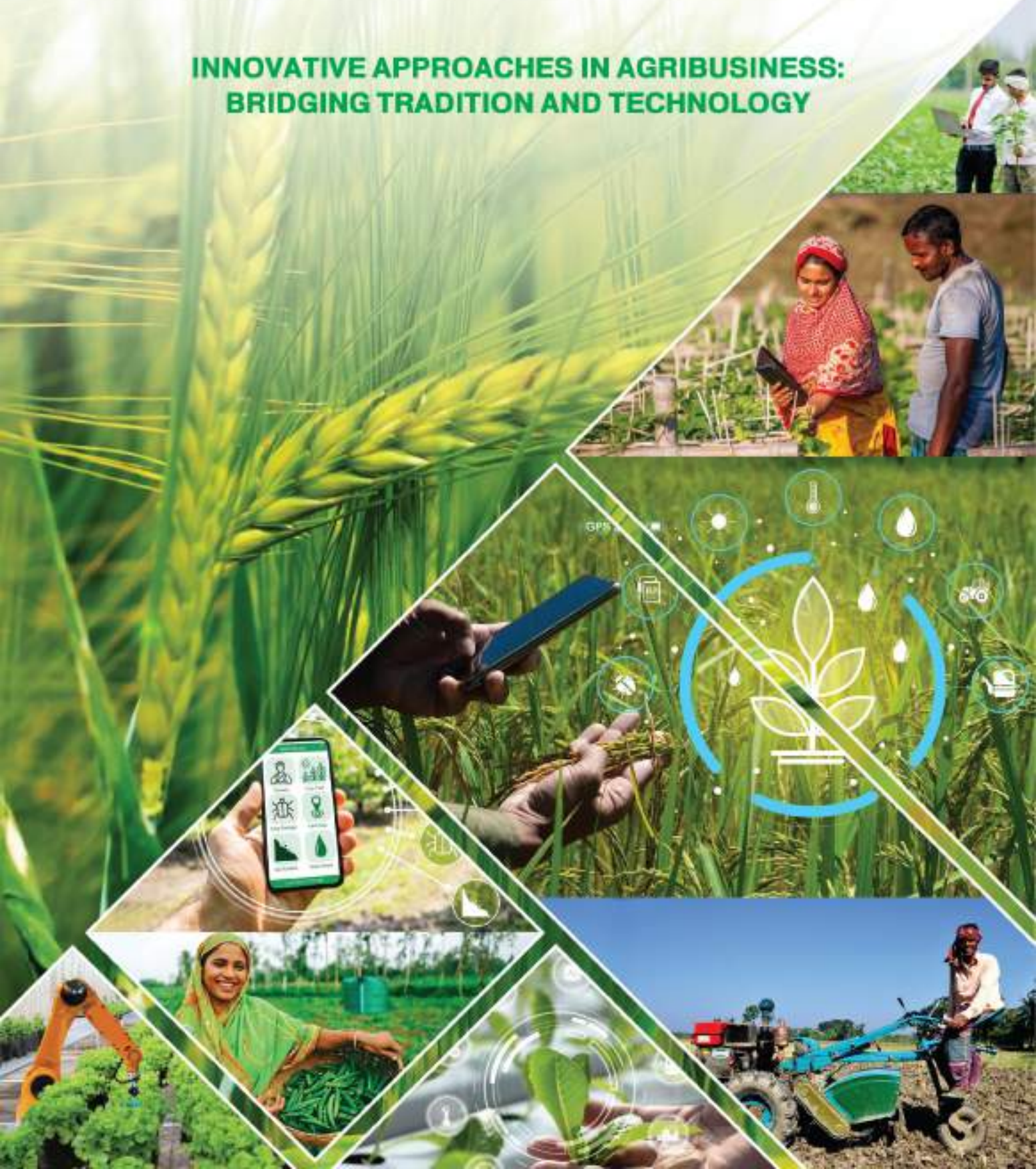


**INNOVATIVE APPROACHES IN AGRIBUSINESS:
BRIDGING TRADITION AND TECHNOLOGY**





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From the desk of Editor



We have dedicated the current edition of the FICCI Monthly Bulletin on Agribusiness. This edition is enriched with insightful articles from notable contributors, including the Country Representative of the Food and Agriculture Organization (FAO), the Representative of the World Food Programme (WFP), and the Country Director of the International Fund for Agricultural Development (IFAD). We are also proud to feature a keenly contributed article by the Chairman of PRAN. Additionally, this edition contains articles from ACS Bangladesh Limited and other esteemed member companies.

Agriculture remains a key driver of growth and a vital means of promoting inclusive growth and achieving the Sustainable Development Goals (SDGs). The future robustness and growth of agribusiness will hinge on the management of agroecosystems, mechanization, geoprocessing, diversification, and commercialization.

As a business chamber, we are committed to promoting inclusive growth and supporting sustainable national development goals. Alongside our regular activities, we organize monthly events such as Luncheon Meetings and Leaders Talk, dedicated to exploring crucial business opportunities that harness the potential for sustainable and inclusive growth.

We publish the FICCI Monthly Bulletin every month, and this edition is a testament to the invaluable contributions of our distinguished authors and member companies. Their resourceful and insightful articles provide a wealth of knowledge and perspectives, helping our readers and stakeholders explore novel and innovative potentials in agribusiness for sustainable inclusive growth.

We extend our heartfelt thanks to all contributors for enriching this edition. We hope you find the articles both useful and inspiring as we work together to unlock the untapped prospects of agribusiness.

T. I. M. Nurul Kabir



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MESSAGE FROM THE PRESIDENT

Dear Fellow Members, Colleagues, and Stakeholders,

As we navigate the global business landscape, the theme for this month's bulletin **Innovative Approaches in Agribusiness: Bridging Tradition and Technology** is appropriate for current time. The agribusiness sector is undergoing a transformative shift, seamlessly integrating traditional practices with cutting-edge technologies to enhance productivity, sustainability, and market access. This is a pivotal moment for businesses worldwide to reimagine the future of agriculture.

Agriculture has long been the backbone of our economy, and its significance remains undiminished. However, the need for innovative solutions has never been more critical. From precision farming powered by data analytics to AI-driven crop monitoring tools, technology is shaping a new era for the agribusiness industry. These advancements are not only boosting yields but also enabling smarter resource management, reducing environmental impacts, and ensuring better financial returns for farmers.

At FICCI, we firmly believe in the potential of collaboration between technology providers, traditional farmers, and investors to create sustainable and scalable solutions. It is encouraging to see more startups and established players working together to explore opportunities for innovation, improving the livelihoods of millions while contributing to the global food security agenda.

We also recognize the importance of fostering a supportive ecosystem where public policy, funding mechanisms, and global partnerships come together to back these transformative changes. The synergy between tradition and technology in agribusiness has the power to drive inclusive growth and build a more resilient, future-ready sector.

This bulletin features insightful articles from our esteemed stakeholders, industry experts, and members, highlighting their experiences, challenges, and successes in adopting innovative approaches within the agribusiness sector. Their stories are a testament to the transformative power of technology and its potential to revolutionize our industry.

I extend my heartfelt thanks to all our contributors for their invaluable insights and expertise. Their contributions are essential to enriching our publication and providing our readers with comprehensive and thought-provoking content. I also deeply appreciate the patrons, sponsors, and the FICCI Secretariat for their significant efforts in bringing this bulletin to fruition.

Thank you for your unwavering support and dedication to FICCI.

Warm Regards,

Zaved Akhtar
President, FICCI



&



SEMINAR ON KOREA-BANGLADESH ECONOMIC COOPERATION

JOINTLY ORGANIZED BY SOUTH KOREAN EMBASSY AND FICCI

FOLLOWING ORGANIZATIONS HAVE CONTRIBUTED THE SEMINAR WITH PRESENTATIONS



The Foreign Investors' Chamber of Commerce and Industry (FICCI), in collaboration with the Embassy of the Republic of Korea, hosted a seminar titled "Korea-Bangladesh Economic Cooperation" on November 3, 2024, at The Westin Dhaka. The event aimed to forge a forward-thinking economic cooperation model between Korea and Bangladesh.

Adviser to the Ministries of Industries and Housing & Public Works Adilur Rahman Khan graced the event as the Chief Guest while Executive Chairman of the Bangladesh Investment Development Authority (BIDA) and the Bangladesh Export Processing Zones Authority (BEZA) Chowdhury Ashik Mahmud Bin Harun was present as the Special Guest.



The seminar showcased a lineup of influential speakers, including high officials from the Korean Embassy, the Korea Trade-Investment Promotion Agency (KOTRA), KBCCI, KOTRA, KEXim Bank, KIND, and representatives from various Bangladeshi and Korean businesses. All the speakers recall with gratitude that the Republic of Korea's recognition of Bangladesh as an independent state, at a very early stage of our independence in 1972. Since 1973 after the diplomatic relationship was established, Bangladesh attaches great importance to the relation with the Republic of Korea, our tested and trusted friend and an important development partner.

In his remarks, Chief Guest Adilur Rahman Khan highlighted the urge of strengthening economic ties with Korea is vital for Bangladesh's development and how this seminar lays the groundwork for collaboration that will benefit both nations and enhance investment opportunities.



Special Guest Chowdhury Ashik Mahmud Bin Harun focused on how excited BIDA is about the prospects of Korean investment in our industries, particularly in sectors like manufacturing and technology. Together, the public and private sector can create a robust framework for economic growth. He mentioned joining the ASEAN conference. He explained his plans with the new business development team inside BIDA. He promised to work on the long-awaited National Single Window to smooth the bill clearing process.

FICCI President Zaved Akhtar expressed his gratitude to the Embassy of the Republic of Korea and the Korea-Bangladesh Chamber of Commerce & Industry (KBCCI) for partnering with FICCI to organize the seminar. He emphasized that this collaborative approach is crucial for driving innovation and development, which will unlock new investment opportunities.

The KBCCI President Shahab Uddin Khan thanked FICCI for its unwavering commitment to fostering international economic ties, which is helping Bangladesh attract more FDI. He highlighted that seminars like these serve as vital platforms for driving economic cooperation. Looking ahead, the KBCCI is eager to continue partnering with FICCI to champion the interests of businesses and promote economic growth in the region.



Keynote Speaker Samsu Kim, Director General of the Korea Trade-Investment Promotion Agency (KOTRA), delivered a compelling presentation on "Increasing FDI in Bangladesh through Korea's Success Factors." He provided insights into effective foreign direct investment policies based on Korea's experiences and emphasized the importance of enhancing trade and investment ties between the two nations. With facts and figures he described the investment opportunities and mechanisms to the audience.

HE Park Young-sik, Ambassador of the Republic of Korea shared crucial insights on Free Trade Agreements (FTAs) and their significance for Bangladesh. His presentation addressed the necessity of Korea-Bangladesh Economic Partnership Agreements (EPAs), the implications of Bangladesh's entry into the Regional Comprehensive Economic Partnership (RCEP) and offered recommendations for improving Bangladesh's FTA policies. He also mentioned the post-LDC graduation phase which will require a lot of hard work by both the government and the private sector in order to overcome a lot of challenges. He assured us that the Embassy will play a pivotal role in this transition.

SUK MIN KO, Managing Director of Prime Cap (BD) Limited, contributed to the discussions with a presentation on "Enhancing Bangladesh's Manufacturing Sector through Korean Garment Enterprises." He explored the dynamics of Bangladesh's ready-made garment (RMG) industry, covering various challenges and opportunities for foreign entrepreneurs, including workforce demands, policy implications, and the importance of efficiency and transparency.

Representatives from Samsung Electronics Hwan Seong Woo presented on the "National Equipment Identity Registration (NEIR) to Protect the Mobile Industry," outlining the necessity of NEIR and the full process of it in details, addressing the grey market, and discussing potential solutions.

Woo Jung-Hyun, a representative from Korea Eximbank, elaborated on the Economic Development Cooperation Fund (EDCF), highlighting its contributions to Bangladesh and its role in financing development projects. EDCF is an ODA loan program by Korea and contributing to the development of Bangladesh's infrastructure. Drawing on Korea's own development experience over the years, the EDCF assists partner countries by providing funding for their industrial development and economic stability.

Kim Si-Hyung, Director of the Korea Overseas Infrastructure & Urban Development Corporation (KIND), discussed the importance of public-private partnerships (PPPs) in strengthening development cooperation in Bangladesh, showcasing ongoing and prospective projects. He elaborated the whole concept based Korean overseas development case studies and how they implemented them in Korea. He also mentioned how PPP can be implemented in Bangladesh Development Scheme.

The seminar was attended by FICCI President with the members of Board of Directors, CEOs and relevant experts of FICCI member companies, and Diplomates, provided a vibrant platform for discussion. Participants engaged in meaningful dialogue focused on innovative strategies to strengthen economic partnerships, fostering growth and development in both Korea and Bangladesh.

AGRICULTURAL TRANSFORMATION IN BANGLADESH: FAO'S ROLE IN PROMOTING SUSTAINABLE AND RESPONSIBLE INVESTMENTS



Food and Agriculture
Organization of the
United Nations

Dr. Jiaoqun Shi

FAO Representative in Bangladesh
Food and Agriculture Organization of the UN



The agricultural sector is fundamental to the economy of Bangladesh, providing livelihoods for millions and driving food security, serving as a lifeline for millions and about 45 percent of Bangladeshis are employed in the agricultural sector. It has been instrumental in bolstering national food security and uplifting rural livelihoods. More than 85 percent² of farmers are smallholders with less than a hectare of land each, whereas 55.2 percent³ of the agricultural labour force is female. As the economy of Bangladesh continues to develop, agriculture will play a significant role.

Over recent decades, Bangladesh has achieved remarkable progress in agricultural productivity, attaining self-sufficiency in staples like rice and enhancing food security for countless communities. Challenges related to production, post-production, commercialization, and climate vulnerability are curtailing productivity, value addition, and profitability. Future productivity will depend on **sustainable mechanization, diversification, management of agroecosystems, and commercialization**. Recognizing the importance of robust agribusiness and sustainable agricultural practices, the Food and Agriculture Organization of the United Nations (FAO) is working closely with the Government of Bangladesh to support technical innovations and transformations that can uplift the entire sector.

The Government of Bangladesh, in collaboration with FAO and the private sector, has outlined a comprehensive long-term plan centered on four **Priority Investment Areas (PIAs)** aimed at sustainable agricultural development. These PIAs include:

- agro-processing, marketing, and commercialization
- climate-resilient, climate-smart agriculture
- irrigation and water management
- post-harvest management including cold chain and supply chain management

This plan leverages technical expertise from FAO, the government's policy framework, and private sector investment to create a balanced approach to transforming Bangladesh's agriculture sector sustainably.

FAO is a specialized agency of the United Nations, dedicated to spearheading global efforts to eradicate hunger under the guidance of its member states. FAO works alongside these nations to identify and address key challenges in food security, agriculture, and rural development. Since Bangladesh joined FAO in 1973, the organization has been a crucial partner in the country's ongoing development journey.

FAO operates with a clear mandate aimed at achieving a more resilient, sustainable, and inclusive agricultural sector. FAO's Strategic Framework contributes to the achievement of the 2030 Agenda and three Global Goals of Members by supporting the transformation to MORE efficient, inclusive, resilient and sustainable agrifood systems for Four Better: **Better production, better nutrition, a better environment, and a better life**, leaving no one behind.

1. BBS Quarterly Labour Force Survey 2023: https://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/96220c5a_5783_4628_9494_950862acc8b0/2024-01-25-10-03-aad49f9f2b77ab7c2090397260777a3.pdf

2. FAO Documents: <https://www.gafspfund.org/sites/default/files/inline-files/G-CP%20BGD%20064%20GAP%20Terminal%20Report%2022-09-2023.pdf>

3. World Bank Gender Data Portal 2022: <https://genderdata.worldbank.org/en/indicator/sl-empi-zs>

Strategic Alignment:



Figure 1: Four Betters of FAO



Figure 2: FAO Strategic results framework and programme priority areas

- FAO's work in Bangladesh is guided by the Country Programming Framework (CPF), aligned with FAO's "Four Betters," Programme Priority Areas (PPAs), Regional Priorities, and the Bangladesh Government's Eighth Five-Year Plan.
- It also aligns with the United Nations Sustainable Development Cooperation Framework (UNSDCF) 2022 - 2026, the Sustainable Development Goals (SDGs), and FAO's Strategic Framework 2022-2031.
- FAO Bangladesh CPF 2022-2026, which has an indicative budget of **USD 125 million** ⁴
- FAO's overall vision and viewed through the guiding lens of SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 10 (Reduced Inequalities).
- FAO is the custodian UN agency for 21 SDG indicators

The CPF 2022-2026 outlines FAO's strategic priorities, key areas of technical cooperation, and medium-term country-level programming activities, organized around **Four main pillars**:

1. Productive, diversified, sustainable and inclusive agro-economic growth
2. Healthy, safe, and nutritious food for all
3. Climate resilience and nature-based, low-carbon sustainable development
4. Gender equality and youth development

FAO country office has four (4) corporate flagship initiatives:

- ▶ Hand-in-Hand Initiative (HiHi)
- ▶ One Country One Priority Product (OCOP)
- ▶ Digital Village Initiative (DVI)
- ▶ Green Cities Initiative (GCI)

4. FAO-CPF 2022-2026 (3.2; page 13); <https://openknowledge.fao.org/server/api/core/bitstreams/063b1d2e-5594-43ff-a629-cd671e3bb2d4/content>



Hand-in-Hand Initiative (HiHi)

In Bangladesh, the Hand-in-Hand Initiative supports investments addressing post-harvest losses. While crop production has increased, storage infrastructure to reduce food loss and boost exports has been lacking. Therefore, investments focus on cold storage and agro-processing facilities to reduce post-harvest losses by 25-50 Percent.

