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Bangladesh

Fostering Trade Performance for Inclusive Growth and Employment



Better Work & Standards Programme (BEST)



Bangladesh

Fostering Trade Performance for Inclusive Growth and Employment

Better Work & Standards Programme

A programme funded by

European Union
Norwegian Agency for Development Cooperation
and
Government of Bangladesh

A Programme implemented by

United Nations Industrial Development Organization
and
Government of Bangladesh

December 2015







Amir Hossain Amu, MP
Minister
Ministry of Industries
Govt. of the People's Republic of Bangladesh
Dhaka

Message

It gives me immense pleasure to know that Bangladesh has reached a major milestone in the history by achieving international recognition through attaining global approval for our quality conformity infrastructure system, which also became evident through recent endorsement of an aquaculture food safety system as equivalent to the European Union.

In addition, our national institutes of vital trade associations are being able to deliver quality education through international collaboration. These outcomes of the BEST programme are really going to play a significant role in the development endeavor of Government of Bangladesh.

Releasing of the publication on 'Fostering Trade Performance for Inclusive Growth and Employment' is a reflection of what has been achieved and in place in the country. We must appreciate and thank the EU and NORAD for their wholehearted support for these two programmes- Bangladesh Quality Support Programme (BQSP) and Better Work & Standards Programme (BEST), which were implemented by United Nations Industrial Development Organization (UNIDO). The program's engagement with the government and institutions helped us a lot in improving the competitiveness of Bangladesh's goods and services.

Thanks to all the participating stakeholders in making this achievement possible while working jointly with.


(Amir Hossain Amu, MP)



Ambassador of the European Union to Bangladesh

Message

The European Union feels rewarded to have financed two successful programmes: the Bangladesh Quality Support Programme (BQSP) and Better Work & standards Programme (BEST). These two programmes have brought significant progresses in the country's national quality management system.

They have contributed to improve the quality and productivity of the textile sector through skills development and have made the shrimp sector compliant with EU food safety requirements.

The programme have also generated employment, developed skills at all levels of the value chain of industrial and aquaculture production and have fostered trade competitiveness.

The EU is grateful to the Government and to the United Nations Industrial Development Organization for the successful implementation of these EU-funded programmes. Despite several challenges the expected outcomes have been delivered. Our joint commitment is now that these positive results should live beyond the conclusion of the BEST programme.

Pierre Mayaudon

Ambassador of the European Union to Bangladesh



NORWEGIAN EMBASSY



Ambassador of Norway

Message

The Government of Norway is very proud of the success of the Better Work and Standards Programme (BEST). The BEST programme has been very effective in helping Bangladeshi authorities and relevant institutions to set clear standards. This strengthens confidence in the quality of Bangladesh's product and services. Significant improvements have been done in the food safety systems in Bangladesh, especially to the fish and fishery sectors.

Substantial progress has been achieved in the ready-made garments and the vibrant textile sector. I trust this programme has strengthened the export-oriented business sector and made a contribution to Bangladesh's continued sustainable growth.

I congratulate the Government of Bangladesh and the United Nations Industrial Development Organization for their successful completion of the programme. I look forward to seeing the results.

A handwritten signature in blue ink, reading 'Merete Lundemo'.

Merete Lundemo
Ambassador of Norway



Secretary
Ministry of Industries
Govt. of the People's Republic of Bangladesh
Dhaka



Message

It is a great pleasure and privilege for me to congratulate everyone concerned for the achievements in the national quality infrastructure including approval of National Quality Policy by the Cabinet that sets the framework for regulators, standards and accreditation bodies and also enhance facilities and skills for effective standards regime which ultimately benefits the consumers. The BEST program has been successful in developing a robust food safety system in aquaculture and strengthening of national institutions to develop human resources to meet our future demands.

The success of two programs, Bangladesh Quality Support Programme (BQSP) and Better Work & Standards Program (BEST) goes to show the commitment of the Ministry of Industries along with other participating ministries and partners towards our vision of becoming middle income country by 2021.

I thank our development partners particularly European Union and NORAD for their financial support and United Nations Industrial Development Organization (UNIDO) for their hard work in successful accomplishment of these two programs.

(Md. Mosharraf Hossain Bhuiyan, ndc)



Ayumi Fujino
Regional Director of UNIDO for South Asia
New Delhi

Message

United Nations Industrial Development Organization (UNIDO) is very happy indeed to have implemented these two successful programmes namely BQSP and BEST from 2005 till 2015 in cooperation with Government of Bangladesh.

This publication gives many success stories and people stories on how these two programmes have brought significant progress and change in the national quality conformity infrastructure at national and sectoral levels (in shrimp) leading to better trade competitiveness. It also shows how the strengthening of human resource development linked to improvement in productivity and creation of employment, which ultimately leading to poverty eradication.

I wish, the outcome of the programme success as evidenced in these programmes, will have great impact in the people of this country and enterprises involved.

I wish to congratulate the BEST for successfully accomplishing the programme.


Ayumi Fujino



Preface

We are happy to write a foreword to this publication of Better Work and Standards Programme, BEST, a programme being funded by European Union (EU), Norwegian Agency for Development Cooperation (NORAD) & Government of Bangladesh and implemented by United Nations Industrial Development Organization (UNIDO) and Government of Bangladesh. This publication, *Fostering Trade Performance for Inclusive Growth and Employment*, provides an overall review of experiences and learning on the long journey of national capacity building contributing to economic growth and poverty reduction by supporting Bangladesh to take advantage of global market opportunities.

The aim of this publication is to give an overall picture on the achievements and contributions made by the BEST programme and how it changed the life of people or institutions. It is based on selected case studies which links the topics of standards and quality infrastructure, aquaculture food safety, skills development and compliance relating to practical experience. It also provides insight into program implementation within the network of the different actors in the field. No doubt, the program intervention was successful in creating good quality infrastructure and developing skilled manpower which would help boost the growth of the nation in terms of employment creation and improve trade.

