabling them to access export markets and reduce costs (GAFSP, 2024). The PARTNER program's GAP training for entrepreneurs reflects a drive to meet international food safety standards (BSS, 2025b). Such initiatives can enhance competitiveness and incomes, but they also expose farmers to price volatility and require robust market infrastructure.

Agribusiness transformation is further complicated by climate change, which increases production risks and demands adaptive capacity. Extension services must therefore integrate climate resilience, risk management and financial literacy. The Heliyon article on extension and technology adoption underscores that adoption of new technologies raises productivity but can be risky; extension services can reduce risk by educating farmers and providing timely information (Alam et al., 2024). Effective training should thus combine technical skills with risk management and market intelligence.

5. Discussion

5.1 Effectiveness of training initiatives

The reviewed evidence shows that Bangladesh has made significant strides in expanding agricultural training through state policies, donor programs and NGO initiatives. BRAC's adaptation clinics demonstrate innovative approaches to climate-resilient extension, reaching 180,000 farmers with advisory services and mobile clinics (BRAC, 2025; The Business Standard, 2024). PlantwisePlus interventions integrate digital tools into curricula and develop mandatory training for agro-dealers (CABI, 2024a; CABI, 2024b). Government-organized workshops on GAP certification and climate-resilient agriculture indicate growing attention to international standards and climate challenges (BSS, 2025b; BSS, 2025a). The SHiFT ToT program expands the scope of training to governance and nutrition (CGIAR, 2025).

However, the effectiveness of these initiatives varies. Many programs are small in scale or pilot projects, limiting their reach relative to millions of farmers. Short-term training, such as the women's empowerment programs studied in 2024, often fails to produce lasting impacts (Wahid et al., 2024). Institutional weaknesses—such as urban bias, elite capture and fragmented coordination—undermine equitable access to training (Islam, 2014). Private sector training may prioritize input sales over sustainable practices. Moreover, extension agents themselves may lack ongoing professional development; the DLEC study reports that the DAE trains field-level extension agents upon induction but offers no continuing education (Huber & Davis, 2017).

5.2 Recommendations for policy and practice

- a) Invest in inclusive, long-term training: Programs should provide sustained, hands-on training tailored to farmers' needs rather than one-off sessions. Gender-responsive approaches are essential; training schedules and venues must accommodate women's time constraints and mobility (The Business Standard, 2024). Training should also target youth and marginalized groups, offering pathways for entrepreneurship and employment.
- b) Enhance coordination and governance: The government should establish mechanisms for inter-ministerial coordination and integration of donor programs into national systems. The ToT on food systems governance is a step toward building institutional capacity (CGIAR, 2025). An advisory committee on research and extension, as proposed by policy recommendations (FAO & Ministry of Agriculture, 2020), could guide training priorities and

- c) Leverage digital technologies: Expand e-extension services and digital training platforms, building on PlantwisePlus and DAE initiatives. Provide affordable connectivity and devices to rural communities. Digital tools should complement, not replace, in-person training and should include farmer feedback mechanisms.
- d) Engage private sector with safeguards: Encourage responsible private-sector involvement in training—such as agro-dealer certification—while regulating curricula to prevent bias toward unsustainable inputs (CABI, 2024b). Partnerships with agribusiness firms should include clauses on fair contracting, safe pesticide use and environmental standards.
- e) Integrate climate resilience and risk management: Training curricula must incorporate climate-adaptive practices, weather forecasting, crop insurance and financial literacy. Adaptation clinics and climate-resilient agriculture workshops provide models for such integration (The Business Standard, 2024; BSS, 2025a).
- f) Promote market literacy and value-chain development: Build farmers' capacity to understand quality standards, contract terms and export requirements. Support producer groups and cooperatives to strengthen bargaining power and reduce transaction costs (UNFSS Secretariat, 2025). Provide training on digital marketing and mobile banking (GAFSP, 2024).

6. Conclusion

Agricultural training is a pivotal instrument in Bangladesh's pursuit of agribusiness transformation. Public policies—such as the NAEP 2020, NAP 2018 and NFNSP 2020—recognize training as essential for productivity growth, gender equality and climate resilience. Recent initiatives—including BRAC's adaptation clinics, PlantwisePlus digital programs, FAO-supported climate-resilience workshops and ToT programs on food systems governance—illustrate a dynamic and pluralistic training landscape. Yet, the political economy context—characterized by urban bias, elite capture and weak coordination—continues to shape who benefits from training and how effectively it contributes to agribusiness transformation. Ensuring that training reaches smallholders, women and youth; integrating market and climate considerations; and strengthening institutional governance will be critical to harnessing the full potential of agricultural training. Addressing these challenges will help Bangladesh build a resilient, inclusive and competitive agribusiness sector capable of sustaining livelihoods and achieving the SDGs.

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