One Country One Priority Product (OCOP)



In Bangladesh, the One Country One Priority Product (OCOP) initiative highlights jackfruit as Special Agricultural Products (SAPs). This initiative aims to promote these fruits' sustainable production and market potential, supporting inclusive, profitable agrifood systems while leveraging their unique agricultural value in the country. FAO is keen to enhance support in exporting mangoes from Bangladesh to promote the product at global, regional and local levels by using the unique tools Geographical Indications Environment & Sustainability (GIES) to trace the geographical origin of a SAP.

Digital Village Initiative (DVI)



The flagship DVI has played a crucial role in establishing 55 Digital Village Service Centers across the northern and southern regions. These centers are dedicated to delivering a range of digital services, from agricultural solutions to educational resources and billing services, aimed at supporting smallholder farmers, including youth and women. FAO remains committed to driving agricultural transformation through digitization.

Green Cities Initiative (GCI)



The Green Cities Initiative (GCI) in Bangladesh was implemented through a global project "Green Cities initiative (GCI): building back better for climate and resilient sustainable transitions". FAO worked with the City Government and local universities to promote GCI actions, facilitated multi-stakeholder cooperation, demonstrating the municipality's commitment to comprehensive and sustainable green urban development. These initiatives highlight a steadfast dedication to fostering a supportive atmosphere for effective and inclusive policy formulation. The Local Government in Bangladesh developed Green City Charter Vision, established Green City Working Groups, and developed GCI curriculum in local schools as well.

FAO's Portfolio in Bangladesh:

FAO's portfolio in Bangladesh is extensive, addressing multiple aspects of agriculture, food security, and sustainable development to support the country's goals in alignment with its national strategies and the Sustainable Development Goals (SDGs).

- Implemented more than 380 Technical Assistance projects with a combined budget of USD 420 million since 1973 when Bangladesh joined FAO.
- A total of 29 active projects with a total budget of USD 56.84 million while more than 18 global and regional projects are also operational in the country.
- FAO projects encompass a wide range of focus areas, including crops, fisheries, livestock, nutrition, food safety, urban food systems, agricultural transformation and digitalization, emergency response, climate resilience, and forestry.
- Nine ministerial partners including the Ministry of Agriculture, Ministry of Food, Ministry of Fisheries and Livestock, and the Ministry of Environment, Forest and Climate Change.

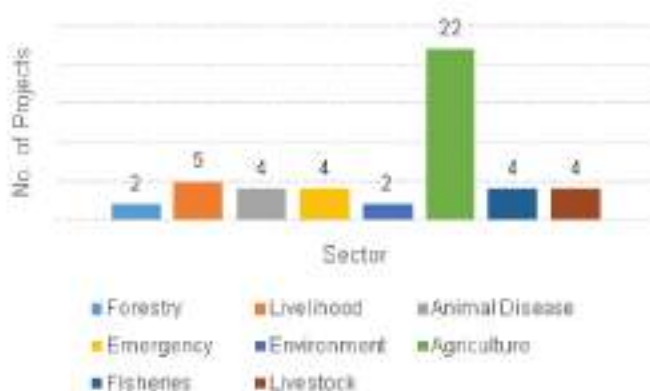


Figure 3 : a) Ongoing TA Projects of FAO by sub-sectors

FAO's Project related to Agricultural Transformation

- ▶ The **ACCESS Project** empowers smallholder farmers by strengthening **producer organizations (POs)** to address community needs. Through capacity-building, investment grants, and monitoring, the initiative enhances access to finance, markets, and technology, boosting livelihoods. Partnering with the **Sara Bangla Krishak Society (SBKS)**, FAO has helped over **10,000 farmers** achieve a **35 percent income** rise and mobilize **USD 1M in financing**. ACCESS supports **8,000 smallholder farmers** across **80 POs** in **27 agribusiness** clusters within Bangladesh's southern coastal and northern drought regions. **With USD 4.75M invested**, it fosters climate-smart investments via revolving loan funds and external financing partnerships, driving sustainable, inclusive farming communities.
- ▶ **Technical Assistance to Smallholder Agricultural Competitiveness Project (SACP)** enhanced resilience and income of **250,000 households** in Bangladesh's southern coastal zones by diversifying crops, improving productivity, and strengthening market access through capacity-building and technical assistance.
- ▶ **Technical Assistance to the SACP and RAINS projects enhance agricultural resilience and food security for smallholders** in Bangladesh where SACP promotes high-value crops and market competitiveness, while RAINS addresses food and nutrition resilience amidst climate and economic shocks. By integrating climate-smart techniques, boosting productivity, and strengthening supply chains, these initiatives drive income growth and sustainable rural livelihoods. Training programs like Farmer Business Schools and participatory rural appraisal (PRA) equip farmers with essential skills for market engagement. Together, the projects build climate-adaptive, inclusive systems, mitigating food insecurity and fostering sustainable economic growth in rural areas.
- ▶ **Technical Support to Agriculture Sector Transformation Programme of Bangladesh** drives sustainable agro-economic growth through policy analysis, investment planning, and technology promotion. It develops regional investment plans for six "hotspots" under the Bangladesh Delta Plan 2100 and provides tools to evaluate ATP-related public spending. Through the PARTNER initiative and South-South and Triangular Cooperation (SSTC), it supports innovative technologies and prioritizes partnerships to enhance agricultural transformation. These efforts aim to address investment gaps, strengthen institutional capacity, and foster sustainable agricultural growth in Bangladesh.
- ▶ **FAO supporting the host communities adjacent to twelve Rohingya camps and four sub-districts (Cox's Bazar Sadar, Ramu, Ukhia, Teknaf) in Cox's Bazar, Bangladesh**, with a focus on improving food security and resilience. Cox's Bazar, one of the poorest districts in Bangladesh, is home to the world's largest Rohingya camp. Both the FDMNs and the host communities face severe food insecurity, with the latter being among the most vulnerable in the country. According to the February-March 2024 Integrated Food Security Phase Classification (IPC)⁵, 45 percent of FDMNs and 30 percent of the host communities in Cox's Bazar are in food crisis. FAO supports (through four active projects at Cox's Bazar) agricultural livelihoods, provides technical assistance to local institutions and NGOs, and works to restore socio-ecological systems through sustainable land management and forest restoration. These integrated efforts aim to address immediate needs while promoting long-term sustainability and resilience.

Altogether, around 11 projects⁶ are currently underway in Bangladesh, contributing to the agricultural transformation projects on development of the jackfruit value chain, community-based climate-resilient fisheries and aquaculture development, inclusive investment in agri-food systems through the Hand in Hand Initiative (HHI) etc.

FAO's Aspiration in the Coming Years: Supporting Bangladesh's LDC Graduation

Bangladesh is on the verge of graduating from its status as a Least Developed Country (LDC), a pivotal milestone reflecting significant strides in economic growth and human development. However, this transition also presents challenges, particularly the potential reduction in access to certain forms of development assistance, including preferential trade agreements that have helped bolster exports in the past. As Bangladesh prepares for this transition, the role of the FAO will be crucial in ensuring that the country not only navigates this shift successfully but also builds a sustainable foundation for continued growth in the post-graduation era.

In collaboration with the Ministry of Agriculture, its agencies, and FAO, several key priority areas have been identified as part of a Smooth Transition Strategy (STS) for LDC graduation. Some of these priority areas include:

- ▶ enhance agricultural production by promoting technological innovations,
- ▶ enabling global investment environment and inviting investment in establishing modern agricultural industries,
- ▶ promote Sustainable Agricultural Mechanization (SAM) through adopting appropriate scale machineries which are commercially viable, socially acceptable and environmentally sustainable,
- ▶ increase production of import-dependent agricultural products to reduce import of agricultural products dependent on global aid.

⁵ IPC: <https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156935/?iso3=BGD>
⁶ Data Source: FAO-FPMIS

- ▶ reduce dependence on chemical fertilizers by motivating farmers to use locally produced organic fertilizers.
- ▶ increase rainwater harvesting, and encourage the use of solar powered irrigation.
- ▶ increase public-private (co-financing) cooperation instead of ongoing financial incentives to develop emerging agribusiness entrepreneurs.
- ▶ capacity building of producers through effective research and technology application aimed at increasing exports.



Long-Term Vision for Post-Graduation Growth:

FAO's overarching aspiration is to help Bangladesh transform its agricultural sector into a dynamic, diversified, and climate-resilient system capable of thriving in the competitive global marketplace. This vision includes transitioning from aid dependency to self-reliance, where agribusinesses play a central role in driving economic growth and poverty reduction. Through this support, FAO seeks to ensure that Bangladesh's journey toward middle-income status is sustainable, equitable, and inclusive.

By investing in human capital, technology, and resilient infrastructure, FAO's approach not only aids Bangladesh in meeting the immediate challenges of LDC graduation but also ensures long-term sustainability and prosperity for its agricultural sector. Through a strategic mix of digital innovation, climate resilience, inclusive growth, and robust policy frameworks, FAO's continued support will be instrumental in enabling Bangladesh to secure a successful and prosperous future.



Short Bio:

Dr. Jiaoqun Shi, FAO Representative in Bangladesh

Dr. Jiaoqun Shi has joined as the new Representative for the Food and Agriculture Organization of the United Nations (FAO) in Bangladesh on 31 December 2023. Shi, a national of China, holds a Master of Laws and a Bachelor of Arts in History from Wuhan University, and a Doctor of Philosophy in Law from the National Academy of Governance in China. He joined FAO in 2019 as Senior Compliance Advisor to the Deputy Director-General at FAO headquarters in Rome, Italy and since January 2021, he had been serving as Special Adviser at the FAO Regional Office for Asia and the Pacific (RAP) in Bangkok, Thailand.

IFAD - UNLOCKING ECONOMIC POTENTIAL IN RURAL BANGLADESH



Investing in rural people

Dr Valentine AchanchoCountry Director for Bangladesh
International Fund for Agricultural
Development (IFAD)

The International Fund for Agricultural Development (IFAD) is a specialized agency of the United Nations, and an International Financing Institution (IFI), established in 1977 with a singular mission: to alleviate rural poverty and hunger. Created in response to the global food crisis of the early 1970s, IFAD was envisioned as a mechanism to channel resources into rural areas, recognizing that small-scale farmers and rural communities are critical to global food security and economic stability. Since its inception, IFAD has remained steadfast in its focus on empowering the most marginalized populations, ensuring their participation in sustainable development processes.

Transforming Rural Economies: IFAD's Vision

In Bangladesh, IFAD has been instrumental in rural transformation over the past 45 years, investing \$1.16 billion in concessional financing across 39 projects, leveraging a total of \$4.27 billion with cofinancing from international and domestic partners. These projects have directly benefitted 11.7 million households. IFAD's focus has been on smallholder farmers, rural women, and youth, often excluded from mainstream development. Its interventions have improved agricultural productivity, access to finance and markets, and rural infrastructure, while enhancing climate resilience and livelihoods for vulnerable communities.



IFAD's work aligns with Bangladesh's development priorities for rural transformation, as agriculture contributes around 13% to GDP and employs nearly 40% of the workforce. The Country Strategic Opportunities Programme (COSOP) for 2023-2026 which gives the strategic direction for IFAD engagement with the government of Bangladesh under this period focuses on two main areas: strengthening climate adaptation and mitigation for rural communities and improving access to finance, technology, and markets. These efforts aim to diversify rural economies and create employment opportunities.

IFAD's approach emphasizes inclusive and sustainable development, investing not only in infrastructure but also in the human and social capital of rural communities. By enabling access to modern agricultural technologies and fostering innovative financing, IFAD's projects create lasting impacts, contributing to the broader development goals of Bangladesh. Through its extensive portfolio, IFAD investments create inclusive economic growth in rural populations, improving their lives through integrated development interventions.

Elevating Agribusiness: Lessons from the Rural Microenterprise Transformation Project (Total project cost is US\$ 200 million, of which US\$ 81 million financed by IFAD, project duration: 2019 - 2025)

Agribusiness is a crucial lifeline for millions in Bangladesh. The Rural Microenterprise Transformation Project (RMTP), implemented by the Palli Karma Shahayak Foundation (PKSF) and its Partner Organizations (PO), takes a holistic approach to strengthen value chains and improve the livelihoods of smallholder farmers and microentrepreneurs. By connecting rural producers to high-demand markets, the project fosters growth, sustainability, and food security.



RMTP empowers over 534,000 beneficiaries, 57% of whom are women. Small farmers and entrepreneurs receive training, farming tools, and financial resources to thrive in competitive markets. Over 14,000 youth have been trained in advanced agricultural techniques and international standards like Good Agricultural Practices (GAP) and Hazard Analysis and Critical Control Points (HACCP), which help producers meet domestic and global market demands. These interventions have resulted in a 25% average profit increase for supported microenterprises.

Financial inclusion plays a key role in RMTP's success. Nearly 76,000 microenterprises, mostly led by women, have gained access to financial products, enabling them to scale their businesses, adopt modern technologies, and embrace innovation. These loans help rural microentrepreneurs to participate in higher-value markets, generating employment and improving local economies. Through these interventions, the average loan size has increased by 53%, demonstrating the impact of combining value chain support with financial access.



Collaboration with the private sector is central to RMTP's success. Partnerships with companies like PRAN, Milk Vita, and Bengal Meat have secured markets for farmers and ensured fair prices. Contract farming arrangements have offered guaranteed markets and income stability. The project also utilizes digital tools, including blockchain for traceability and e-commerce platforms, enhancing market access and transparency. These innovations bridge the gap between rural producers and consumers, transforming traditional agribusiness models.

RMTP fosters grassroots entrepreneurship by developing microenterprises in sectors like livestock, dairy, fisheries, and horticulture. By improving packaging, processing, and retailing, the project ensures a steady supply of essential goods such as seeds, fertilizers, and veterinary products and strengthens rural value chains, creating new income streams within communities.

Integrating Nutrition and Economic Empowerment: The RAINS Project (Total project cost is US\$ 31.14 million, of which US\$ 16 million is managed by IFAD from a Global Agriculture and Food Security Program (GAFSP) grant, project duration: 2023 to 2025)

IFAD's approach goes beyond market access to address key needs like food security and nutrition. The RAINS project, in collaboration with the Ministry of Agriculture, highlights this focus. It distributed over 13,000 Homestead Vegetable Gardening kits to women, including seeds, fertilizers, and training, resulting in an 11% improvement in dietary diversity among participating households.



These kits optimized growing seasons, introduced new crops, and generated surplus for local markets. Women, equipped with new skills, have become powerful agents of change, improving household income and well-being. Local agricultural officers have supported training and collaboration through producer groups. This integrated model has not only enhanced food security but also transformed subsistence farmers into entrepreneurs, illustrating how targeted interventions can empower rural women, combat malnutrition and strengthen local economy. Many of these targeted project beneficiaries have demonstrated economic graduation through increased income, improved household assets and expanded access to education and health services.



Resilience Against Climate Challenges: Insights from the Promoting Resilience of Vulnerable through Access to Infrastructure, Improved Skills, and Information (PROVATi3) project (Total project cost is US\$ 92.37 million, of which US\$ 64.5 million is financed by IFAD. Project duration: 2017 - 2026)

In northern Bangladesh, where climate vulnerability is acute, the Promoting Resilience of Vulnerable through Access to Infrastructure, Improved Skills, and Information (PROVATi3) project, implemented in partnership with the Local Government Engineering Department (LGED), has been a lifeline. Addressing climate adaptation and livelihood enhancement, it ensures rural communities are prepared for the future.



The project has introduced a flood warning system covering 19 Upazilas, providing timely information to at-risk communities, significantly reducing disaster-related losses and improving preparedness to respond to floods and other climate-induced risks.

PROVATi3 has also focused on infrastructure development. It has rehabilitated over 210 kilometres of rural roads, built 135 rural markets, and 30 multi-purpose flood shelters, improving access to essential services and providing safe spaces during emergencies.



In addition to disaster resilience, the project emphasizes livelihood development for sustainability. Vocational training has reached 30,000 individuals, with a 97% passing rate and 70% securing employment. The Gender Action Learning System (GALS) training empowers rural households with skills in financial literacy, business management, and sustainable practices, particularly benefiting women and youth.

Many of these infrastructures are constructed and maintained by the local communities using the Labour Contracting Society (LCS) model, which generates employment and supports vulnerable populations. These efforts integrate disaster preparedness with long-term development.



The construction of rural markets has bolstered local economies, offering farmers and traders improved facilities and fostering community interaction. A recent study found that the project contributed to a 70% increase in household asset ownership, showcasing the tangible impact of PROVAT13 in strengthening both economic and social resilience.