The driving force of our success has been the hundreds of dedicated individuals and institutions in Bangladesh including all our international and local team members that have formed BEST community.

Thanks to all who have contributed to our success!

BEST Team

About BEST

What we did . . .

The Better Works and Standards Programme - BEST - exists to promote economic growth and poverty eradication by helping Bangladesh to take advantage of global market opportunities. The programme helps to improve competitiveness and encourage export growth and diversification through increased productivity and compliance with international requirements. The programme involves the public and private sectors, manufacturers and exporters, workers, job seekers, and trainees in three main areas . . .

Better Quality Infrastructure (BQI)

The unseen regulator at the heart of Bangladesh's economic advance..... the precise calibrations of weights, measures, volumes and testing laboratories must have international accreditation to make goods and services marketable and acceptable globally. BQI helped to provide world-class laboratories and programmes which gives Bangladeshi exports the essential stamp of recognized quality in regional and global associations



Better Fisheries Quality (BFQ)

BFQ worked with the shrimp farming communities to ensure that their products match the quality levels of world markets, and that they share in the rewards. Bangladeshi shrimps are now sold in the European Union without any further health checks, because farmers, competent authorities and exporters working together have been able to demonstrate that they are of the purest quality and safe



Better Work In Textiles and Garments (BWTG)

This industry has long been at the core of Bangladesh's manufacturing and exporting. But the potential for growth is vast. The country urgently needs its own highly-trained fashion designers, engineers and managers. BWTG helped to modernize the industry, upgrade the training and educational establishments and helped the country capitalize on world demand for its clothing and textiles.



Better Quality Infrastructure (BQI)

Objective

Strengthen the national quality conformity assessment infrastructure and integrate it with the international system in order to increase consumer protection, and improve international competitiveness

Expected Results

- Bangladesh Accreditation Board is a full member of the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and International Laboratory Accreditation Cooperation (ILAC) and a signatory of Mutual Recognition Arrangements.
- The institutional structure of BSTI is reformed and its operational capacity strengthened in line with international norms.
- A National Quality Policy (NQP), Implementation Plan and proposal for establishment of an Office of Technical Regulation approved.
- Designated Reference Institute for Chemical Measurements (DRICM) chemical instrumentation and calibration laboratory are improved and capacity strengthened.

Major Achievements

Policy

A National Quality Policy (NQP), Implementation Plan and proposal for establishment of an Office of Technical Regulation approved by the Inter-Ministerial Core Group which was later approved by The Cabinet.

Institutional Infrastructure

The National Metrology Laboratory (NML) under the Bangladesh Standards and Testing Institution (BSTI) became a signatory of the Mutual Recognition Arrangement (MRA) of the Comité international des poids et mesures (CIPM). Six constituent laboratories of the National Metrology Laboratory have been accredited by the Bangladesh Accreditation Board (BAB) and by Norwegian Accreditation (NA) and completed a first annual surveillance cycle. NML provides regular calibration services to industry and to scientific establishments from the six newly upgraded Dhaka laboratories and two regional laboratories. In cooperation with the Bangladesh Computer Council, NML established a national time synchronization system.

The Bangladesh Accreditation Board (BAB) created under BQSP and launched under BEST, is now a fully functioning, internationally recognised national accreditation body, a signatory to the Mutual Recognition Agreements of Asia-Pacific Laboratory Accreditation Cooperation (APLAC) and International Laboratory Accreditation Cooperation (ILAC).

To date BAB has accredited over 35 product testing laboratories and six metrology laboratories, with twenty product testing and calibration laboratories in the pipe line. 223 lead assessors have been trained, qualified, and registered with BAB. BAB has become an active participant in international accreditation forums with BAB officials attending meetings of APLAC, ILAC and the International Accreditation Forum.

The Instrumentation and Calibration Service Laboratory (ICSL) of the Bangladesh Council for Scientific and Industrial Research (BCSIR) was upgraded to the status of an institute and renamed as Designated Reference Institute for Chemical Measurements (DRICM). DRICM became a participant in the CIPM MRA.

Laboratory Accreditation

In addition to products testing laboratories and six metrology laboratories that have been internationally accredited, over 20 laboratories including many categories of product testing, medical testing and calibration, are preparing to apply for accreditation by the end of 2015.



Better Fisheries Quality (BFQ)

Objective

Strengthen the national quality infrastructure for fish and fish products to meet safety and quality requirements in export markets, improve competitiveness, and exploit international market opportunities especially in the EU.

Expected Results

- Regulatory framework for controls in the supply chain harmonized.
- Official controls by competent authorities strengthened.
- The validity and reliability of sampling and laboratory analysis for official controls increased.
- Skills development and training for staff along the shrimp/fisheries value chain institutionalized.
- Initiatives supported to simplify the supply chain in order to enhance the potential for the successful uptake of internal control systems by the private sector.
- Fisheries business operators supported throughout the supply chain to strengthen internal control systems regarding good aquacultural practice, hygiene, environmental management, traceability and record keeping.
- Socio-economic situation of target groups improved through implementation of labour law.

Major Achievements

Policy

Fisheries and aquaculture food safety legislations were harmonized with the international food safety requirements. The current legal framework was improved with new and updated legislation developed including:

- Fish and Animal Feed Act and Fish Feed Rules
- Fish Hatchery Act and Fish Hatchery Rules
- Fish and Fishery Products Official Control Protocol
- Fisheries Inspection and Quality Control Rules
- Aquaculture Medicine Products (AMPs) Policy Guidelines
- National Residue Control Plan (NRCP) Guidelines developed and NRCP database launched

Laboratory testing capacity building

The testing laboratories of the Department of Fisheries were upgraded to bring all tests for export fisheries products in-house. Pre-screening of test samples by the enzyme-linked immuno-sorbent assay (ELISA) method was introduced, reducing the number of samples tested to a fraction of the number tested earlier. These two measures greatly reduced cost and time taken to obtain export certificates for shipments.