Partnering for Impact: A Collaborative Approach

What sets IFAD apart is its commitment to partnerships. Collaboration with the private sector ensures agribusinesses are sustainable and profitable. By integrating private manufacturers and service providers into value chains, IFAD creates a self-sustaining ecosystem where all stakeholders benefit.

Government partnerships align projects with national priorities, ensuring scalability and long-term viability. At the same time, IFAD leverages the expertise of development partners to address systemic challenges, from financial inclusion to climate adaptation. These multi-stakeholder collaborations amplify the impact of every dollar invested, creating a model of inclusive growth that can be replicated elsewhere.

Government partnerships align projects with national priorities, ensuring scalability and long-term impact. IFAD also leverages development partners' expertise and funding to tackle challenges like financial inclusion, climate adaptation and infrastructure improvement. These collaborations amplify every dollar provided by IFAD, creating a model of inclusive growth that can be replicated.

IFAD partners with multilateral organizations like the World Bank and Asian Development Bank as well as bilateral development partners like the Netherlands, Denmark, technical cooperation, UN agencies such as the Food and Agriculture Organization (FAO) and World Food Programme (WFP). It also collaborates with other international institutions such Global Alliance for Improved Nutrition (GAIN), Consortium of International Agricultural Research Centers (CGIAR) etc.

A key contribution is IFAD's ability to bridge tradition and technology. By introducing innovations like blockchain and e-commerce, IFAD helps rural communities access global markets while preserving their cultural and agricultural heritage. These partnerships open opportunities for scaling successful models, ensuring innovation benefits even the most remote areas.



A Blueprint for the Future

IFAD's investments in Bangladesh showcase the power of innovation and collaboration. By combining tradition with technology, IFAD helps rural communities not only overcome today's challenges but also thrive in a changing world. Success stories, such as microentrepreneurs growing their businesses and women leading in agriculture, highlight the potential of rural communities when given the right tools and opportunities.

Through its comprehensive agribusiness approach, IFAD demonstrates that sustainable rural development is achievable. By building resilient value chains, promoting climate-smart practices, and fostering inclusive partnerships, IFAD is driving a prosperous rural economy in Bangladesh.

As Bangladesh faces challenges like climate change, population growth, and economic inequality, IFAD's work offers a model for sustainable development. Its projects show that with investments in people, infrastructure, and innovation, rural communities can contribute to national progress. Focused on marginalized groups, especially women and youth, IFAD ensures that development is inclusive and leaves no one behind.



Looking ahead, IFAD's commitment to collaboration, adaptation, and innovation will continue to be central to its mission. By empowering rural communities and promoting inclusive growth, IFAD is not only addressing current challenges but also laying the foundation for a sustainable and prosperous future for millions of people in Bangladesh.



FLOATING GARDENS: ANCESTRAL INNOVATION FOR CLIMATE ADAPTATION & RESILIENCE



World Food Programme

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Floating Gardens is an ancestral agriculture practice that has been used for centuries in the wetlands of the Southern flood plains in Bangladesh (in Barishal, Goplaganj, and Pirojpur districts). This traditional practice has been revived as an innovation for climate adaptation for livelihoods and food security in flood-prone and coastal regions. The UN's Food and Agricultural Organisation declared the floating gardens in Bangladesh to be a **Globally Important Agricultural Heritage System (GIAHS)**. These are landscapes that combine agricultural biodiversity, resilient ecosystems and cultural heritage. This innovation is considered by Governmental and non-governmental groups as a pillar in climate-resilient development, for food security and to reduce poverty in flood-prone areas in Bangladesh.

This is one of the many innovations that the World Food Programme (WFP) considers spearheading in Bangladesh as an adaptation to the impacts of climate change (rising waters, storms, erosion) on the livelihoods and food security of poor and landless communities in areas with extended flooding and waterlogged conditions.



Hydroponic farming: innovative climate adaptation based on Indigenous and local knowledge

This traditional hydroponic practice consists in growing vegetables, spices and other crops in floating beds made from water hyacinth (*Eichhornia crassipes*), aquatic weeds, and other organic materials.

Floating gardens can adjust to rising and falling water levels and have been an effective adaptation option for food security and livelihoods in flooding environments for centuries. Floating farming is based on Indigenous and local knowledge, and it is called Dhap or Baira, by the communities in the Southern flood plains in Bangladesh. Floating farming can be useful in wetlands during periodical floods and in recovering livelihoods after extreme events and floods. Floating gardens and the landscapes they create, bring social, economic, agro-ecological, and environmental benefits to local populations.

Socio-economic relevance

Floating gardens that are easily accessible, cost-effective, reliable, environmentally friendly, and provide major livelihood options for about 60-90% of the locals in the Southern flood plains in Bangladesh. As sea levels rise and agricultural land is lost, floating gardens offer additional space by transforming the flooded areas into productive ones. Floating agriculture has expanded arable land by 40% for cultivating crops such as spinach, okra, turmeric, potatoes, cucumbers, gourds, and amaranth in flood-prone areas (Barois et al., 2024). The productivity of floating agriculture systems is estimated to be ten times higher than that of similar-sized land-based agriculture. Farmers who have adopted floating garden practices are enjoying a better life economically, than those in other flood-affected areas who have not yet adopted this practice. Floating agriculture is labour-intensive and encourages the engagement small farmers, resulting in a 1.80 times higher benefit-cost ratio compared to traditional land-based agriculture (Bala et al., 2020). These systems employ men and women, improving gender balance (MOA, 2011). Socio-economic benefits of the floating gardens include the increase in household income from the organic production in the floating gardens; employment in wetlands such as 'Haors'; promotion of local practices and conservation of indigenous knowledge and cultural heritage. The use of floating agriculture as an adaptive measure also provides direct economic benefits. Vegetables and spices produced on the floating gardens are fully organic, and these products receive special attention from local buyers and consumers.



Photo credit: Badal Sarker for the Department of Agricultural Extension, Bangladesh

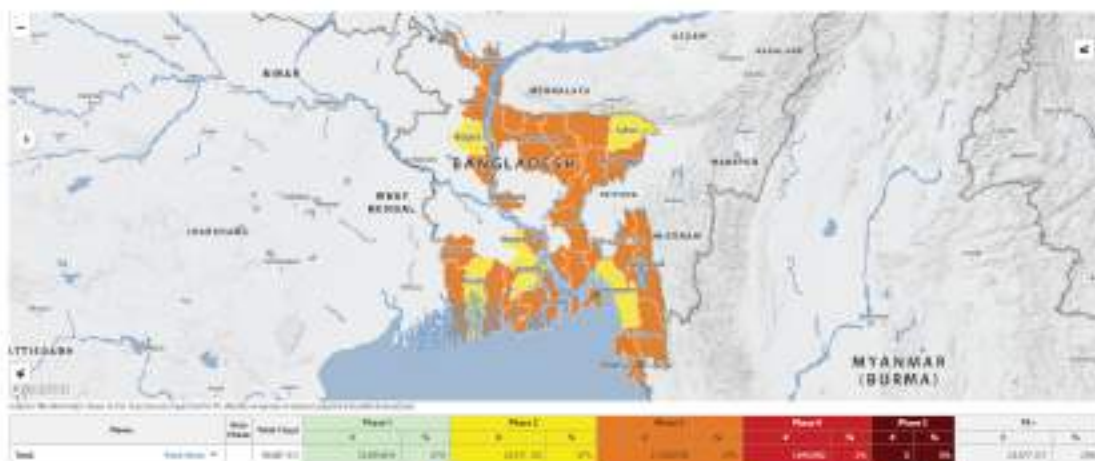
Agro-diversity and food security

Floating garden agriculture systems allow the agro-diverse production of vegetables and crops almost all year round to meet the food security and nutrition of the communities living in the wetlands and contributing to communities' health. In summer, during the monsoon season, vegetables such as okra, ribbed gourd, cucumber, brinjal, Indian spinach, and amaranths, are grown in floating gardens. Major groups of crop spices include turmeric and ginger. In winter, with the recession of flood water, the floating beds serve as ecological compost for the land agriculture of turnip, cabbage, cauliflower, tomato, and red amaranths. The land with water is used to produce fish in the open water, and crops on the floating beds, contributing to agro-biodiversity, sustainable use of natural resources and dietary diversity. In these regions, ribbed gourd is usually intercropped with Okra. After harvesting Okra, vines of ribbed gourd coil around the stem of okra plants to grow. In addition to the floating gardens, rice cultivation in wetlands is the dominant crop in Bangladesh. The production of Boro rice (November-May) is the most popular in this region to minimise flooding risks. Fishing is the second source of income in this region. Flood plains provide a favourable environment for growing and feeding larvae, hatchlings, and fry, and for brood stock reproduction. A variety of fish, prawns, mussels, and snails are critical sources of protein for local communities. Snails are also harvested to feed aqua-cultured freshwater giant prawns. Mussel shells are used to make lime to be mixed with betel leaves and nuts to produce fertile hummus. Several species of freshwater mussels bear pink pearls.

Climate resilient- adaptive innovation

In recent years, floating gardens have been revived as an innovative climate adaptation option in flood-prone areas. The Bangladeshi region is in plains of silt formed by the Ganges River and its tributaries, which often change their courses. When the monsoon blows and snow melts in the Himalayan peaks, the result is flooding covering large areas of the country for up to eight months of the year. Even if the floodwaters recede temporarily, the soil has reached a degree of saturation that makes it unsuitable for agriculture, which represents one of the most important sectors contributing to GDP.

Climate variability is changing the precipitation and hydrogeological patterns in deltaic countries, such as Bangladesh and this is leading to extended flooding and waterlogged conditions more frequently. Since May 2024, Bangladesh has been severely affected by a series of climate-related disasters, including Cyclone Remal in May, flash floods in the Haor Region in June, riverine floods in the Jamuna Basin in July, and unprecedented flooding in the eastern regions in August. The most recent floods were in Chattogram. Most of the current 1.6 million people facing high acute Food Insecurity in IPC Phase 4 (Emergency), are in the Chattogram, Rangpur, Khulna, and Sylhet divisions (IPC, 2024).



Map shows Acute Food Insecurity Projection Update in Bangladesh from the last quarter of 2024. For this analysis, the IPC Technical Working Group guided the IPC (Integrated Food Security Phase Classification update) process, supported by WFP Research Analysis and Monitoring team and others (FAO MEAL Unit and IPC Global Support Unit).

Ecological and Sustainable

Floating agriculture is an environmentally friendly practice to utilise the natural resources of wetlands to grow vegetables and other crops almost all year round. Floating farming does not need any additional water, nutrients, or chemical fertilisers, and the beds can be recycled as organic fertiliser in the newly prepared floating bed and, also in the agricultural lands. This is economical and environmentally friendly. Since nitrogen, potassium and phosphorus are abundant in the floating beds there is basically no need of fertiliser inputs and almost no pesticides are applied. Women's engagement in agricultural practices ensures the sustainability of the system. A good water environment is sustainably maintained through adequate control of water hyacinth, water purification and low output (return) of eutrophication nutrient.

Scaling-up Capacity Building and R&D

More than 6,000 subsistence farmers have adopted Floating Agriculture practices across the southwest, this may prove crucial as climate change sends sea levels higher and makes the monsoons more erratic. Research institutes continue their studies to increase the efficiency of this approach, which research ranks as the best food production for 90% of the population of humid areas. The Ministry of Agriculture in Bangladesh is working to expand this innovation. It has trained more than 500 farmers and implemented the project in more than 50 locations. Its goal was to meet the needs of 12,000 families, with a focus on supporting marginalized women and providing them with the necessary expertise to apply this approach and support their families. These farms are not a radical solution, they cannot withstand the most extreme weather events, especially if the effects of climate change continue without effective intervention. Research and Development (R&D) initiatives aim to improve the production system and transfer the system of production to similar wetland ecosystems. Bangladesh Agricultural Research Institute and the Department of Agriculture Extension have research projects for further development of the system.

Globally Important Agricultural Heritage System (GIAHS) - opportunities

Floating garden agricultural practices have been spreading within Bangladesh due to the efforts of NGOs and governments. Recognition and designation of the floating garden as Globally Important Agricultural Heritage System (GIAHS), public and private sector initiatives in the improvement of the areas of technicality of the production system, marketing and value addition of the product may be strengthened. These efforts would improve the production of quality organic vegetables, fruits and spices and fetch profit commensurate to the desire of the practitioners. The society would find more opportunities to invest in asset development, production and marketing, value addition and tourism. Bangladesh is establishing a significant niche in the global spice trade, heralding a new era in the spice export industry. This offers a space for the organic production in GIAHS Floating Garden of spices such as Turmeric, Ginger, and Red Chile. Organic GIAHS spices from Bangladesh can be exported to Saudi Arabia and enter in new markets in other Gulf countries, USA, EC, among others.

WFP in Bangladesh

Over the past 50 years, WFP has supported more than 155 million people through both emergency response and longer-term resilience building. While continuing to provide humanitarian assistance, WFP has shifted towards a more advisory role, assisting the Government in efforts to achieve Sustainable Development Goal 2 on ending hunger.

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INNOVATIVE APPROACHES IN AGRIBUSINESS: BRIDGING TRADITION AND TECHNOLOGY



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Agribusiness comprises all commercial agricultural operations, including growing crops, raising livestock, and producing agri-inputs including machinery, seeds, and fertilizer. It also includes transforming raw materials into finished products, marketing and distributing them, and offering additional services like technology and funding. Through the integration of agriculture and business, agribusiness contributes significantly to global food security by promoting economic growth, sustainability, and productivity.

Bangladesh's agribusiness sector is poised for exceptional growth and this growth is driven by a large and youthful population of 174.4 million, a rising per capita income, and a growing workforce 70% of whom are under 40. Additionally, the country's expanding digital landscape, with 52.9 million social media users in early 2024, provides access to a regional consumer base of 3 billion. With over 2.3 million professionals entering the workforce annually, including 3,500 agriculture graduates, Bangladesh is strengthening its economic connectivity through the bridging of rural and urban communities.

Agriculture, the backbone of the nation's economy, engages 43% of the workforce and is expected to contribute a substantial 3,654 billion BDT to the GDP by 2024. The sector offers immense potential for modernization and innovation, addressing both domestic and global needs through climate-smart crop development, livestock vaccines, and advanced farming techniques. The agriculture market, valued at \$12,245 billion in 2022, is projected to grow to \$19,007 billion by 2027, driven by innovative technological advancements in agri-inputs, machinery, animal health, and sustainable technologies like vertical farming, drones, and bio-fertilizers. These advancements are revolutionizing the sector by enhancing productivity, sustainability, and profitability through modern practices and cutting-edge technologies.

Bangladesh's rich tradition of indigenous farming practices, such as intercropping and floating agriculture, plays a critical role in sustainability, food security, and biodiversity conservation. By integrating these traditional practices with modern technologies like precision agriculture and biotechnology, Bangladesh is shaping a future where sustainable agribusiness growth coexists with high-tech advancements. ACI's efforts in seed development, mechanization, and agro-processing exemplify how technology can enhance agricultural productivity and profitability, positioning Bangladesh as a leader in both traditional and modern agricultural practices.



Indigenous Farming Practices: Sustainability and Historical Significance

Indigenous farming practices in Bangladesh, rooted in centuries of tradition, exemplify sustainability, resilience, and a deep understanding of local ecosystems. Key methods like intercropping, mixed cropping, floating agriculture, Jhum cultivation, seed saving, and homestead gardening optimize resource use, enhance biodiversity, and ensure food security while supporting smallholder farmers. These techniques reflect a harmonious relationship between humans and nature, preserving biodiversity and cultural heritage. By integrating indigenous knowledge with modern technologies, Bangladesh can address climate challenges, resource constraints, and food demands, paving the way for a sustainable and resilient agricultural future that honors its historical legacy.

Moreover, indigenous farming practices are inherently sustainable and ecologically sound, providing invaluable lessons for modern agriculture. Traditional agricultural practices integrate natural systems with human activities, fostering sustainability and long-term resilience. By focusing on native plants, these methods maintain biodiversity and natural balances. The use of organic materials like plant litter and animal waste enriches the soil, while intercropping enhances soil health and efficiency. Water management techniques, such as bunds, conserve water and prevent erosion.



Innovative Technology in Agribusiness

Innovative approaches in agribusiness are revolutionizing the sector by enhancing productivity, sustainability, and profitability through technology and modern practices. Precision agriculture uses tools like GPS, IoT, and drones to optimize farming, while sustainable methods like regenerative agriculture and agroforestry improve soil health and biodiversity. **Biotechnology advances, such as GM crops and CRISPR, develop resilient, high-yield crops, and urban agriculture maximizes food production in limited spaces.** Agri-Fintech solutions, smart supply chains, and farm management software empower farmers with financial access, transparency, and data-driven decision-making. **Alternative protein sources and water management technologies address environmental challenges, while consumer-driven models like farm-to-table and agro-tourism connect farmers directly to markets and diversify income.** These innovations collectively tackle food security and climate change, shaping a sustainable and efficient agricultural future.

Technology: The Catalyst for Transformation

Bangladesh is pioneering agribusiness transformation by integrating traditional farming with modern technologies. Some of the notable successes are as follows:

Seed and Crop Innovations

- **Developed High Yielding Hybrid Rice variety:** ACI Seed's development of high-yielding hybrid rice varieties, such as those with 11+ MT/ha yield potential, is a prime example of combining traditional farming practices with cutting-edge genetics and technology. This innovation addresses food security and enhances productivity.



- **Aromatic Rice Development:** ACI's breakthrough in small-grain aromatic rice, with yields of up to 7 MT/ha compared to traditional varieties, demonstrates how modern breeding techniques can enhance traditional crop value, meeting local demand for premium rice while improving yield. Also developed and commercialized high yielding, short duration variety for Aman and Boro season.



- **Potato Research and Processing:** ACI's work on next generation modern potato varieties, such as the Valencia, designed for processing into french fries and chips, shows how innovative breeding can serve both domestic and international markets. Additionally, this variety can be grown year as the variety generate 28-30MT/ha yield within 60 days due to its early bulking capacity. This also ties traditional potato farming with agritech solutions for industrial uses.



- **High Gluten Rich Wheat Variety Released:** Industrial use purpose we need to import high gluten content wheat mostly from Ukraine, India and Russia. Now, we explore locally as ACI has released two wheat varieties having almost double yield capacity with over 32% gluten content.





Mechanization and Automation

- **Yanmar yield sensor harvester and Smart Assist Remote (SAR)** system can be improved paddy yield by 30% to 40%. This yield sensor can sense and make a yield mapping during harvesting of paddy of a certain land. From where we can easily identify the yield variance due to shortage of fertilizers. These data will be stored in the server, from where intelligent drone can take data and fertilize and apply the required nutrition to improve the yield of the same piece of land in next season.
- **Smart Irrigation**, Solar-powered, IoT-enabled irrigation systems optimize water use, reducing waste and labor costs while maintaining traditional irrigation practices. Automatic Watering and Subsurface Drip Irrigation (SDI) allows farmers to control when and how much water their crops can take. By leveraging technology, these systems reduce water waste and labor costs, while maintaining the traditional reliance on irrigation in Bangladesh's agricultural practices.
- **Drone Technology**, using farmers will receive the foresights on the plant health indices, plant counting and yield prediction, plant height measurement, nitrogen content in wheat, drainage mapping, weed pressure mapping, and so on. Drones are used for precise crop monitoring, irrigation assessment, and pesticide application, complementing traditional farming practices with accurate data.
- **Automatic Planting and Seeding machines** or robots come with geomapping and sensor data. This data consists of soil quality, density, moisture, and nutrient levels so that the seeds can grow in a health environment. The global planting machines market size will grow from USD 51.12 Bill with CAGR of 8.1%
- **Automatic Fish Feeder**, Aerators, Soil moisture and pH tester and digital microscope farmers can save about 15-20% feed loss/wastage, improving dissolved oxygen content in adverse conditions, measuring bottom soil specifications and finally diagnosing numerous anomalies in Aquaculture ponds.
- **Bangladesh is one of the largest exporters of frozen shrimps and prawns in the world.** Introduction of Venna Mei shrimp culture in Bangladesh which will boost the productivity of the shrimp farmer by several folds (from 300KG/Ha to 9000KG/Ha) and also significantly improve the shrimp export to the world.
- **Mastitis detector machines** are frequently used in dairy farms for detecting sub clinical mastitis and reducing the risk of Clinical Mastitis after calving and saving 60% of treatment cost of mastitis and also adding average 2 litre additional milk.



Sustainable Solutions

- **Climate-Resilient Varieties:** the development of drought, submergence, saline tolerant rice varieties in response to Bangladesh's frequent weather extremes. Using advanced breeding techniques, these varieties help farmers maintain productivity despite climate challenges, combining traditional knowledge of local conditions with modern agronomy
- **Agro-Processing and Value Addition:** Modern processing facilities for dried fruits, juices, and vegetables add value to traditional crops, supporting local and export markets. The integration of modern processing facilities for products like dried fruits, juices, and preserved vegetables has increased the value of traditional crops. By adopting food processing technology, farmers are able to capture more value from their produce, transitioning from raw to processed products for both local and export markets.





Sustainable Solutions

• **Vertical and Urban Farming**, urban farming initiatives using hydroponics and vertical farming techniques are emerging in Dhaka and other cities. These innovations allow farmers to grow vegetables and fruits in limited space, addressing land scarcity issues while maintaining traditional farming techniques for local consumption.



• **Seed Banks and Genetic Preservation**, the establishment of seed banks to preserve native varieties of rice and vegetables. These seed banks combine modern agricultural science with traditional crop preservation methods, ensuring the conservation of local biodiversity while allowing farmers to access improved, climate-resilient varieties.

Digital Solutions

• **Precision Agriculture**, Precision agriculture uses data analytics, GPS technology, and IoT devices to optimize farming practices. Drones monitor crop health, while sensors track soil moisture, enabling farmers to make data-driven decisions that conserve resources and boost productivity. found that precision agriculture could reduce water usage by 30% while increasing yields by 10 -15%. This technology bridges traditional farming knowledge with real-time data, boosting both efficiency and profitability



• **E-Agriculture Platforms**, E-agriculture platforms like "Fosholi" connect farmers with agricultural experts, suppliers, and markets, fostering knowledge sharing and increasing access to inputs. This online community helps integrate traditional farming knowledge with technological solutions, empowering farmers to make informed decisions.



These innovations reflect the seamless blend of **traditional farming practices** and **modern technologies** driving sustainable agribusiness growth in Bangladesh. ACI's efforts in **crop breeding**, **mechanization**, **precision agriculture**, and **digital solutions** help enhance productivity, sustainability, and profitability in agriculture. By combining **climate-resilient varieties**, **modern processing techniques**, and **cutting-edge automation**, Bangladesh is positioning itself as a leader in both traditional and technological farming practices.



Integrating Traditional Practices with Modern Technologies for Sustainable Agriculture

Blending traditional agricultural practices with modern technologies offers a transformative approach to sustainability. Indigenous crop cultivation preserves biodiversity and, when paired with advanced breeding, enhances yields. Eco-friendly methods like intercropping and organic farming become more effective with precision tools, reducing chemical use and improving soil health. Traditional knowledge addresses climate challenges with localized solutions, such as drought-tolerant crops, which can be amplified by resilient seed varieties and early warning systems. Productivity gaps in traditional systems can be bridged using modern technologies like high-yield seeds and efficient irrigation, optimizing resources without overexploitation.

Empowering farmers with digital tools enhances decision-making, profitability, and access to markets, while scientific validation scales traditional practices for broader use. Integrating these approaches promotes inclusivity, resilience, and food security, preserving cultural heritage and unlocking niche markets for products like heritage grains, driving both economic and cultural sustainability.

Integrating indigenous wisdom with modern innovation offers transformative solutions to environmental challenges. By uniting ecological insights with advanced tools, we can protect nature, empower communities, and pave the way for a resilient future.



Challenges must be addressed to successfully adopt innovative agriculture technologies in Bangladesh:

- **Access to Funding:** Securing financial support is essential to enable the adoption of innovative agriculture technologies and practices.
- **Resistance to New Technology:** Farmers' reluctance to adopt new technologies, often due to lack of knowledge, access to training, or trust in modern methods, slows down the integration of innovations.
- **Climate and Environmental Challenges:** Unpredictable weather patterns, flooding, and soil degradation create obstacles for both traditional and modern agricultural practices, making it harder to achieve sustainable solutions.
- **Awareness Gaps:** Many farmers lack knowledge about the potential benefits of innovative agriculture technologies.
- **Limited Infrastructure:** R&D infrastructure including land, seed processing and quality control, packing automation, post-harvest and transportation infrastructure are often inadequate.
- **Technical Expertise:** Adoption requires a certain level of technical know-how, which may be limited in rural areas.
- **Socioeconomic Barriers:** Factors like attitudes toward technology, gender norms, and access to education and training influence slow adoption rate.
- **Fragmented Land for Cultivation:** Small, fragmented land holdings make it difficult to implement large-scale modern agricultural practices and technologies, hindering efficiency and productivity.

Beyond climate change, agriculture grapples with pressing challenges such as floods, droughts, extreme heat, sudden heavy rains, flash floods, riverbank erosion, shrinking arable land, declining soil fertility, and rising salinity. The FAO forecasts a 3-5% decrease in global cereal yields for each 1°C increase in temperature, intensifying these issues. In Bangladesh, these challenges are compounded by rapid urbanization, industrialization, and extensive riverbank erosion, further reducing cultivable land. Salinity, a significant barrier to productivity, underscores the urgency of addressing these threats to safeguard the country's agricultural future.





Opportunity for Growth

To improve the adoption of innovative agriculture technologies in Bangladesh, the following measures are critical:

- **Financial Incentives:** Subsidies, tax breaks, and low-cost, long-term funding through initiatives
- **Investment in Innovation:** Supporting research and development to identify and advance context-specific smart agriculture technologies.
- **Infrastructure Development:** Improving R&D infrastructure, seed storage, processing, quality control, and transportation to enable technology adoption.
- **Training and Capacity Building:** Offering programs to enhance farmers' technical expertise and that of other stakeholders.
- **Collaborative Partnerships:** Encouraging synergy between government agencies, private sector players, donor agencies to drive innovation and scalability.
- **Technology and Innovation:** Advancing drought-resistant crops, climate-smart technologies, and developing export-quality varieties will boost productivity and open new international markets.
- **Market Linkages:** Contract farming and improved market access will boost incomes, reduce post-harvest losses, and facilitate entry into export markets.
- **Digital Tools:** Digital platforms offering weather alerts and price forecasts will empower farmers to make informed decisions and improve market positioning.



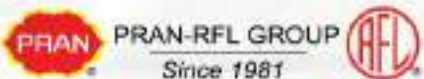
Transforming Agribusiness Through Innovation and Strategic Investments

ACI, a leading agriculture company, operates across the entire agricultural value chain, spanning field crops, vegetables, fisheries, poultry, dairy, and cattle, with a robust domestic and growing international presence. ACI is transforming agribusiness through innovation and strategic investments in key areas, including research and development (R&D) for molecular breeding, climate-smart crop solutions, improved inputs and practices, digital connectivity, post-harvest infrastructure, value-added food processing, and forward linkages. These initiatives are driving growth, sustainability, and global competitiveness, positioning ACI as a leader in the evolving agribusiness sector.

Conclusion

Bangladesh's agribusiness sector stands at a critical juncture, with vast opportunities for innovation and modernization. By integrating traditional agricultural wisdom with cutting-edge technologies, the country can address challenges like climate change, resource constraints, and food security while enhancing productivity and sustainability. ACI's work in crop variety development, mechanization, and agro-processing demonstrates how technology and traditional practices can coexist to foster growth. Continued investment in research and development, along with improved infrastructure and digital tools, will unlock Bangladesh's potential as a global agribusiness leader. By embracing a collaborative approach involving the government, private sector, Bangladesh can navigate these hurdles and unlock its full agribusiness potential.

SUSTAINABLE AGRICULTURE AND CLIMATE RESILIENT PRACTICES IN BANGLADESH



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Agriculture is the main driving force of the economy of Bangladesh and the main source of employment for the rural people. The role of this sector in the overall economy of the country, including employment generation, poverty alleviation, human resource development, and food security, is undeniable.

According to the data of the Bangladesh Bureau of Statistics (2024), the agriculture sector contributes 11.38 percent to the GDP. The Labor Force Survey (2022) indicates that approximately 45.4 percent of the employed population in the country is engaged in agricultural activities. The agricultural sector is continuously working to meet the food needs of the large population of the country.

In the future, the rapidly growing population will require much more food. However, due to various challenges, including climate change, the country's agriculture sector is under pressure. These challenges pose major hindrances to agricultural production. Therefore, it is imperative to establish a sustainable agricultural system for the future.

Moreover, sustainable agriculture and climate resilience are critical focus areas for Bangladesh, as the country is highly vulnerable to the effects of climate change. It is already experiencing the impacts of rising temperatures, sea-level rise, and the increased frequency of natural disasters such as cyclones, floods, and droughts.

Characteristics of Bangladesh's agriculture

One of the key characteristics of Bangladesh's agriculture is the reliance on ancient farming methods. In this country, most farming is conducted in traditional ways. As a result, the yield per acre is low compared to other countries, despite the high productive capacity of the land.

Additionally, agriculture in Bangladesh is highly dependent on nature. Therefore, the success and failure of the country's agriculture depends on the whims of nature. For instance, regular and moderate rainfall results in good crop yields, whereas irregular or insufficient rainfall leads to reduced or damaged crops.



Another characteristic of Bangladesh's agriculture is the fragmentation of agricultural land into small plots. This fragmentation makes scientific farming techniques difficult to implement, contributing to lower agricultural productivity. Furthermore, subsistence farming is a dominant feature of agriculture in Bangladesh. Most farmers cultivate crops primarily to meet their family needs, leaving limited scope for commercial farming. As a result, agriculture on a commercial scale is less significant in the country.

Challenges Facing Bangladesh's Agricultural Sector

The agricultural sector in Bangladesh is currently grappling with numerous challenges. The main challenge is that the agricultural land in Bangladesh is decreasing day by day. According to the Year Book of Agricultural Statistics of Bangladesh (2022), the total cultivable land in the country is 88.29 lakh hectares.



Despite a growing population, agricultural land is shrinking due to various factors, including the construction of houses and roads. Approximately 80,000 hectares of land are converted to non-agricultural use each year, resulting in a loss of 1 percent of agricultural land annually.

However, the reduction in cultivable land is not the only challenge. Environmental and climate-related changes pose a significant threat to agriculture. Projections indicate that average nighttime temperatures could increase by about 4°C between 2075 and 2100. Paddy and wheat suffer more when the nighttime temperature rises.

Bangladesh is also experiencing changes in rainfall patterns. The annual average rainfall is increasing at a rate of 8.4 mm per year. While rainfall during the monsoon season is rising, winter rainfall is decreasing by 1.3 mm annually. This trend leads to excess rainfall during monsoons, causing prolonged floods, and inadequate rainfall in winter, increasing dependence on irrigation. Erratic rainfall exacerbates the risks of floods and droughts, which in turn disrupt agricultural cycles. According to a study by the Bangladesh Rice Research Institute, rice, wheat, and vegetable production in the northwestern region may decline by an average of 25 percent due to drought.



Another pressing challenge is sea-level rise in coastal areas. By 2100, the sea level in Bangladesh's coastal regions may rise by 0.54 to 0.86 meters, increasing soil salinity and significantly reducing the fertility of agricultural lands. This salinity poses a severe threat to crop production in these areas.

Mechanization is critical for the transition from subsistence farming to commercial agriculture, but it remains underutilized in Bangladesh. Many farmers are reluctant to adopt new technologies. Moreover, most of the farmers in Bangladesh are poor. They cannot afford to invest adequately in the agricultural sector. Practical initiatives are needed to encourage farmers to embrace mechanization by making technology affordable and accessible.

Supply chain inefficiencies further cause various types of waste. Inadequate cold storage facilities, poor infrastructure, and improper post-harvest practices lead to substantial wastage of agricultural produce. Addressing these inefficiencies is essential for reducing waste and improving the overall productivity and profitability of the sector.



How to overcome the challenges for sustainable agriculture:

To address the challenges facing the country's agriculture, a multifaceted approach is essential. Immediate and effective steps must be taken to ensure the country's agricultural sector remains resilient and productive. The following strategies can be considered:

1. Development of climate-tolerant varieties

Emphasis must be given on developing crop varieties that can withstand climate-related stresses, such as high temperatures, drought, salinity, and fluctuating night temperatures. Soil health can be improved through the use of organic fertilizers and other organic materials. The government should invest in research to develop and promote these varieties. Additionally, the establishment of seed banks would ensure farmers have timely access to high-quality seeds tailored to their specific needs.

2. Promotion of high-yielding and nutrient-rich crops

The yield per acre in Bangladesh is relatively low compared to other countries. To address this, hybrid and mutation breeding programs should be intensified, alongside an expansion of conventional breeding methods. These initiatives will help develop high-yielding and nutrient-rich crop varieties, enhancing both productivity and nutritional value.

3. Free flow of information

Platforms such as WhatsApp, websites, YouTube, and Facebook should be leveraged to provide farmers with essential information on weather, commodity prices, and modern farming techniques. Training programs on scientific farming methods can be delivered through these platforms to ensure widespread reach. This approach will help farmers with the knowledge necessary for adopting modern agricultural practices.

4. Improvement of the agricultural marketing system

Farmers are deprived of fair price in many cases due to weak agricultural marketing systems. An effective agricultural marketing system is needed to make the agricultural marketing system more sustainable and people-friendly. By ensuring the real participation of all stakeholders, including farmers and consumers, fair price of the agricultural products will be ensured.

5. Expansion of agro-processing businesses

Along with the development of the agricultural sector, globalization, the development of information technology and the global open market economic changes have led to changes in the living standards and food habits of consumers. New avenues of social and economic development have opened up through the development of agro-processing businesses and the expansion of multi-faceted businesses in agricultural products.

6. Adoption of mechanization

Mechanization is critical for addressing labor shortages and reducing the reliance on manual farming methods. Mechanized agriculture saves time, labor, and resources while improving productivity and crop quality. To promote mechanization, farmers and entrepreneurs should have easy access to loans for purchasing agricultural machinery. Government, NGOs, and financial institutions should collaborate to provide these loans with minimal hassle.