Inspection, Control and Market Access

Confidence in the safety of Bangladesh fisheries products in the major markets was greatly enhanced. Continued market access was assured as a result of the improvements observed during the regular inspection visits of the food safety authorities of the EU and the USA. This led, in the case of the EU, to the *lifting of a requirement for testing 20% of shipments on arrival at EU border*, which is a requirement for most of Bangladesh's competitors.

Food safety throughout the supply chain was improved. Practices in 52 fisheries export processing factories were greatly improved with the updating and refinement of their hazard analysis and critical control points (HACCP) system, training of quality control staff and improvements in inspection and control. Official and industry led monitoring and testing (of water quality, feed etc.) on shrimp farms was introduced. In 2015, Food and Veterinary Office (FVO) has endorsed the Bangladesh official control and testing systems as equivalent to relevant EU requirements and lifted 100% pre-export testing which was imposed in 2009.



Better Work in Textiles and Garments (BWTG)

Objective

Improve competitiveness of the textiles and RMG sector and improve working conditions, leading to expansion and creation of better employment opportunities.

Expected Results

- A National Performance Cluster for textiles and garments developed.
- Long-term international strategic alliances created.
- Long-term support plan for textile training formulated.
- Analysis and planning capacities in ministries and trade associations for textiles and garments strengthened.

Major Achievements

Policy Development

The Textile Strategic Management Unit in the Ministry of Textiles and Jute, supported and managed by UNIDO, continued in BEST, as it done in BQSP, to provide support for the ministry on policy and strategy formulation including on textiles related trade and industrial development and bi-lateral and multi-lateral trade relations and economic cooperation. Long-term Plan for Textile Training developed and submitted.

Institutional Development

BEST supported the further upgrading and modernising of business and technical education and services for the textiles and fashion industries, building on the progress made in BQSP. Key national institutions serving the three industrial sectors that constitute the Bangladesh garment export industry were assisted to develop technical and consultancy services and in-service courses, in addition to their full-time technical and higher education courses.

The Bangladesh Garment Manufacturers and Exporters Association's BGMEA Institute of Fashion and Technology gained university status, was renamed as BGMEA University of Fashion and Technology (BUFT) and began awarding its own graduate and post-graduate degrees.

The National Institute of Textile Training, Research and Design (NITTRAD), was upgraded from a training institute to a centre of higher education, offering courses leading to degrees of Dhaka University, and renamed as the National Institute of Textile Engineering and Research (NITER). The success of the public/private partnership between the Ministry of Textiles and Jute and the Bangladesh Textile Mills Association (BTMA), established in 2009 to take over the running of NITTRAD led to the extension of the partnership for a further 15 years.

The Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), the third major association representing the textiles sector, opened the first permanent centre for the Institute of Apparel Research and Technology (iART) which provides training, consultancy and technical services for the export knitwear industry.

Memorandums of Understanding between the three Bangladesh institutes and four European universities, leaders in textiles and fashion education provided access to expertise to develop new curricula and train faculty of the three institutes as well as many other textile and fashion departments and provided on-the-job training on technical and management consultancy during BEST as well as providing a solid foundation for sustained international cooperation and development of the Bangladesh institutes after the close of BEST. Six Bangladesh faculty members studied for master's degrees in partner universities. Two were awarded PHD scholarships by the host university. BUFT students twice won prizes in the Society of Dyers and Colourists International Design Competition.

Participating Organization

Major Participating Ministries

Ministry of Industries
Ministry of Science & Technology
Ministry of Commerce
Ministry of Fisheries and Livestock
Ministry of Labour and Employment
Ministry of Textiles & Jute
Ministry of Commerce

Public Sector Organisation

Bangladesh Standards and Testing Institution
Bangladesh Accreditation Board
Bangladesh Council for Scientific and Industrial Research
Department of Fisheries
Bangladesh Atomic Energy Commission
Department of Labour
National Institute of Textile Engineering & Research

Main Private Sector Partners

Bangladesh Frozen Foods Exporters Association
Bangladesh Textile Mills Association
Bangladesh Garment Manufacturers and Exporters Association
BGMEA Institute of Fashion and Technology,
Bangladesh Knitwear Manufacturers and Exporters Associations
Institute of Apparel Research and Technology

Programme Implementation

Time schedule

Starting from July 2010, the first six months of the programme included an inception phase to confirm the content, focus and specific locations of each programme activity and to draw up a detailed timetable for implementation. The last six months of the programme is dedicated to phasing out activities and to preparing for the post-programme situation.

Programme implementation

The BEST programme is implemented jointly by UNIDO and participating ministries of Government of Bangladesh. All the programs were planned, initiated and implemented in close partnership with the government and private sector counterparts based on the needs of the sector in line with the program objectives. This has resulted in a comprehensive and equitable partnership for the better ownership and sustainability of the programme outcomes.