7. Increased use of renewable energy

There is still power shortage in the country. When irrigation is needed on agricultural land, there is often no electricity. If we can provide irrigation through solar systems, it will improve the country's agriculture a lot. This can be done either through government support or through public-private partnerships.

8. Introduction of agroforestry

Integrating trees into agricultural lands through agroforestry provides both environmental and economic benefits. Tree roots help prevent soil erosion, while the shade reduces soil temperature and moisture loss. This practice can enhance land productivity and contribute to environmental conservation.

9. Promotion of cooperative farming

Cooperative farming can address the challenge of land fragmentation, a common issue in Bangladesh. By consolidating small plots into larger, it becomes feasible to implement modern technology. Cooperative farming can also facilitate resource sharing and improve overall agricultural efficiency.

10. Implementation of Good Agricultural Practices (GAP)

Adopting good agricultural practices is essential for accessing international markets and ensuring food safety. GAP compliance ensures the production of high-quality agricultural products while safeguarding the environment and public health.

Agriculture is the lifeline of Bangladesh's economy and plays a vital role in ensuring food security, economic stability, and rural livelihoods. Sustainable and climate-resilient agriculture is critical for the country's future. By integrating indigenous knowledge with modern technologies and leveraging government support, Bangladesh can develop a robust agricultural system capable of withstanding climate challenges.

UNLOCKING THE POTENTIAL: ADVANCING AGRIBUSINESS IN BANGLADESH THROUGH INNOVATION AND SUPPORT



Good food. Good life.

Deepal Abeywickrema
Chairman & Managing Director
Nestlé Bangladesh PLC



Agribusiness: The fundamental to sustain the human civilization

Agriculture, food security, and agribusiness play a vital role in ensuring the well-being of societies and economies worldwide. ***“According to the Food and Agriculture Organization (FAO) of the United Nations, around 690 million people globally suffer from hunger, while 3 billion people cannot afford a healthy diet.”***

These alarming statistics highlight the urgent need to address food security challenges. Agribusiness, which encompasses the entire value chain from production to processing and distribution, is a key driver in achieving food security. It not only provides sustenance but also contributes significantly to employment, income generation, and economic growth. In fact, ***“the FAO estimates that agriculture and agribusiness account for around 10% of global GDP”***.

How innovations can save Agribusiness and the Planet:

Innovative approaches in agribusiness have become crucial in addressing the challenges faced by the global agricultural sector. According to the United Nations (UN), the world population is projected to reach 9.7 billion by 2050, which will require a significant increase in food production. However, this task is further complicated by factors such as climate change, limited resources, and the need for sustainable practices.

To tackle these challenges, various innovative approaches have emerged in agribusiness. One such approach is precision agriculture, which utilizes advanced technologies like remote sensing, drones, and GPS to optimize farming practices. Precision agriculture enables farmers to monitor and manage their crops more efficiently, resulting in increased yields and reduced resource wastage. According to the UN Food and Agriculture Organization (FAO), precision agriculture can potentially increase crop yields by up to 20% while reducing water usage by 30%.



Another innovative approach is vertical farming, which involves growing crops in vertically stacked layers, often in urban environments. This method utilizes hydroponics or aeroponics systems, where plants are grown without soil and receive nutrients through water or mist. Vertical farming offers several advantages, including year-round production, reduced land usage, and minimal water consumption. The UN estimates that vertical farming can produce up to 20 times more crops per square meter compared to traditional farming methods.

Furthermore, agribusiness is increasingly embracing digital technologies and data-driven solutions. The use of big data analytics, artificial intelligence, and Internet of Things (IoT) devices enables farmers to make informed decisions regarding crop management, pest control, and resource allocation. These technologies provide real-time data on weather conditions, soil moisture levels, and crop health, allowing farmers to optimize their operations and minimize risks. The UN reports that digital agriculture can potentially increase smallholder farmers' incomes by up to 60%.

In addition to these technological advancements, agribusiness is also focusing on sustainable practices to ensure long-term food security. The UN Sustainable Development Goals (SDGs) emphasize the importance of sustainable agriculture, including the reduction of greenhouse gas emissions, preservation of biodiversity, and promotion of responsible land use. Innovative approaches such as agroforestry, organic farming, and regenerative agriculture are gaining traction as they offer environmentally friendly alternatives to conventional farming practices.



Nestlé Bangladesh is training farmers of Dinajpur on the most scientific cultivation method 'Regenerative Agriculture', as a part of its sustainable local sourcing journey

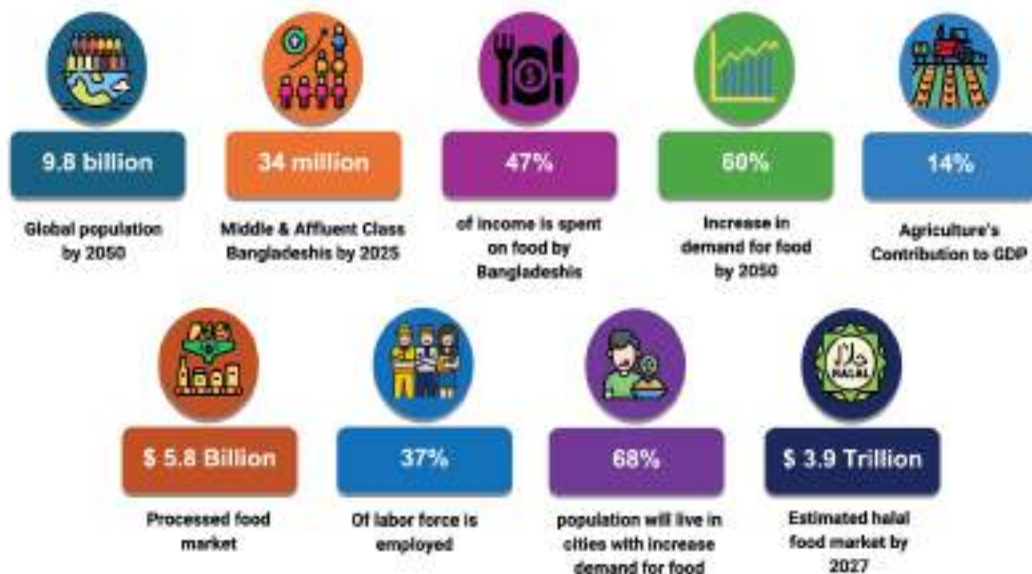


Agribusiness: Bangladesh Context

Bangladesh is an agrarian country with a tropical climate perfectly suited for the production of a variety of crops, fruits, vegetables, livestock, and fisheries, as well as a promising agro and food-processing industry. The agriculture sector employs 38 percent of the workforce and contributes to 14 percent of the country's Gross Domestic Product (GDP). The growth rate of this sector accounts for 3.2 percent.

National strategies have identified the agriculture sector as a high priority and have a targeted focus on developing agribusiness in the country. The agribusiness sector offers numerous opportunities both globally and in the local market. To realize these opportunities, global multinational food companies like Nestlé can support the overall agribusiness sector by imparting technical knowledge and providing support on good agricultural practices, which are prerequisites for sourcing for global brands. This support can help integrate Bangladesh into global agribusiness supply chains.

Figure 1: Prospects for Agribusiness Sector for Bangladesh



Globally, the demand for food is projected to rise by 60 percent by 2025. It is estimated that 68 percent of the population will live in cities by 2050 with increased demand for processed goods. By 2025, the halal food market is estimated to reach \$3.9 trillion. In the context of Bangladesh, 34 million people are estimated to be in the Middle and Affluent (MAC) category by 2025 which will inherently increase demand for food. The market for processed food in Bangladesh is expected to reach \$5.8 billion by 2030. Evidence reveals that on average, Bangladeshis spend 47 percent of their income on food and considering the size of Bangladesh's population, this makes the country a huge domestic market for agribusiness/food products.

Key challenges that are constraining agribusiness competitiveness in Bangladesh:

Agribusiness in Bangladesh faces several key challenges that hinder its prospects for growth and development. These challenges include:

1. **Increased pressure on arable land:** Bangladesh has a high population density, resulting in limited availability of arable land. The growing population and urbanization further exacerbate the pressure on land, making it difficult for farmers to expand their agricultural activities and increase productivity.
2. **Unfair prices:** Farmers often face challenges in obtaining fair prices for their produce. Middlemen and intermediaries in the supply chain often exploit farmers, offering low prices for their crops while selling them at higher rates in the market. This unfair pricing system leaves farmers with limited profits and discourages them from investing in their agribusiness.
3. **Inadequate access to knowledge, technology, and other resources:** Many farmers in Bangladesh lack access to modern agricultural practices, knowledge, and technologies. Limited access to information on improved farming techniques, crop varieties, and pest management hampers their productivity. Additionally, inadequate access to credit, irrigation facilities, and quality seeds further restricts their ability to enhance their agribusiness.
4. **Lack of investments in infrastructure, capability, and capacity development:** Insufficient investments in rural infrastructure, such as roads, storage facilities, and irrigation systems, hinder the growth of agribusiness. Additionally, there is a lack of focus on developing the capabilities and capacities of farmers through training programs, workshops, and skill development initiatives.
5. **Lack of incentivization of the sector:** Agribusiness in Bangladesh often lacks adequate incentives and support from the government. Limited subsidies, tax breaks, and financial assistance for farmers and agribusiness enterprises discourage investment and innovation in the sector.
6. **Lack of intervention in improving livelihoods of farmers:** The livelihoods of farmers in Bangladesh are often vulnerable to various risks, including natural disasters, market fluctuations, and climate change impacts. There is a need for effective interventions and policies that address these challenges and provide social protection to farmers, ensuring their sustainable livelihoods.
7. **Improper utilization of cultivated crops for processed food:** Bangladesh has a significant potential for agro-processing industries, but there is a lack of proper utilization of cultivated crops for value-added products. Insufficient investment in processing facilities and limited market linkages result in a significant portion of crops going to waste or being sold at lower prices.

Addressing these challenges requires a comprehensive approach that includes policy reforms, investments in infrastructure and technology, capacity building programs, and market interventions. By addressing these constraints, Bangladesh can unlock the full potential of its agribusiness sector, improve farmers' livelihoods, and contribute to food security and economic growth.

What is needed to increase competitiveness in Agribusiness sector of Bangladesh:

To increase competitiveness in the agribusiness sector in Bangladesh, several types of support are needed.

Firstly, there is a need for investment in infrastructure development. This includes improving rural roads, irrigation systems, and storage facilities. According to the World Bank, inadequate infrastructure is one of the major constraints faced by agribusinesses in Bangladesh, leading to post-harvest losses and higher transportation costs. By investing in infrastructure, agribusinesses can enhance their efficiency, reduce wastage, and improve market access, ultimately increasing their competitiveness.

Secondly, agribusinesses in Bangladesh require access to finance and credit facilities. Lack of access to affordable credit is a significant challenge faced by small and medium-sized agribusiness enterprises. According to the Bangladesh Bank, only around 10% of agricultural loans are provided to small and medium-sized enterprises. Access to finance is crucial for agribusinesses to invest in modern technologies, purchase quality inputs, and expand their operations. By ensuring easier access to finance and credit, agribusinesses can enhance their productivity, adopt innovative practices, and compete effectively in the market.

How Nestlé can Contribute to Develop Processed Food Industry in Bangladesh to uplift the Agribusiness sector by reduce Import Dependency and Open Window for Scaling Up Export

Nestlé can help the agriculture and agribusiness sector in Bangladesh in several ways.

Firstly, Nestlé can provide the technical know-how and knowledge on Good Agricultural Practices (GAP) to farmers and relevant authorities and how products can meet global standards. Moreover, once the products are produced in accordance with the best global standards, it can also be exported. Similarly, following global standards will enhance the quality of local products in terms of nutrition and safety.



Increase
Productivity

Productivity: Multinational Companies like Nestlé can utilize their comparative advantage in certain subsectors such as fruits, vegetables, poultry, and livestock and impart technical know-how to raise productivity in these sectors.

Global Standards: Global food companies are required to abide by certain global food safety standards for products. Multinationals can impart knowledge to government agencies regarding the updated standards (such as CODEX and EU requirements) that are practice in major markets for agriculture products. Abiding by upgraded standards will enable domestic products to integrate to global supply chains. Following global standards will enhance the quality of local products in terms of nutrition and safety, and also open a window for export of these products as they are produced by aligning.



Global
Standards



Good Agriculture
Practice

Good Agricultural Practices (GAP): Global multinationals can impart the knowledge and technical-know how to adopt GAPs. If GAPs such as controlling pesticide levels and metal levels in water, and labor standards are met, while production and processing, it can make domestic products eligible to be used in multinational companies.

Upscale Industries to Reduce Import of Food/ Import Substituting Industries: Presently Bangladesh imports a considerable amount of processed food such as chips, juice, dairy products, sugar/sweeteners, and chilled meat. Upscaling these industries will not only help to reduce import of these products, but also enable multinational companies to source these products locally.



Upscale
Industries



Technology

Technology: Global multinational companies are aware of the best technologies in each agriculture sub-sector in production and processing levels. These companies can connect Bangladeshi producers and processors with the global leaders in technology in each sector.

Access to International Markets: Global multinational food companies like Nestlé can help Bangladesh to attain access to international markets in two ways; firstly, it can provide knowledge and technological know-how to upgrade production and processes in agriculture which will make products suitable to use by these companies globally. Secondly, Nestlé can connect the producers and processors to international buyers and help in marketing their products.



Access to
International Market

In conclusion, innovative approaches in agribusiness are crucial for bridging tradition and technology in Bangladesh's agricultural sector. Precision agriculture, vertical farming, digital technologies, and sustainable practices can address challenges and improve competitiveness. Investment in infrastructure and access to finance are needed to support agribusiness growth. Global multinational food companies like Nestlé can contribute by providing technical knowledge, supporting good agricultural practices, and connecting local products to global supply chains. By embracing innovation and receiving support, Bangladesh's agribusiness sector can thrive, ensuring food security and economic growth.

In summary, innovative approaches and support are essential for the competitiveness of agribusiness in Bangladesh. Investment in infrastructure and access to finance are needed, while global multinational companies like Nestlé can provide technical knowledge and connect local products to global markets. By embracing innovation, Bangladesh's agribusiness sector can flourish, ensuring food security and economic prosperity.

AGRIBUSINESS EVOLUTION: INTEGRATING TRADITION WITH CUTTING-EDGE TECHNOLOGY



Alex Genehr
Head of Leaf
BAT Bangladesh



Innovative approaches in agribusiness today are redefining how the agriculture industry operates, blending traditional farming practices with cutting-edge technologies to enhance productivity, sustainability, and profitability. By bridging the gap between these two realms, agribusinesses are finding new ways to address the global challenges of food security, climate change, resource management, and market accessibility. Here are some key trends and innovations shaping this transformation.

1. Precision agriculture: transforming agriculture through data-driven technologies

Precision agriculture leverages advanced technologies such as GPS, sensors, drones, and satellite imagery to optimize agricultural practices. By analyzing real-time data, farmers can make informed decisions about irrigation, fertilization, pest management, and harvest timing. This approach reduces waste, minimizes environmental impact, and boosts crop yields and quality.

Precision Agriculture represents a shift from traditional agriculture towards a more efficient, sustainable model. It addresses resource constraints by optimizing water, soil, and labor use, ensuring food security and environmental conservation.



IoT in Agriculture: AI based crop prediction and management

2. IoT in agriculture: revolutionizing farming with smart technology

The Internet of Things (IoT) integrates devices and sensors across farming operations to gather and analyze data, transforming traditional agriculture into smart farming. IoT applications include real-time monitoring of crops, livestock, and environmental conditions, enabling farmers to optimize resource use and improve sustainability.

As IoT technologies become more affordable and integrate with AI and machine learning, their potential for revolutionizing farming will grow. These systems address pressing challenges such as increasing food demand and resource scarcity.

3. Farm mechanization: a paradigm shift to improve efficiency

Farm mechanization has supplemented manual and animal labor with machinery, significantly increasing productivity and efficiency, particularly in Asia. Tractors, harvesters, and other mechanized tools enable large-scale farming, reduce labor costs, and improve the quality of agricultural output.

Despite its advantages, mechanization presents challenges, such as high initial costs, rural labor displacement, and environmental concerns. Sustainable mechanization requires inclusive policies that ensure marginalized farmers' access to technology.



Farm Mechanization: A combined Paddy harvester in Bangladesh

4. Introduction of hybrid: transforming crop production

Hybrid crops, created by crossing genetically distinct varieties, combine desirable traits like higher yields, disease resistance, and stress tolerance. They are pivotal in addressing climate change, population growth, and resource scarcity challenges.

Although hybrid crops significantly enhance food security and productivity, concerns about cost, genetic diversity loss, and dependency on seed companies persist.

5. Vertical farming & urban agriculture

Vertical farming involves growing crops in stacked layers, often in controlled indoor environments. This practice maximizes space utilization and enables year-round crop production in urban settings, leveraging technologies like hydroponics, aeroponics, and LED lighting.

As arable land diminishes due to urbanization and climate change, vertical farming offers a sustainable solution for feeding growing populations. By reducing transportation distances and utilizing renewable energy, it addresses both food security and environmental concerns.