Budget

	€
EU contribution (UNDO components)	12,285,000
UNDO contribution (NORAD)	1,240,000
Government of Bangladesh contribution	9,804,500
Total	23,329,500

Timing

	Date
Contribution Agreement between EU and UNDO signed	February 2010
Inception period	July - December 2010
Implementation	January 2011 - June 2014
Phasing out	June 2015 - December 2015



BEST- Bangladesh-Poverty reduction through economic growth and diversification of exports

Bangladesh: A National Quality Infrastructure to Overcome Non-Tariff Measures

International Recognition for the Bangladesh Accreditation Board

Bangladesh: Establishing A New National Metrology Institute

Bangladesh: Fishery Quality Management System for Export and Safety Reduction

Bangladesh: Value Chain Improvement through Good Practices

Bangladesh: Laboratory Testing Capacity Advancement Promoting Fisheries Trade

Bangladesh: Long Term Plan for Textile Training (LPTT)

Bangladesh: Successful Public Private Partnership in Textile Education

Bangladesh: National Performance Cluster- An Important Driver for Change



BEST- Bangladesh

Poverty reduction through economic growth and diversification of exports

The Context

The textile sector in Bangladesh employs over 4 million people, mostly women. A major constraint is the comparatively low productivity and a lack of skills in product development and active marketing. The shrimp sector is the second most important sector benefiting over 2 million people directly or indirectly and it needed improved capacity to meet the requirements of stringent food safety standards in order to avoid the export bans of the past. Domestic goods and services were not competitive due to lack of national quality infrastructure facilities

Strategy

The Bangladesh Quality Support Program (BQSP) and Better Work and Standards (BEST) Programs aim to improve the competitiveness of the Bangladesh products and take advantage of global market opportunities.

During the Better Work & Standards Programme (BEST), the programmes were implemented through three components: Better Quality Infrastructure (BQI) for strengthening the country's national quality management system; Better Fisheries Quality (BFQ) for consolidating the fisheries inspection capacity; and Better Work in Textiles and Garments (BWTG) for improving quality and productivity of the textile sector.

Action areas:

Better Quality Infrastructure (BQI)

- International recognition for the key quality institutions including Bangladesh Accreditation Board
- Creation of a network of accredited test and calibration laboratories
- Development of National Quality Policy
- National metrology laboratories established

Better Fisheries Quality (BFQ)

- Improved and harmonized fisheries and food safety regulation
- Fishery business operators supported throughout the supply chain to strengthen internal control systems
- Risk-based food safety inspection introduced and control systems strengthened
- Testing capacity of two laboratories developed and accreditation achieved

Better Work and Standards in Textiles and Garments (BWTG)

- National Performance Clusters developed for effective communication tool
- Long Term Strategic Alliances established for effective cooperation between Bangladesh and international institutions
- Long-Term Plan for Textile Training developed for sustaining competitiveness

Outcomes

- The project led to an improved national quality management thanks to the creation of key institutions, their strengthening and international recognition, a more complete legal framework and the developing of an overarching national quality policy.
- The project further strengthened food safety capacity of the aquaculture sector through laboratory accreditation, food safety at all levels of value chain and inspection and control
- Institutionalization and skills development in textile and garment sectors lead to improved productivity and better competitiveness

Potential Impact

- National quality infrastructure development lead to Bangladesh goods and services achieving improved competitiveness in trade and creation of better jobs
- Lifting of the 20% testing requirement for Bangladeshi fishery products at EU borders due to harmonized official control systems leading to better export price by 10%
- Successful audit by Food & Veterinary Office reaching equivalency with relevant EU legislation leading to retention and further development of businesses and employment leading to poverty reduction



Bangladesh: A National Quality Infrastructure to Overcome Non-Tariff Measures

The Context

The export-driven Bangladeshi industry sector generates by now about 30 % of the country's GDP and is acting as the engine for lifting the country out of poverty and towards a middle-income status for a growing portion of its more than 160 Million people. Every exported item not only has to meet the needs of the trading partner in terms of price and specifications, it also has to conform to the regulations, including the Non-Tariff Measures, of the importing country. These are put in place by Governments to protect safety and health of their citizens; animal and plant life or health; and to protect the environment. In order to get access to new export markets and protect its present trade flows, Bangladesh needs a National Quality Infrastructure, which will allow it to overcome the most important Non-Tariff Measures (NTMs), which have become a bigger hurdle to exporters than tariffs.

Strategy

The Bangladesh Quality Support Program (BQSP 2005 - 2010) and Better Work and Standards (BEST) Program (2010 - 2015) had as one of their aims the strengthening of the National Quality Infrastructure, both on a national level and on a sectoral level (in the fish and fishery products sector). This involved not only the strengthening of certain existing key players in this infrastructure, but even the creation of missing institutions, making them operational and facilitating their international recognition, as indicated in the following action areas.

Action areas:

- Creation, operationalization and facilitation of the international recognition of a National Accreditation Body, the Bangladesh Accreditation Board (BAB).
- Creation, operationalization and facilitation of the international recognition of a National Metrology Institute, (NMI-BSTI).
- Strengthening of the standards setting, testing and certification functions of the Bangladesh Standards and Testing Institution (BSTI).
- Accelerating the expansion of the network of accredited public and private sector testing and calibration laboratories as well as certification bodies.
- Facilitating approval of National Quality Policy, incorporating a Technical Regulation Framework.



Outcomes

- A fully functional accreditation body (BAB), recognized for the accreditation of testing and calibration laboratories by the Asia-Pacific Laboratory Accreditation Cooperation (APLAC) as well as the International Laboratory Accreditation Cooperation (ILAC).
- An operational National Metrology Institute (NMI-BSTI), with all its laboratories accredited by BAB.
- A vastly improved BSTI with accredited test laboratories and certification activities; an extended and modernized network of regional offices and a greatly increased workforce.
- A network of 35 accredited testing and calibration laboratories and two accredited certifiers (October 2015).
- A National Quality Policy approved by Cabinet.

Potential Impact

- Easing of testing formalities through Bilateral Cooperation Agreement in 2015 between the Bangladesh Standards & Testing Institution (BSTI) and Bureau of Indian Standards (BIS) on Cooperation in the field of Standardization.
- Savings achieved through the lower cost and faster turn-around time from national calibration and testing laboratories, certification bodies and accreditation body.
- Improved customer confidence on testing and certification for Bangladesh goods and services.



International Recognition for the Bangladesh Accreditation Board

The Context

In order to get access to new export markets and protect its present trade flows, Bangladesh needs a National Quality Infrastructure (NQI), which will allow it to overcome the most important-Non-Tariff Measures (NTMs), which have become a bigger hurdle to exporters than tariffs. An essential building block of a modern NQI is an internationally recognized National Accreditation Body (NAB), which can independently verify the competence of Conformity Assessment Bodies (CABs), like testing and calibration laboratories, certification and inspection bodies etc.

Strategy

The Bangladesh Quality Support Program (BQSP 2005 - 2010) and the Better Work and Standards (BEST) Program (2010 - 2015) had as one of their aims the creation of an NAB, making it operational and obtaining international recognition for it.

Action areas:

- Passing of the legislation required for the creation of the National Accreditation Body (NAB), the Bangladesh Accreditation Board (BAB).
- Assigning a budget to the new entity by the Ministry of Industries, appointing a Director General and other qualified personnel.
- Training staff members in the operation of an NAB and implementing a quality system complying with the applicable international standards.
- Accrediting the first laboratories, applying for membership of APLAC and ILAC and for recognition by them.
- Passing the APLAC Peer Review and being accepted as a signatory of the APLAC Mutual Recognition Arrangement.

Outcomes

- BAB is now a fully functional accreditation body, recognized in record time for the accreditation of testing and calibration laboratories by APLAC and ILAC.
- 5 BAB managers have been trained to manage BAB in accordance with the requirements of the APLAC MRA.
- 29 test laboratories, 1 medical laboratory, 5 calibration laboratories and 2 certification bodies have been accredited and 15+ further applications are



BAB Signing APLAC MRA
Md. Abu Abdullah, Director General, Bangladesh Accreditation Board (BAB) signing the Asia Pacific Laboratory Accreditation Cooperation (APLAC) Mutual Recognition Arrangement (MRA) in the 34th APLAC MRA Council Meeting on 08 January 2015 in Hong Kong, China, with APLAC Chair Mr. Nigel Jou (left) and APLAC MRA Council Chair Ms. Roxanne Robinson (right).

pending as of October 2015.

- A pool of 223 trained assessors has been created, of which 50 are now qualified, including 10 women.

Potential Impact

- Faster and cheaper local accreditation services are now available to industry, the health sector, public institutions and regulators.
- The training of local laboratory staff is now being intensified and a new profession is emerging to look after their professional interests.
- Exported goods are increasingly being exempted from re-testing by clients, due to the Mutual Recognition Arrangements in ILAC and APLAC, resulting in cost saving and shortening of delays to get the products to the market. Even foreign regulators are now taking note of these new capabilities in Bangladesh.
- Local accredited laboratories are profiting from increased testing and calibration business that previously went outside the country.



Bangladesh: Establishing A New National Metrology Institute

The Context

In order to get access to new export markets and protect its present trade flows, Bangladesh needs a National Quality Infrastructure (NQI), which will allow it to overcome the most important-Non-Tariff Measures (NTMs), which have become a bigger hurdle to exporters than customs tariffs. An essential building block of a modern NQI is an internationally recognized National Metrology Institute (NMI), which can provide traceability for test and calibration laboratories to the International System of Units (SI). This is an essential precondition for test and measurement results obtained in Bangladesh agreeing with the results of measurements carried out by its trading partners.

Strategy

The Bangladesh Quality Support Program (BQSP 2005 - 2010) and the Better Work and Standards (BEST) Program (2010 - 2015) had as one of their aims the creation of an NMI making it operational and obtaining international recognition for it.

Action areas:

- Establishing a new Department under the Metrology Wing of the Bangladesh Standards and Testing Institution (BSTI), responsible for the realization and maintenance of the National Measurement Standards.
- Building the laboratory facilities for the NMI and acquiring the required equipment.
- Recruiting highly qualified staff and training them in the operation of their laboratories as well as in the science of measurement (metrology).
- Obtaining traceability for all used measurement standards and carrying out inter-laboratory comparisons with other NMIs to demonstrate the claimed measurement capabilities.
- Implementing a laboratory quality system in accordance with ISO standard 17025 and obtaining accreditation of all laboratories from the Bangladesh Accreditation Board (BAB) and Norwegian Accreditation.

Outcomes

- The National Metrology Laboratory of the BSTI (NMI-BSTI) is now a fully functioning NMI, an Associate of the Meter Convention and a signatory of the Mutual Recognition Arrangement (MRA) between National Metrology Institutes under the auspices of the International Committee of Weights and Measures (CIPM).
- All six NMI-BSTI laboratories (mass, volume, length, temperature, pressure, electrical) were originally accredited jointly by Norwegian Accreditation and BAB. After the international recognition of BAB, they now only need accreditation by BAB for their own international recognition.



- The NML-BSTI is an active member and participant in the metrology activities of the Asia-Pacific Metrology Program (APMP) and of the South Asian Association for Regional Cooperation (SAARC).
- Its present staff complement of 15 includes two women, one a qualified electrical engineer and the other a physicist.

Potential Impact

- Faster and cheaper local calibration services are now available to industry, the health sector, public institutions and regulators.
- The highly trained and qualified staff of the NML-BSTI is being used regularly as assessors for the accreditation of other calibration laboratories.
- The NML-BSTI is organizing national inter-laboratory comparisons in different fields of metrology, which other laboratories need in order to obtain their accreditation.
- NML-BSTI staff is helping other laboratories with training courses to qualify their staff for accreditation.