Vertical Farming: Produce crops throughout the year

6. Circular economy in agribusiness

A circular economy minimizes waste and reuses materials across the agricultural supply chain. Examples include converting organic waste into compost or bioenergy and repurposing by-products into biofuels or animal feed. These practices reduce reliance on finite resources, lower carbon footprints, and create additional value.

Waste-to-energy systems and valorization of agricultural by-products exemplify the potential for agribusinesses to adopt circular practices, fostering sustainability while reducing costs.

7. Regenerative agriculture: revitalizing soil, ecosystems, and communities

Regenerative agriculture focuses on restoring the health of soil, water, and ecosystems rather than merely sustaining them. Practices like crop rotation, cover cropping, and reduced tillage enhance biodiversity, sequester carbon, and rebuild soil fertility.

This approach aligns environmental restoration with farmer profitability, contributing to climate change mitigation and long-term food security. Governments and organizations must invest in research, education, and infrastructure to support farmers transitioning to regenerative methods.



Green Manuring: Regenerative agricultural practices to restore soil health

BAT Bangladesh, collaborating with over 50,000 farmers nationwide, has emerged as one of the pioneers in advancing agricultural practices. By integrating IoT and precision agriculture, the company leverages data-driven models to optimize crop production and resource use. Efficiency has significantly improved through mechanized land management, agronomic practices, and plantation operations. Since 2010, the introduction of hybrid crop varieties has supported higher yields and climate resilience. Additionally, BAT Bangladesh promotes regenerative agriculture through initiatives such as green manuring, zero tillage practice, and alternate furrow irrigation. Investments in science and research further solidify its commitment to driving agricultural innovation and sustainable development.

Bangladesh's agribusiness sector is at a transformative juncture, bolstered by progressive policies like the National Agricultural Policy and Agricultural Credit Policy. Investments in rural infrastructure, including roads, irrigation, and electrification, are creating a foundation for growth. Public-private partnerships are accelerating innovation in agri-tech, agro-processing, and exports. By embedding sustainable practices and embracing cutting-edge technologies, the sector is addressing critical challenges such as food security, resource management, and climate resilience. If we can further integrate traditional wisdom with modern technologies, our agriculture can become even more efficient, ensuring a harmonious balance between innovation and heritage for a sustainable future.

BANGLADESH'S AGRICULTURAL EVOLUTION: FROM SUBSISTENCE TO SUSTAINABILITY



Zahidul Islam
Managing Director
Bayer CropScience Ltd. Bangladesh



Agriculture in Bangladesh: A Pillar of the Economy

Agriculture is a cornerstone of Bangladesh's economy, employing approximately 40% of the workforce and contributing around 14% to the nation's GDP. Among these workers, smallholder farmers who comprise about 80% of the agricultural population play a crucial role in food production and rural development. These farmers typically cultivate less than two hectares of land, yet they are responsible for producing a significant portion of the country's staple crops, including rice and vegetables.

Key Components of Bangladesh's Agriculture

- 1. Irrigation:** Approximately 60% of farmland is irrigated, utilizing both traditional methods and modern techniques to enhance productivity.
- 2. Livestock:** Cattle, goats, and poultry are commonly raised, significantly contributing to rural livelihoods.
- 3. Aquaculture:** The country is renowned for its fish farming, ranking among the top producers of freshwater fish.

A Historical Journey of Agriculture in Bangladesh



Ancient and Medieval Periods

Initially, agriculture in Bangladesh was largely subsistence-based, with farmers cultivating rice, pulses, and vegetables primarily for their consumption. Traditional irrigation methods, leveraging the country's extensive river systems, were developed to support these practices.

Colonial Era (18th - 20th Century)

The British colonial rule marked a shift towards commercialization, focusing on cash crops like jute, tea, and indigo. This era also saw changes in land tenure systems, significantly impacting farmers' rights and productivity.

Post-Independence (1971 Onwards)

The Green Revolution in the 1970s introduced high-yielding varieties (HYVs) of rice and wheat, significantly boosting agricultural production. The government implemented various policies to support farmers, including subsidies for fertilizers and improved irrigation facilities.

Modern Era (2000s - Present)

Today, farmers are diversifying their crops, incorporating fruits, vegetables, and fish farming to enhance food security and income. There is a growing emphasis on sustainable practices to address environmental challenges and ensure long-term productivity. Technological advancements, such as mobile applications for market information and weather forecasts, have further improved farmers' decision-making.

Celebrating Success in Agriculture

The success of agriculture in Bangladesh is evident in various key areas:

- 1. Increased Production:** Bangladesh produces over 35 million tons of rice annually, thanks to the introduction of high-yielding varieties during the Green Revolution. Crop diversity, including jute, potatoes, and vegetables, has also increased.
- 2. Technological Advancements:** Improved irrigation methods and fertilizer use have enhanced yields, with around 60% of farmland now irrigated. Investments in agricultural research have led to resilient crop varieties and better farming practices.
- 3. Economic Impact:** Agriculture plays a crucial role in employment, accounting for about 40% of the workforce, and significantly contributes to rural livelihoods and poverty reduction. The sector represents approximately 14% of the national GDP.
- 4. Food Security:** Bangladesh has made significant strides toward food self-sufficiency, particularly in rice, reducing reliance on imports.

The Role of Agri-Input Suppliers

Agri-input supplying firms are instrumental in the success of agriculture in Bangladesh. Their contributions can be highlighted in several areas:

- 1. Enhanced Productivity:** These companies provide high-quality seeds, fertilizers, pesticides, and herbicides that enhance crop yields. The introduction of high-yielding and disease-resistant seed varieties has significantly boosted production across various crops.
- 2. Access to Technology:** Agri-input suppliers introduce modern agricultural technologies and practices, aiding farmers in adopting efficient cultivation methods. Many companies also offer training programs and technical support to ensure effective use of their products.
- 3. Economic Growth:** The sector is enabling job creation not only within the input companies but also areas of distribution and retail, contributing to the rural economy and market development.
- 4. Sustainability Initiatives:** Many input suppliers focus on sustainable and eco-friendly products, such as organic fertilizers and biopesticides, promoting environmentally responsible farming practices. They also advocate integrated pest management to minimize chemical use while effectively managing pests.
- 5. Research and Development:** Investment in R&D by such companies have led to the introduction of innovative products tailored to local conditions. Collaborations with agricultural research institutions help develop effective solutions for crop production and pest management.
- 6. Improved Food Security:** By supplying inputs that enhance crop resilience, these companies contribute to better food security and nutritional outcomes across the country.

Bayer CropScience Bangladesh: A Leader in Agricultural Innovation

Bayer CropScience in Bangladesh plays a pivotal role in supporting the agricultural sector through its innovative initiatives aimed at empowering smallholder farmers.

- 1. Better Life Farming Initiative:** Bayer's comprehensive program serves as a one-stop solution for farmers, providing essential resources and knowledge to enhance productivity and livelihoods. Through training, quality inputs, and market access, the initiative empowers women farmers, women agri-consultants, and women entrepreneurs in a three-tier ecosystem that promotes diversity, equity, and inclusion. The Better Life Farming initiative further creates employment opportunities, allowing rural residents to become entrepreneurs. With over 740 centers nationwide, women entrepreneurs are connecting farmers through digital tools and have successfully onboarded more than 4,000 women farmers, driving sustainable growth in the agricultural sector.



Woman Agri-entrepreneur selling products



Engaging female farmers in field and celebration of internal woman's day

2. GeoPotato Initiative: The GeoPotato program in Bangladesh, implemented by Bayer in partnership with Wageningen Plant Research, Terrasphere, mPower, and governmental institutions, enhances potato cultivation by providing smallholder farmers with a precise decision support service that offers preventive spray advice against late blight, a significant fungal disease. Utilizing geodata for an early warning system, the program alerts farmers to potential infection periods. Since its launch, GeoPotato has onboarded 50,000 farmers and aims to reach 1 million by 2030, helping to reduce crop losses and improve profitability for thousands of farmers in the region. This initiative empowers farmers to make informed crop protection decisions, ultimately enhancing their income and resilience against climate shocks.

3. Climate-Smart Varieties: In addition to GeoPotato, Bayer is dedicated to developing climate-smart seed varieties that are resilient to environmental stresses. These varieties help farmers maintain yields despite challenging conditions, contributing to food security and sustainability.

4. Direct Seeded Rice: Bayer's Scale Direct initiative promotes Direct Seeded Rice (DSR) as a sustainable alternative to traditional transplanting, focusing on farmer education, innovative technologies, and collaboration with research institutions and NGOs to enhance productivity and address challenges like water scarcity and labor shortages. The DSR program significantly reduces labor and water usage by up to 50%, allowing farmers to save costs and increase productivity while enabling higher cropping intensity and reducing greenhouse gas emissions. In regions like Nilphamari, Bangladesh, 45 farmers have cultivated 16 hectares using high-yielding varieties supported by the International Rice Research Institute (IRRI).

5. Innovations in Crop Protection Solutions: Bayer is at the forefront of developing advanced crop protection solutions that are both effective and environmentally responsible. Their new formulations focus on integrated pest management, reducing the need for chemical applications while effectively controlling pests. This approach minimizes the ecological footprint and promotes sustainable farming practices.

6. Seed Innovations: Bayer is continually investing in R&D to develop high-quality seeds that are resistant to diseases and pests. These innovative seed varieties not only increase crop yields but also enhance resilience to climate change, ensuring that farmers can adapt to changing environmental conditions.

7. New Technologies: Bayer is leveraging cutting-edge technologies such as digital farming tools and precision agriculture. These technologies help farmers make informed decisions based on real-time data regarding weather patterns, soil health, and crop performance. By integrating technology into farming practices, Bayer empowers farmers to optimize their resources and maximize productivity.

8. Sustainability Focus: Bayer's commitment to sustainable agriculture is evident in its promotion of eco-friendly practices and products. By advocating for integrated pest management and providing access to organic fertilizers, Bayer helps farmers adopt practices that protect the environment while improving their yields.

Through these initiatives, Bayer CropScience Bangladesh is not only enhancing agricultural productivity but also fostering a more resilient and sustainable farming community, bridging the gap between traditional practices and modern technology.

Future Directions and Recommendations

As Bangladesh's agricultural sector faces challenges such as climate change, urbanization, and the loss of arable land, innovative farming solutions are essential. Future directions should include:

1. Mechanization: Increasing the adoption of mechanization in farming practices can enhance efficiency, reduce labor costs, and improve productivity. Mechanized tools and equipment can help farmers manage their fields more effectively.

2. Regenerative Agriculture: Emphasizing regenerative agricultural practices can improve soil health, enhance biodiversity, and increase resilience against climate impacts. This approach focuses on restoring ecosystems while maintaining productivity.

3. Digital Technology: Leveraging digital technologies, such as mobile applications and data analytics, can provide farmers with critical information on weather, market prices, and best practices. This information empowers farmers to make informed decisions that enhance productivity and sustainability.

4. Continued Support for Agri-Input Suppliers: Supporting agri-input suppliers, will further enhance productivity and sustainability, ensuring a robust agricultural future for Bangladesh.

By integrating these strategies, the agricultural sector in Bangladesh can navigate future challenges, improve resilience, and contribute to food security and economic growth.

CROP PROTECTION INDUSTRY DRIVING FOOD SECURITY AGENDA



We create chemistry

Sazzadul Hassan

Chairman & Managing Director
BASF Bangladesh Limited



The world yet to produce enough foods for everyone. World Food Programme (WFP) says, in 2024, a total 309 million people face acute hunger globally. Of these, more than 37 million people face emergency levels of hunger or worse. Nearly 821 million people - one in nine - still go to bed on an empty stomach each night.

It is estimated that by 2050 the global food production will need to increase by 50 percent to feed the increasing population. This is going to be a daunting task in the backdrop of decreasing arable land, adverse climatic changes and increasing pressure of insects and diseases.

Situation in Bangladesh is also very challenging in terms of food security. In the 2024 Global Hunger Index (GHI), Bangladesh ranks 84th out of the 127 countries. WFP survey revealed, 24 percent of people in the country are food insecure. Meanwhile, a 2023 report on global food security and nutrition by five United Nations agencies said that more than 5 crore people in our country are in severe to moderate food insecurity. Among them, 1 crore 87 lakh people are in severe food insecurity.

The story doesn't stop here. Country's population is expected to be 20 crores in 2050. To feed this huge population we have no option but to increase food production significantly.

Study shows, every year up to 40 percent of global crop production is lost because of pests and diseases. According to a FAO report, plant diseases cost the global economy around \$220 billion annually, and invasive insects around \$70 billion. Weeds are another significant biotic constraint on global food production.



Crops have to incessantly fight against nearly 30,000 species of harmful weeds, 3,000 species of deadly nematodes, 10,000 species of plant-eating insects and numerous dangerous fungi for their survival. These harmful weeds, insects and fungi are commonly referred as pests. Crop protection (CP) products, usually known as pesticides or agrochemicals, are applied to control the harmful pests. Typically, pesticides include insecticides for controlling insects, herbicides for managing weeds and fungicides for protecting the plants from various diseases. Sanitizers, plant growth regulators (PGR), rodenticides and so on are also considered as pesticides.

Some CP products have crop enhancement (CE) properties that boost crops' vigor and improve flower and fruit settings ability, resulting in more yields. These chemistries also help the grains or fruits to become shinier and bolder and eventually facilitate the farmers to obtain better market price for their produces.

FAO data shows, in 2022 total pesticides consumed in agriculture globally was roughly 3.70 million metric tonnes of active ingredients (AI). Approximately, Europe consumes 45 percent, the US 25 percent and the rest of the world the remaining 30 percent of the pesticides. Herbicides account for 48 percent of total pesticides applied globally, followed by insecticides at 30 percent and fungicides at 18 percent, and others at 04 percent.

According to a report, China is the largest pesticide-consuming country in the world, followed by the US and Brazil. Per hectare pesticide usage in China is about 13 kg. Pesticide consumption in per hectare of land in some of the other developed countries is: Japan 11.8 kg, France 4 kg, Germany 3.8 kg, the UK 3.2 kg, Canada 2.4 kg, and the US 2.5 kg.

FAO report shows, pesticide consumption per hectare of land in Bangladesh is about 1.80 kg. Total pesticides consumption in the country in 2022 was nearly 15,500 tonnes of active ingredients.



The Crop Protection (CP) industry plays important role in the country's agriculture sector in terms of enhancing food production and thus helping the country to drive its food security agenda. The present market value of the industry is about \$330 million. In the last ten years, the industry has experienced double digit growth. In coming days CP industry is expected to grow at a similar pace, if not better, since the country needs to boost its agriculture productivity to ensure food security for its increasing population.

Presently, there are more than 500 companies working in the sector, employing approximately 30,000 people. Almost 50,000 dealers across the country are involved in selling pesticides.

Despite its significant contribution to the country's agriculture, CP industry often fails to get due recognition; rather, wrong perceptions exist about pesticides in the minds of many. Quite often, preservatives like formalin or chemicals like carbide are mixed up with agrochemicals.

To deal with the wrong perceptions, Bangladesh Crop Protection Association (BCPA) along with the leading companies should engage with different stakeholders to make them aware of the facts.

They need to keep on promoting integrated pest management (IPM), which is a well-recognized scientific means recommended by scientists and competent authorities to handle pest problems. IPM endorses the usage of chemicals or pesticides along with other ways and means. Growers should be adequately trained on the safety measures to be taken during pesticide application to avoid any adverse impact. This is a highly technical sector that requires sound knowledge. To ensure judicious use of pesticide, there is no alternate to imparting the knowledge across the value chain, from the dealers to the farmers.

Another acute challenge for the sector is the counterfeit and adulterated products. Farmers often get cheated with fake chemicals. The concerned regulatory authorities along with the law enforcing agencies need to strengthen their vigilance and bring those unscrupulous peddlers to justice to safeguard farmers' interests.

Sustainable Development Goal (SDG) # 2 clearly articulates that by 2030 end hunger, achieve food security and improve nutrition and promote sustainable agriculture. To achieve this target, CP industry is playing a critical role. Therefore, this important industry needs to be nurtured with proper guidance and support.

INNOVATIVE APPROACHES IN AGRIBUSINESS: BRIDGEING TRADITION & TECHNOLOGY

SGS

Engr. Abdur Rashid
Country Managing Director
SGS Bangladesh Limited



The word "agribusiness" unites business with agriculture.

In 1950, the term was first introduced by Harvard Business School (HBS) Professors Ray Goldberg and John Davis.

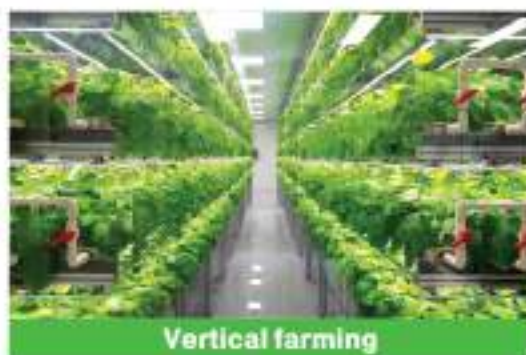
Bangladesh needs an environmentally sound, profitable, and sustainable agribusiness sector to guarantee the country's food security for the long run.



These are some instances of how **agriculture industry** is progressing through the integration of contemporary **technology and traditional techniques**.