Bangladesh: Fisheries Compliance Capacity Advancement Supporting Economic Growth and Poverty Reduction

The Context

Bangladesh shrimp sector is second largest export sector contributing to national economy through foreign exchange, employment and food & nutritional security, to its 160 million people. A key industrial business challenge facing Bangladesh was lack of national capacity and quality infrastructure to overcome technical barriers to trade (TBT) and to comply with the global food safety requirements, which are now basic prerequisites for market access embedded in the global trading system. The sector faced a major setback when the importing countries, mainly EU started audits noted serious non-compliances in terms of official control systems and laboratory test results particularly for residues of antibiotics and other chemicals- imposing 20% testing requirement at EU border:

The Project

The Bangladesh Quality Support Program (BQSP) and Better Work and Standards (BEST) Programs, funded by EU and NORAD and implemented jointly by UNIDO and Government of Bangladesh (GoB), have been successful in bringing about changes in the shrimp sector in terms of productivity, competitiveness, quality, compliance, consumer confidence and export promotion, which ultimately supported growth and poverty reduction.

The main objective of the programs were to strengthen the national quality infrastructure for fish and fish products to meet safety and quality requirements in export markets, improve competitiveness, and exploit international market opportunities especially in the EU

Action Areas:

- Regulatory Framework of Bangladesh governing the quality and safety of the fishery products updated and harmonized with international requirements to ensure continued market access
- Risk based food safety inspection introduced and control systems strengthened along the shrimp value chain
- Testing capacity of 2 laboratories has been extensively developed and the reliability of testing improved through achieving accreditation
- Assisted over 15,000 shrimp farmers on adopting good aquaculture practice to produce safe products at primary production
- Rationalized the shrimp supply chain through forming cluster farms linking 250 farmers with exporters
- Improved internal controls and traceability systems to guarantee the safety of Bangladesh products in 76 processing factories
- Fishery business operators supported throughout the supply chain to strengthen internal control systems(GAPHygiene, Traceability)
- Trained over 2200 workers and middle level management staff to promote awareness of and compliance with the labour laws and standards in shrimp industry

Outcomes

- Food and Veterinary office of EU has lifted 20% testing requirement for Bangladeshi products at EU border due to improved and harmonized official control systems

- Two laboratories were equipped, test methods validated and accredited- all testing facilities are now available in the country as against from abroad in the past
- Testing turnaround time reduced from over 30 days to less than 7 days from the regional laboratories within the country
- Rapid Alert System for Food and Feed (RASFF) notifications drastically reduced from 50 in 2009 to ONE in 2014 for veterinary residues
- Successful FVO audit outcomes in 2014 leading to lifting off of pre-export testing due to improved confidence on the food safety system in place

Potential Impact

- Improved and harmonized food safety regulation for fish and fishery products including aquaculture
- Emergence of newer market for Bangladesh fishery products
- Better market access and consumer confidence on Bangladesh products
- Lifting of the 20% testing requirement for Bangladeshi shrimps at EU entry points due to harmonized official control systems leading to 10% increase in export price.



Bangladesh: Value Chain Performance Enhancement through Good Practices

The Context

At present, Bangladesh ranks fourth among the top aquaculture producers of the world contributing to about 2.6% in global production. Among the aquaculture, the shrimp sector plays the most crucial role in generating foreign exchange which is the second largest export earner after garments in Bangladesh. However, without improving the access to technical knowledge, compliance requirements, particularly towards the production of quality and safe shrimp production, market access cannot be assured. Safety of shrimp cannot be improved unless comprehensive efforts are made at lower levels of the pyramid of the production chain. To mitigate these issues an inclusive approach for the implantation of the good practices such as Good Aquaculture Practice (GAP) at farm level and quality assurance at post-harvest handling and transportation until the products reach the processing establishments.

Strategy

The BEST-Better Fisheries Quality programme implemented series of interventions along the value chain including all the actors involved in the sector. It made significant contribution towards building the food safety capacity of shrimp sector of Bangladesh to intensify practicing Good Aquaculture Practice (GAP) through developing local expertise creating pool of lead farmers and trainers.

Action Areas:

- Training manual on Good Aquaculture Practices (GAP) developed through extensive discussions
- Compliance manual on feed act and rules, hatchery acts and rules developed through consultation, printed and distributed
- Waste Management Manual developed and printed; awareness programs conducted
- Handbook on GAP in Bangla and GAP pocket diary were developed for the use by farmers
- Conducted field training program on GAP for farmers- 34 GAP training programs held and 850 farmers trained up in 18 upazillas
- 170 lead farmers trained and supported through test kits for implementation of GAP in demonstration ponds
- Transfer of GAP knowledge to other agencies: WAB Technicians (25 technicians), BRAC branch Managers (25) and Solidaridad field officers (50) who in turn trained around 4000 farmers
- Conducted training for feed millers, feed and other aquaculture traders on quality and safety management
- Farm record books and Hatchery record books were developed, printed and distributed
- Field assistants (24) developed through extensive in-house training on GAP and equipped with test kits in pilot upazilla for serving 12,000 farmers
- 186 depots, 9 ice factories, 24 feed mills, 23 packing centers and 18 wholesale landing centers trained on implementation of sanitation, hygiene and traceability requirements
- Rationalized the shrimp supply chain through forming cluster farms linking 250 farmers with exporters

Outcomes

- Better and safe shrimp are produced in farmers' ponds through implementation of GAP through improved practices including pond preparation, seed stocking, feeding and management
- Improved productivity demonstrated through implementation of GAP in farming
- Use of chemicals and drugs have been rationalized which lead to drastic reduction in number of export market rejections (Rapid Alert System for Food and Feed - RASFF) from 50 in 2009 to zero in 2014 for veterinary residues
- Successful FVO audit outcomes in 2015 reporting the aquaculture product safety system in the country as equivalent to relevant EU requirements
- The control system in place covering the entire production chain considered as providing, in general necessary guarantees with regard to the applicable EU requirements (FVO audit report 2015)

Potential Impact

- The programme has been successful in bringing about changes in the shrimp sector in terms of productivity, competitiveness, quality compliance, consumer confidence and export promotion, which ultimately supported growth and poverty reduction.
- Increased productivity of shrimps in GAP adopted farms leading to increased income and stable employment
- Enhanced capacity of the shrimp farmers helping to better access of Bangladesh shrimp and shrimp products to global market and increase export earnings.