Precision farming: Gathering information on crop growth, pest infestations, and soil health using drones fitted with sensors. Using sensors to track temperature and fertilizer levels in fields allows farmers to make data-driven decisions.

Vertical farming: This is become a cutting-edge method for maximizing output in a small area. Farmers may grow more while using less space and resources by planting crops vertically in stacked layers.



Vertical farming



Intelligent food supply chain management:

The use of blockchain technology guarantees authenticity and traceability. The temperature, humidity, location, and condition of products are just a few of the characteristics of the supply chain that are monitored by IoT (Internet of Things) devices like sensors and GPS trackers. Farmers can now get information on market prices, weather forecasts, crop management techniques, demand trends, and other topics using mobile applications.

Market linkage: Provides better food by connecting customers with certified farms. Digital platforms, agricultural cooperatives, contract farming, cold chain infrastructure, market information systems, value-added processing, quality standards and certification, public-private partnerships, and others are some important techniques for enhancing market linkage in Bangladeshi agribusiness grow more while using less space and resources by planting crops vertically in stacked layers.



Smart Irrigation System: Farmers are benefiting from these automated controls and sensors, which maximize water utilization while cutting waste. Crops get the appropriate amount of water at the appropriate time, which improves agricultural yield and quality.



Mechanization: A growing trend in rice transplanters, power tillers, combine harvesters, and tractors. Pump sets, sprinklers, and drip irrigation systems are examples of irrigation equipment. Post-harvest technologies include grain dryers, rice hullers, and others.



Feed Combine Harvester



Rice Transplanter Riding Type



Head Feed Combine Harvester



Thresher



Potato Harvester With Power Tiller

These creative methods are assisting Bangladeshi agribusiness in modernizing its agricultural industry to increase productivity, profitability, sustainability, and enhancing farmers' livelihoods.





The agricultural industry is facing increasing demand while risks relating to quality, safety and sustainability increase. The agricultural supply chain is becoming ever more complex. Market players need to continually optimize their supply chains, to help reducing losses and additional costs while improving the quality and safety of the products delivered to the market.

In a complex and highly regulated world, access to high quality and trusted independent testing and inspection services is key. In addition, fumigation, risk management, auditing and certification services, all backed by the latest market intelligence, ensure your commodities will efficiently reach their target global markets.



We verify and analyze your products to ensure they meet contractual and regulatory requirements for all global destinations.

SGS provides various agribusiness services like precision farming, assessment of SMART warehouses, grain fumigation, on-site grain grading, laboratory and field performance evaluation of agricultural inputs, control and analyze agricultural commodities to ensure quality, safety and compliance requirements for all global destinations, provide a complete set of solutions at every stage of the value chain to bring agricultural commodities to market.

We are active members of "Grain And Feed Trade Association" (GAFTA) and "Federation of Oil, Seeds and Fats Associations" (FOSFA) - which ensure that our global experts always operates according to the latest industry best practices.

With 150 years of experience and global networks, we can support you in reducing risk, while improving efficiency and safety in your supply chain.

SGS



SYNGENTA BANGLADESH: LEADING AGRICULTURAL TRANSFORMATION AND ADVANCING SUSTAINABILITY TO UNLOCK FARMERS' POTENTIAL



Hedayet Ullah
Managing Director
Syngenta Bangladesh Limited



In the fertile lands of Bangladesh, Agriculture is a story of resilience and opportunity. For generations, it has been the backbone of rural communities, the livelihood of millions, and the foundation of the nation's food security. Employing over 40% of the labor force and contributing 11.38% to the national GDP, this sector is critical to feeding a growing population and sustaining millions of lives.

Though the sector benefits from a rich diversity of crops, existing large farming community, increasing investment and support from government policies. Yet, this vital sector is now at a crossroads, facing challenges that threaten the future of this critical industry. Smallholder farmers, who contribute over 80% of the country's agricultural output, are at the forefront of this challenge. They constantly challenged by factors such as unpredictable climate conditions, shrinking arable land, inadequate access to finance and gap in agricultural knowledge & technologies, have left them struggling to sustain livelihoods.

Sustainability is not just a priority, but an urgent necessity for survival

With the world's population projected to soar to 9.7 billion by 2050 and Bangladesh expected to reach nearly 200 million, the demand for food will surge significantly. The World Bank estimates that 1% of arable land is lost annually to urbanization, while climate volatility increases pest outbreaks and disrupts traditional cropping patterns. This escalating demand puts unparalleled pressure on agriculture to do more with limited resources.

In the above context, Syngenta Group have set four sustainability priorities, each with a clear set of targets.

SUSTAINABILITY PRIORITIES



At Syngenta Bangladesh, keeping farmers at the center of everything, embedded sustainability in every stage of business & operation. For over 50 years, Syngenta Bangladesh has been a pillar of crop production and protection, driving food security with innovative & sustainable solutions that have transformed the lives of millions of smallholder farmers.

Through sustainability initiatives like CENTRIGO™ –an end-to-end solution for farmers, "GoGrow" –climate-resilient programs for coastal farmers, and the "Farmer School" –an integrated learning hub, Syngenta is empowering farmers and ensuring the long-term resilience of Bangladesh's agricultural sector.

CENTRIGO™ - New Farming Ecosystem: Farmer-Centric End to End Solution to Food Security and Value Chain Development.

To enable smallholder farmers, CENTRIGO™ is a farmer-centered ecosystem, revolutionizing agriculture in Bangladesh by providing holistic solutions to overcome challenges that threaten crops and farmers' livelihood.



CENTRIGO™ provides an end-to-end model that integrates support at every stage, from crop production to post-harvest handling and market access. It connects farmers with essential services such as financing, crop insurance, digital tools, seed treatment, and forward linkage. Each center is staffed with dedicated professionals offering services like telemedicine, life insurance, harvesting equipment, and agronomic knowledge, bridging critical gaps in the agricultural value chain. CENTRIGO™ is designed to improve resilience, productivity, and food security along backward to forward linkage and making farming more sustainable and rewarding for rural farming communities.

CENTRIGO™ : An Integrated Model with Key Sustainability Offerings



1. Access to Finance: Collateral-free loans at low interest rates.
2. Mechanized Harvesting: Cuts costs by 20-30%, reducing weather-related losses.
3. Crop Insurance: Weather-indexed coverage with premiums paid by Syngenta.
4. Market Linkages & value Chain Partner: Ensures fair prices through partnerships like contract farming.
5. Telemedicine: Free specialist consultations for farmers and families.
6. Life Insurance: Coverage for selected farmers, fully funded by Syngenta.
7. Seed Care: Free treatment services to improve germination and yield.



CENTRIGO™ has already benefited 10,000 farmers, increased yields and reducing costs. With 12 centers across Bangladesh, Syngenta plans to expand CENTRIGO™ center more in near future.



GoGrow-Climate resilient initiatives to enrich the livelihood of coastal belt farmers

Bangladesh's agricultural sector, particularly in the southern coastal belt areas like Shyamnagar in Satkhira, is facing a direct struggle with the initial impacts of climate change. The rising salinity, worsened by climate-related disasters like cyclones and floods, is increasingly impacting agricultural land and contaminating freshwater sources. Considering the situation, Syngenta Bangladesh pioneered a life-changing project called 'GoGrow' is enriching smallholder farmers in saline-prone areas to increase their incomes and improve their profitability. With the collaborative efforts of the Bangladesh Institute of Nuclear Agriculture (BINA), and the Smallholder Agricultural Competitiveness Project (SACP) under the Department of Agricultural Extension (DAE) enabling year-round cultivation and transforming their lives.

GoGrow: Transforming Coastal Agriculture

GoGrow is empowering over 150 coastal farm families across 100+ acres of salty land through saline-tolerant rice variety, rainwater harvesting with 17 ponds, introducing solar irrigation, livestock integration, hands-on training on modern agriculture & Stewardship and regenerative practices.

With van donations for mitigating post-harvest loss and tree plantations to enhance ecological balance, the initiative has increased community socio-income, strengthening livelihoods and preventing migration from farming.

By 2030, GoGrow aims to expand its impact to 600 acres and 15,000 farm families.



Farmer School-Know More, Grow More: An Integrated Learning Hub for Sustainable Agriculture

By prioritizing the knowledge gap in the farming community, Syngenta Bangladesh Limited, in partnership with the local government, has established first infrastructural Farmer School in Bangladesh. This school offers training on modern farming techniques, safe use of crop protection input and fertilizer, soil health, livestock and fisheries management, capacity building for CMSMEs entrepreneur and access to agri finance. Led by expert agricultural scientists and resources professional from public & private sector, the school equips farmers with essential skills to enhance productivity and sustainability.





Additionally, exclusive programs for women and youth farmers promote inclusivity through initiatives such as boutique hand-stitching during leisure time and exposure visits to enhance their knowledge. These efforts also introduce young farmers to agricultural digitization and mechanization.



Cultivating Knowledge for Change: Impact and Future Goals

Since its inception, the Farmer School has trained more than 1,000 farmers across 14 villages, with plans to reach 10,000 beneficiaries by 2028. The 'Farmer School' is more than just a training hub, the Farmer School is a trusted resource for farmers, offering tailored solutions to improve their cultivation practices and livelihoods as well.



A Vision Realized

Syngenta Bangladesh's initiatives stand as a testament to the power of innovation and sustainability in transforming agriculture. These initiatives directly support broader SDGs targets, such as Zero hunger (SDG 2), Industry, innovation and infrastructure (SDG 9), Responsible Consumption and Production (SDG 12), and Partnerships for the goals (SDG 17).

Syngenta Bangladesh and the Government of Bangladesh are working hand in hand in a concerted effort to transform agriculture, unleash the true potential of farmers and strengthen food security.


**AVERY
DENNISON**
MAKING POSSIBLE™

AVERY DENNISON UNITES CHILDREN LIVING IN WORLD'S LARGEST REFUGEE CAMP THROUGH SOCCER PARTNERSHIP TO CELEBRATE WINNING SPIRIT

To ignite the spirit of winning in our next generation, Avery Dennison hosted a soccer tournament, "Winning Spirit," for children living in Ukhiya at Cox's Bazar, the world's largest refugee camp. This initiative aimed to uplift the spirits of these children, fostering a sense of community, resilience, and hope.

The tournament, held at the Refugee Camp, saw 30 enthusiastic children divided into teams. Beyond the competitive aspect, the event fostered teamwork, resilience, and positive attitudes among the young refugees. It also aimed to improve their physical and mental well-being, encouraging a healthy lifestyle.

The event commenced with a warm welcome by the children with flowers, followed by a glimpse into the lives of the young refugees. Filled with anticipation, the children greeted the Avery Dennison team with a spirited rendition of their national anthem. Friendly football matches ensued, fostering camaraderie and sportsmanship. The event culminated in a heartwarming prize-giving ceremony, recognizing the young athletes' exceptional sportsmanship and skills.



To make the event truly memorable, Avery Dennison went the extra mile. They designed and sponsored heat transfers and badges for the players' jerseys, emblazoned with messages of friendship, hope, and inclusion. The addition of backdrops, banners, plaques, and trophies elevated the tournament's atmosphere, creating a professional and exciting experience for all involved.

In addition, Avery Dennison generously donated footballs, jerseys, and other essential equipment to inspire a lifelong love for sports. By empowering young refugees to pursue their passion for the game, Avery Dennison not only created a lasting legacy but also instilled a sense of hope and opportunity for future generations of athletes. This noble contribution will undoubtedly inspire these young individuals to embrace a healthier lifestyle and reach for their full potential.



Beyond the organized activities, the Avery Dennison team engaged with the refugees on a personal level, listening attentively to their stories and aspirations. This meaningful interaction fostered empathy and understanding, leaving a lasting impact on both the team and the refugee community.

Last but not the least, The "Winning Spirit" tournament was more than a mere sporting event; it was a celebration of resilience, hope, and human connection. This heartwarming event was made possible through a wonderful collaboration between Avery Dennison, KLABU Foundation, and NGO Friendship. Together, they brought joy, hope, and empowerment to these young lives. This event will be remembered as a beacon of positivity, inspiring future generations. By providing essential resources and fostering a sense of belonging, Avery Dennison demonstrated the power of sports to unite people and inspire positive change.



FIRE SAFETY TRAINING AT LOCAL PRIMARY SCHOOL BY SCCBD

Siam City Cement (Bangladesh) Ltd. recently organized an impactful Corporate Social Responsibility (CSR) initiative to raise fire safety awareness at Sonakanda Beparipara Primary School, a local primary school situated at Narayanganj, Dhaka. The program featured in-depth training sessions designed to teach participants essential skills for responding effectively to potential fire emergencies. By highlighting the importance of coordinated efforts and seamless collaboration during crises, the initiative sought to prepare participants for handling fire hazard and emergencies with confidence. Teachers, guardians, and students actively participated in learning critical aspects of firefighting, emergency evacuation techniques, and strategies to prevent fire hazards.



The program's interactive approach provided attendees with practical knowledge and boosted their confidence in managing emergency situations. Real-life demonstrations and customized training sessions aimed to build a safety-conscious community from the ground up. Participants expressed their appreciation for the initiative, with teachers valuing the practical life-saving tips, guardians acknowledging the enhanced safety awareness imparted to their children, and students showing enthusiasm about applying their new skills.



This educational endeavor not only empowered individuals but also strengthened the community's readiness to face emergencies. Siam City Cement (Bangladesh) Ltd.'s aims to contribute meaningfully to safety and preparedness in society and community.



LafargeHolcim

LAFARGEHOLCIM BANGLADESH WINS GOLD AWARD FROM ICMAB FOR THE SECOND YEAR IN A ROW

LafargeHolcim Bangladesh PLC. (the Company) has been honoured with the prestigious 'Gold' Award, the top recognition under the Cement Manufacturing category at the 14th Institute of Cost and Management Accountants of Bangladesh (ICMAB) Best Corporate Award giving ceremony held on 14 November, 2024 at a city hotel. ICMAB has started awarding best corporate awards to corporate Institutions in Bangladesh from the year 2007 for their good performances and to promote transparency, accountability, good governance ensuring commitment to the society and enhancing the level of performances for their stakeholders. ICMAB believe that this process of giving award shall definitely create a healthy competition among corporate houses to maintain continuous sustainable improvement which shall ensure providing better quality of products and services to the people. Best corporate Awards are given considering various qualitative and quantitative criteria which are prepared taking into consideration the guidelines of SAFA, CAPA, IFAC and internationally accepted principles for judging the economic, effective, and efficient operation of the corporate houses/institutions.



The Company won the 'Gold Award' for the second year in a row. Mr. Iqbal Chowdhury, Chief Executive Officer of the Company received the award from Dr. Salehuddin Ahmed, Adviser to the Ministry of Finance and Mr. Sk. Bashir Uddin, Adviser to the Ministry of Commerce who were present as the chief guest and special guest respectively.



Mastercard, Southeast Bank PLC and InstaSure Limited, have introduced a co-branded Titanium credit card and prepaid card featuring multiple insurance and healthcare benefits, such as low premium plans, quick claim processing and settlement, and cost-effective deals on health tests. The new cards offer affordable insurance plans with coverage up to Tk 500,000, including term life, accident, and disability insurance. Cardholders can access discounts on pathology tests and radiological imaging and benefit from a switch on-switch off insurance feature via the InstaSure platform. This collaboration aims to provide customers with comprehensive healthcare services at leading medical facilities and customizable insurance plans. The cards promise a seamless transaction experience with Mastercard's advanced payment security and additional perks.



Mastercard, PriyoShop & LankaBangla Finance PLC announced a first of its kind collaboration to introduce a co-branded Titanium credit card for CMSMEs. The new card will reduce merchants' reliance on cash, provide them additional benefits, and help them build a digital footprint to easily access formal financial services. The LankaBangla - PriyoShop Co-Branded Titanium Mastercard credit card will enable over 5,000 merchants on the PriyoShop platform to seamlessly process digital payments through the PriyoShop platform and POS terminals, with additional merchants gaining access in subsequent phases.



Mastercard, Dhaka Bank PLC & Green Delta Insurance PLC recently announced its collaboration to introduce two co-branded credit cards - Titanium and World - offering both life and non-life insurance benefits to the customers, for the first time in the country. The cardholders will enjoy discounts on healthcare services, telehealth access, up to 60% off

at hotels, and savings on lifestyle products. Insurance benefits include Tk 5-10 lakh coverage and discounts on medical services. Farzanah Chowdhury, Managing Director and CEO, Green Delta Insurance PLC, Sheikh Mohammad Maroof, Managing Director, Dhaka Bank PLC, and Syed Mohammad Kamal, Country Manager, Bangladesh, Mastercard, were present at the inauguration event among other senior officials of the mentioned organizations.



Banglalink, in collaboration with Mastercard and Eastern Bank PLC, has launched three new co-branded cards: World Mastercard, Titanium Mastercard, and Prepaid Mastercard, exclusively for Banglalink's Orange Club members. These cards offer special privileges, such as waived issuance fees, global airport lounge access, and discounts through Mastercard's Priceless Specials and EBL's partner merchants. Erik Aas, Chief Executive Officer, Banglalink, Ali Reza Iftikhar, Managing Director, Eastern Bank PLC, and Syed Mohammad Kamal, Country Manager, Bangladesh, Mastercard, emphasized how these cards provide Banglalink's customers with exceptional benefits and enhance the customer experience across lifestyle, travel, and dining.



Mastercard in collaboration with Southeast Bank PLC, and Zantrik Limited, has launched a prepaid card tailored for car owners. This innovative card provides exclusive benefits, including up to BDT 3,000 savings on repair work, BDT 5,000 discounts on LPG conversion with no-cost EMI, and 20% off on roadside assistance. Additionally, cardholders can enjoy complimentary foam washes twice a year, no labor charges for engine oil replacement, free annual vehicle health and AC check-ups, and 15% off on first-party car insurance. The card also unlocks special deals on the Zantrik platform and access to offers at over 8,000 Mastercard partner outlets nationwide.



The Mastercard Excellence Awards 2024, themed 'Leading by Resilience', honored 26 organizations across 18 categories for their exceptional contributions to financial inclusion and strengthening Bangladesh's digital economy. The sixth edition of the awards, held in Dhaka. Dr. Ahsan H. Mansur, Hon'ble Governor of Bangladesh Bank was the Chief Guest, and Trishita Maula, Acting Deputy Chief of Mission, US Embassy in Dhaka, as Guest of Honor. CEOs of leading banks, fintechs, and merchants also participated in the event. Since its inception in 2019, the awards have recognized industry leaders driving digital payment adoption. Operating in Bangladesh since 1991, Mastercard continues to collaborate with public and private stakeholders to enhance the nation's digital ecosystem.



METLIFE NAMED TO THE FORTUNE WORLD'S 25 BEST WORKPLACES FOR 2024

MetLife has been named among the Fortune World's Best Workplaces for 2024. MetLife is one of only 25 companies who earned a spot on the list.



বিশ্বের সেরা ২৫ কোম্পানির তালিকায় মেটলাইফ



জীবনের পথে চলি একসাথে

"MetLife's inclusion on the Fortune World's 25 Best Workplaces list belongs to our employees who bring our purpose to life every day, with passion and dedication, to deliver for our stakeholders," said MetLife President and CEO Michel Khalaf. "We are proud to be recognized for our ongoing commitment to foster an inclusive workplace where everyone feels valued and empowered to reach their full potential."

The 2024 World's 25 Best Workplaces, compiled by Fortune research partner Great Place to Work, is based on 7.4 million survey responses representing the experiences of 20 million workers around the globe. Organizations are assessed on their efforts to create great workplaces and positively impact people and communities across multiple countries worldwide.

SYNGENTA'S SUSTAINABILITY INITIATIVES SHINES AT UN GLOBAL COMPACT NETWORK SUSTAINABILITY DAY 2024



The UN Global Compact Network Bangladesh celebrated Sustainability Day 2024, themed **"Building Resilience: Advancing Sustainability"**. The event highlighted a crucial period in Bangladesh's journey as it navigates a shifting political landscape, adapts to evolving regulations, and prepares to graduate from the Least Developed Countries (LDC) category.

Lamiya Morshed, principal coordinator for the Sustainable Development Goals (SDGs) at the Chief Adviser's Office, attended as the chief guest.



Mohammed Shahidul Islam, Corporate Affairs and Sustainability Director, served as a panelist in the critical technical session **"Strengthening Food Security across the Value Chain"**. He extended valuable insights and highlighted Syngenta's Initiatives on Sustainability to address this crucial issue.



Syngenta Bangladesh participated and showcased key sustainability initiatives such as **CENTRIGO-New Farming Ecosystem**, **Crop Insurance Program**, **GoGrow Project**, **Stewardship Programs**, **farmer School**, **SheShine** and **SynGreen** in the event.



UNILEVER BANGLADESH LAUNCHES SUSTAINABILITY BLUE BOOK 2024 AT 'PROGRESSING SUSTAINABLY: TOGETHER FOR BANGLADESH' EVENT

Unilever Bangladesh Limited (UBL) launched its second voluntary report, the **Sustainability Blue Book 2024**, at the event **'Progressing Sustainably: Together for Bangladesh'** on 27 November 2024. The event brought together stakeholders, partners, and Unilever's sustainability champions to showcase its progress and vision for a sustainable future under its business strategy, the Growth Action Plan (GAP), focusing on four pillars: **Climate, Nature, Plastic, and Livelihood**. H.E. Sarah Cooke, British High Commissioner to Bangladesh, joined the event as the Chief Guest.



The event began with Shamima Akhter, Director - Corporate Affairs, Partnerships and Communications, UBL, delivering a keynote, charting Unilever's sustainability journey from the Unilever Sustainable Living Plan (2010) to the Unilever Compass (2020) and GAP (2023), which drives sustainable growth and innovation across its four key pillars. She also highlighted the evolving challenges of sustainability. She concluded with Unilever's vision to contribute to build a sustainable future for Bangladesh.

To delve deeper into UBL's sustainability initiatives under the four pillars of GAP, respective UBL teams presented **4 compelling case studies**:

Presentation on Climate by Abdullah Mostofa, Country Safety, Health and Environment (SHE) Manager, UBL: Recognising climate change as a significant threat to people and the planet, Unilever aims for Net-Zero emissions across its value chain. By 2030, it targets a 100% reduction in operational emissions (Scope 1 & 2) from a 2015 baseline, a 42% reduction in Scope 3 energy and industrial emissions from a 2021 baseline, and a 30.3% reduction in Scope 3 Forest, Land, and Agriculture (FLAG)





Presentation on Nature by Dilruba Ahmed Choudhury, Country Procurement Lead and Nabil Imran Siddiquee, Head of Developments, UBL: Unilever is committed to protecting and regenerating nature both within and beyond its value chain. By sourcing responsibly and conserving critical natural resources like water, the organisation strives to leave a healthier planet for future generations. In Bangladesh, Unilever sources essential raw materials, such as palm oil, from NDPE-certified (No Deforestation, No Peat Conversion, No Exploitation) sources, despite the added cost. Additionally, the organisation continuously improves its product formulations to enhance consumer safety while reducing the need for natural resource extraction—for example, optimising Total Fatty Matter (TFM) in its products. This case study presentation highlighted Unilever's efforts in sustainable sourcing and resource-efficient production.



Presentation on Plastic by Sabera Haque, Category Head - Home & Hygiene, UBL: Unilever recognises the challenge of plastic pollution and leverages its innovation capabilities to develop scalable solutions. The organisation is committed to reducing virgin plastic use, optimising usage through design innovations, and introducing refill technology to revolutionise consumer purchases. Their aim is to end plastic pollution through reduction, circulation, and collaboration. In Bangladesh, Unilever is making significant strides by collecting and processing more plastic than they produce. This is achieved through partnerships with the informal

sector, value chain actors, multilateral donors, NGOs, and public sector entities like municipalities. While their approach aligns with their global commitment, it is tailored to the local context and ecosystem. They are also working on innovative solutions such as retail refill technology to further reduce plastic use. This case study presentation highlighted the Urefill initiative, which aims to protect the environment while adding consumer value, by driving behaviour change through innovation, inspiring retailers and consumers to join the fight for a plastic waste-free future for Bangladesh.

Presentation on Livelihood by Shabit Shafiullah, Customer Development (CD) Excellence Head:

Inequality impacts income, health, human rights, and economic growth, and it also affects the resilience of corporate value chains. As a global consumer goods company, Unilever depends on a vast network of small retailers and partners whose success is directly tied to its own. Unilever Bangladesh is committed to improving the livelihoods of small retailers and value chain partners, recognising their critical role in its operations, by providing them with access to digital tools, financial inclusion services, and models to support entrepreneurship. This case study presentation focused on how through digitisation, Unilever Bangladesh is transforming the retail landscape of the country.



The event concluded with three insightful roundtable sessions, conducted in partnership with renowned think tanks and featuring industry leaders from 39 organisations:



1. Improving Livelihoods Across the Value Chain: Organised by the International Labour Organisation (ILO), this session explored ways to enhance livelihoods across industries.



2. Achieving Plastic Circularity in Bangladesh: Moderated by the Policy Exchange of Bangladesh, this discussion centered on innovative strategies for managing plastic waste sustainably.



3. Climate Conversation: Collective Pathways for a Sustainable Bangladesh: Collaborated with Lightcastle Partners Limited, this roundtable focused on unified approaches to tackling climate challenges.

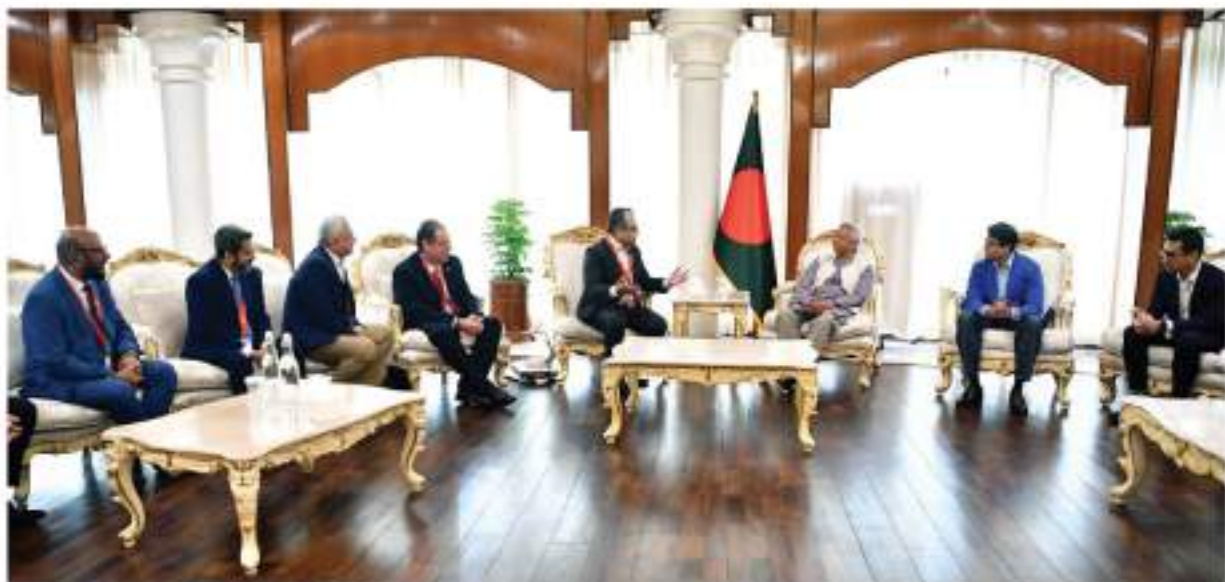
Over the years, UBL's journey towards sustainable growth has been marked by collaboration, resilience, and a shared purpose. Together with partners and stakeholders, the company has made significant strides in addressing sustainability challenges. The event's theme, "Progressing Sustainably: Together for Bangladesh," encapsulates this collective effort, celebrating impactful progress and reaffirming UBL's commitment to building a brighter, sustainable future for the nation.

FICCI BOARD OF DIRECTORS MEETING WITH PROFESSOR DR. MUHAMMAD YUNUS



The FICCI Board of Directors, led by President Mr. Zaved Akhtar, met with Professor Dr. Muhammad Yunus, Chief Adviser of Interim Government of Bangladesh at the State Guest House Jamuna on November 26, 2024. The meeting aimed to discuss the business environment and investment opportunities in Bangladesh.

Key Discussion Points was included Predictability in Licensing and Tax Measures, Ease of Doing Business, One-Stop Service, Labour Rights Reforms etc.



The meeting highlighted the importance of creating a conducive business environment to attract more foreign direct investment (FDI) and boost economic growth in Bangladesh. Professor Dr. Muhammad Yunus emphasized the government's commitment to fostering a sustainable and investor-friendly business climate.

FICCI DELEGATION MEETS WITH BANGLADESH BANK GOVERNOR



A delegation from FICCI, led by Senior Vice President Mr. Eric M. Walker, met with Dr. Ahsan H. Mansur, Governor of Bangladesh Bank, on Tuesday, November 19, 2024. During the meeting, Mr. Eric congratulated Dr. Mansur on his appointment as Governor and briefed him on FICCI's ongoing activities and initiatives aimed at supporting business environment in Bangladesh.

The Governor expressed his commitment to providing the chamber with full support in its efforts.



The meeting was also attended by FICCI Advisor to the Board and former President Mr. Naser Ezaz Bijoy, Vice President Mr. Yassir Azman, Board Directors Mr. Ala Ahmad, Mr. Najith Meewanage, Mr. Faisal Ahmed Chowdhury, Mr. Md. Mahbub ur Rahman, Engr. Abdur Rashid, Mr. Manabu Sugawara, CEO of Citi NA Mr. Moinul Haq, Country Manager of Mastercard, Mr. Syed Mohammad Kamal, CEO of bKash Mr. Kamal Quadir, Executive Director Mr. Nurul Kabir, along with other members of Green Finance (Banking & Financial Services) Committee of the chamber and senior officials from Bangladesh Bank.

11TH BOARD MEETING OF FICCI



The 11th Board Meeting of FICCI took place on November 17, 2024, at the MetLife Corporate Office in Motijheel, Dhaka. Senior Vice President Mr. Eric M. Walker presided over the meeting, which was attended by other board members. The gathering facilitated valuable discussions and strategic planning, reinforcing FICCI's commitment to fostering a favorable business environment in Bangladesh.



SINGAPORE ENVOY CALLS ON FICCI PRESIDENT

H.E. Mr. Derek Loh Eu-Tse, the Non-resident High Commissioner of Singapore to Bangladesh, along with a high-level delegation, met with Mr. Zaved Akhtar, President of FICCI on November 11th, 2024. The meeting focused on the business climate in Bangladesh and future business plans of Singaporean investors.

FICCI PRESIDENT SPEAKS AT 3RD BANGLADESH ECONOMIC CONFERENCE



FICCI President Mr. Zaved Akhtar speaks At the 'Third Bangladesh Economic Conference: Inequality, Financial Crime, and Bangladesh's Economic Recovery' organized by the Daily Bonik Barta on 11 November 2024 at Pan Pacific Sonargaon Hotel in the capital.



3RD MEETING OF THE FICCI STANDING COMMITTEE FOR LOGISTICS & SUPPLY CHAIN 2024-25



The 3rd meeting of the FICCI Standing Committee for Logistics & Supply Chain for 2024-25 was held virtually on November 24, 2024. The meeting was presided over by Mr. Miarul Haque, Chair of the Committee, and was attended by other committee members.

MEETING WITH FAO REPRESENTATIVE IN BANGLADESH



Mr. Nurul Kabir, FICCI Executive Director met with Dr. Jiaoqun Shi, FAO Representative in Bangladesh, Food and Agriculture Organization of The United Nations.

MEETING WITH COUNTRY DIRECTOR OF INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT (IFAD)



Mr. Nurul Kabir, FICCI Executive Director met with Dr. Valentine Achango, Country Director for Bangladesh, International Fund for Agricultural Development (IFAD).



Together, we connect the physical and digital to solve
some of the world's most complex challenges.

MAKING POSSIBLE™



নতুন
ভাইটালিয়া নিও
সিমেণ্টের ভিটামিন

সিমেণ্টের শক্তি বাড়ায়
এবং করে ওয়াটারপ্রুফ



মরিচা ধরতে
বাধা দেয়



সিমেণ্টের
কার্যক্ষমতা বাড়ায়

কম্প্রসিড
স্ট্রেন্স বাড়ায়



ইন্টিগ্রাল
ওয়াটারপ্রুফিং





BONAYAN'S REFORESTATION INITIATIVE AT ROHINGYA REFUGEE CAMP



About 1.1 million Rohingya refugees have taken shelter at Cox's Bazar in Bangladesh since 2017. As the settlements began, the refugees started using wood and bamboo from the adjacent forests to fulfill their daily needs. This resulted in massive levels of deforestation, creating devastating impact on the area's environment and biodiversity. The government estimated the initial loss of forest area to be around 1500 hectares. In 2018, Refugee Relief and Repatriation Commission (RRRC), under the Ministry of Disaster Management & Relief of Bangladesh Government along with the support of UNHCR, Inter Sector Coordination Group (ISCG) and Energy & Environment Technical Working Group (EETWG) initiated the much required reforestation campaign to restore the environment and biodiversity in and around the camps, which were particularly vulnerable to the impacts of climate change.

'Bonayan' stepped up to support the government's vision of restoring the natural balance. Currently in its 44th year, 'Bonayan' has planted 315,000 saplings since 2018 in the Kutupalong Rohingya Camp area covering almost 29.2 hectares of blocks and 18.7 km of roadsides. In order to ensure sustainability, 'Bonayan' also took responsibility of ensuring maintenance of the saplings post plantation to ensure maximum survivability. We have planted trees like krishnachura, kadam, amlaki, arjun, moringa etc.



2018



2024

Impact of
Reforestation
at Kutupalong
Rohingya Camp 5,
in which **Bonayan**
has contributed

Kutupalong Rohingya Camp, Ukhiya, Cox's Bazar



The signage marks Bonayan's presence
in Kutupalong Rohingya Camp area



18.7 km roadside plantations
carried out by Bonayan



Bonayan helped enrich greenery in
Kutupalong Rohingya Camp area

Bonayan across the country



130+ Million
Saplings Distributed



24 Districts
Covered



25,000+
People Served Annually

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bibiyana - the largest producing gas field in Bangladesh

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