Bangladesh: Aquaculture Product Safety Redefined through Harmonized Food Safety Processes

The Context

Food safety is a global concern, not only because of the continuing importance for public health, but also because of its impact on international trade. Effective Food Safety Systems shall therefore manage and ensure the safety and suitability of foodstuffs. In world-wide, legislation on the safety and suitability of foodstuffs requires food safety tools such as Hazard Analysis Critical Control Point (HACCP), traceability and good practices to be put in place by any food business enterprise.

In 1997, the EU imposed ban on imports of fishery products from Bangladesh due to serious deficiencies in the infrastructure and hygiene in processing establishments and insufficient guarantees by competent authority. This ban was estimated to cost the Bangladesh nearly US\$15 million revenue loss in 5 months. The government and private sector made huge investments in developing the infrastructure, bring new legislative framework and implementation of HACCP. Further from 2005, the sector was under greater scrutiny by the importing countries on the detection of presence of undesirable chemical substances including banned antibiotics.

Strategy

The shrimp sector needed robust food safety systems, human resources and implementation strategies, to survive. The BEST-Better Fisheries Quality programme implemented series of interventions to support the private sector in developing a sound food safety system including HACCP, traceability and verifications.

Action Areas:

- Development a core team of experts on HACCP (20) and Quality Assurance Programs (24) to assist the industry in producing safe products
- Training of processing establishments, competent authority on preventive food safety system
- Quality managers of fish processing industries (61) and freezer vessels (24) trained on HACCP and Sanitation Standards Operating Procedures (SSOP)
- Developed 'Fish and Fishery products Inspection Protocol' based on risks for inspection at every stage of shrimp sector from farm to factory
- Implemented risk-based food safety verification systems for monitoring by Competent Authority; 26 trainers developed on use of protocols
- Traceability system developed and 198,000 shrimp farms and 10,000 fin fish farms were brought traceability; A framework on e-traceability developed for future implementation
- HACCP and SSOP manuals of 72 fish processing factories were updated based on risk assessment

Outcomes

- The current organization of the competent authority and its documented operational procedures provide for an acceptable official control system for fishery products which is implemented in a satisfactory way
- The official control procedures on processing establishments are fit for purpose and ensuring product safety and providing sufficient guarantees on traceability (FVO 2015)
- Official control system covers the entire fishery products production chain including aquaculture farms, landing centers, auction depots, processing establishments and transport

- Control systems in place covering the entire production chain are considered as providing, in general, necessary guarantees with regard to the applicable EU requirements with regard to general structure, maintenance and the flow of products, own-check programme covering prerequisites such as staff training, cleanliness, cleaning and sanitation, pest control and water quality (FVO (2015))
- Reduction in export rejections (Rapid Alert System for Food and Feed- RASFF) from 50 in 2009 to mere one each in 2013 and 2014, as also the reduction in non-compliances in National Residue Control Program (NRCP)
- Successful audit of fisheries sector by Food & Veterinary Office of EU in 2011 lifting of 20% mandatory testing requirement
- Successful FVO audit outcomes in 2015 reporting the aquaculture product safety system in the country as equivalent to relevant EU requirements

Potential Impact

- Emergence of new markets for Bangladesh products including Russian Federation
- Better price for Bangladesh shrimp than neighboring countries due to improved food safety compliance.
- Pre-export testing requirement has been lifted by FVO in 2015 due to improved food safety system which is equivalent to relevant EU requirements
- Sustenance of the shrimp aquaculture business is leading to income generation and employment retention of over 3.2 million people involved in shrimp sector



Bangladesh: Laboratory Testing Capacity Advancement Promoting Fisheries Trade

The Context

Laboratories are an essential component of a food control system to verify that practices followed by food producers, suppliers and processors result in safe products for the consumers. Sophisticated instruments and well-trained, experienced analysts are essential factors in food testing laboratories for any regulatory agency to depend upon. Regulatory agency needs to base its approval of laboratories based on the its compliance with the general criteria for testing laboratories laid down in the ISO/IEC 17025 accreditation requirements.

The laboratories performing official analyses were neither accredited to ISO 17025 nor participated in external proficiency studies and the routine use of certified reference material. The method employed for nitrofurans analysis did not monitor the metabolites and therefore found ineffective with no value as a tool for certification (FVO mission 2005). Lack of good laboratory practice (GLP) in laboratories, insufficient machines, trained staff and validated methods could not offer guarantees equivalent to those provided for under Article 4 (2) (c) and 4 (2) (d) of Regulation (EC) No 882/2004, thereby undermined confidence in the reliability of results of aquaculture products and ultimately the performance of the entire residue control system (FVO, 2007, 2008).

Strategy

BEST programme developed highly skilled and professional staff, established state-of-the-art laboratory facilities, developed validated methodologies to make the laboratories able to provide fishery industry with highly accurate and reliable, testing services

Action Areas:

- Two laboratories of Fish Inspection & Quality Control- FIQC (at Khulna and Chittagong) established and equipped with chemical and microbiological testing equipment
- Staffs were trained on the use of equipments and on basic concept of quality and Quality Management System (QMS) based on ISO 17025, ISO 9000 and as well on Good Laboratory Practices (GLP)
- Quality manuals and related procedures developed
- Quality Management System Development (QMSD) teams formed to work on the establishment of the QMS; coordinated the internal audit and management review; assisted in planning and performing of the corrective actions based on the findings of the audit
- Assisted in preparing suitable organizational structure that complies with organization and impartiality requirements of accreditation.
- Implemented Laboratory Information Management System (LIMS) towards transparency
- Procured two LCMS equipments for residue testing, installed and methods validated and successfully used
- ELISA screening tests installed at both the laboratories, methods validated and put into use
- Provided technical assistance in the area of participate in proficiency testing program and accreditation process

Outcomes

- Both the laboratories are now accredited to ISO 17025 by the national accreditation body, the Bangladesh Accreditation Board (BAB), which has the Mutual Recognition Agreement signatory status with the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and International Laboratory Accreditation Cooperation (ILAC) since January 2015.
- The regional laboratories are also able to use ELISA test methods reducing the testing turnaround time from 30 days to less than 7 days, helping the exporters to a great extent. The use of ELISA test methods has resulted reduced the cost to great extent as well as reduced the load of samples going for LCMSMS equipment.
- Testing facility for all the parameters are available in the region as against in the past.
- Successful FVO audit outcomes in 2015 reporting as "given the laboratories' accreditation to ISO 17025, their overall satisfactory results in proficiency testing and their internal quality controls, the laboratories designated by the CA for official analyses of fishery products can ensure the reliability of the results of the analyses".
- Successful audit of fisheries sector by Food & Veterinary Office of EU in 2011 lifting of 20% mandatory testing requirement and lifting of pre-export testing for all the exportable commodities from December 2015

Potential Impact

- Reduction of testing turnaround times from 30 days to less than 7 days and availability of lab services at regional centers helped the industry to at least 2,500 USD per container or about 1 million USD per annum for 20% of the containers during 2007 to 2011.
- Until 2010, the exporters were sending samples to Thailand or Singapore for testing which used to take 20 to 30 days for test results. The cost of each sample has reduced from 350 USD at Singapore or Thailand to about 100 USD per sample within the country saving great amount of foreign currency.

Bangladesh: Long Term Plan for Textile Training (LPTT)

The Context

The Textile and RMG sector is central to Bangladesh's economy, contributing 12% of the country's GDP and 78% of export earnings. The industry is an important player on the global stage, being the second biggest exporter after China and making up 4% of the global apparel market. Its 5,600 garment export factories and 1415 textile mills factories employ 4.5 million workers (80% of whom are women) and directly or indirectly support the livelihoods of 25 million people (17% of the population).

Whilst being the success story of Bangladesh, contributing significantly to improved livelihoods for millions of poor people, the Bangladesh RMG sector faces major challenges, in particular in terms of reputation, skills, backward linkages and infrastructure.

The Project

The Better Work in Textiles and Garments (BWTG) component of UNIDO's Better Work and Standards (BEST) programme commissioned an external consultancy, Impactt Ltd, to develop a Long-Term Plan for Textile Training (LPTT). The LPTT is designed to ensure the long-term sustainability and international competitiveness of the Bangladesh RMG and textile industry, in particular through investing in people and building the skills that can take the industry to the next level.

Action Areas:

- Interviewed 76 key stakeholders from the government, industry, trade associations, training institutions, international brands and retailers, international institutions including the ILO and UNIDO, NGOs, consultancies and academia.
- Analysed the international competitiveness of the Bangladesh RMG and Textiles industries in relation to its key competitor countries.
- Identified the most important issues facing the industry and organised them in terms of priority.
- Authored an initial report outlining key gaps in human resource development (HRD) provision in the industry, alongside some key lessons and recommendations for the LPTT and UNIDO's Better Work in Textiles & Garments (BWTG) programme.
- Authored a Long-Term Plan for Textile Training (LPTT) which provides practical next steps for the industry and its key stakeholders to build a sustainable, competitive RMG and textile industry based on human resource development.

Outcomes

- The industry has a plan formulated from input given by all key stakeholders.
- Stakeholders have indicated strong agreement and buy-in to the LPTT.

Bangladesh: Successful Public Private Partnership in Textile Education

Context

The National Institute of Textile Training, Research and Design (NITTRAD) was a Government facility which did not meet the needs of the Textile Industry in terms of infrastructure and curriculum. The Government of Bangladesh requested the European Union to provide technical support to revitalize the facility. It was agreed that the operation of the facility should be handed over to the Bangladesh Textile Mills Association (BTMA) as part of a Public Private Partnership.

Strategy

Within this contract a special condition was incorporated to the effect that the operational management of NITTRAD would be transferred to a new Governing Body (GB), having representatives from private and public sector stakeholders. This will ensure that links with the industry are strengthened and the continued improvement of educational courses is realized, along with the designing of novel training courses which reflect the needs of the Industry. Furthermore it is expected that the industry will make full use of the R&D facilities.

Objectives

Improve the competitiveness of the Bangladesh textile industry through skill development by strengthening the training facilities of the textile sector

NITER's objective is to be the "Center of Excellence" in the area of textile education and research and development of Bangladesh

Outcomes

The operational management of NITTRAD formally handed over to BTMA. With all these facilities provided by BTMA and BEST, NITTRAD was able to introduce the 4 Year B.Sc. in Textile Engineering since 2010-11.

NITTRAD renamed as "National Institute of Textile Engineering and Research (NITER)

The University of Dhaka (DU) approved the courses being offered by NITER

Potential Impact

- NITER is educating more than 180 students each year to deal with expansion and new textile opportunities. Bangladeshi professionals can now enter the textile industry and replace the expatriate experts or professionals, creating local employment and saving foreign currency outflow
- Research and development in textile processing for improved environmental production strategies and for the creation of sustainable livelihoods
- Competitive supply of knitted and woven fabrics to EU buyers can be ensured in a long run

Bangladesh: National Performance Cluster- An Important Driver for Change

Context

It is estimated that by 2015 the Bangladesh RMG sector employs less than 6,000 staff having relevant diplomas, degrees, or higher qualification, and is highly dependent on expatriate technicians and supervisors. The number of education and training institutes is insufficient to meet the industry requirements.

National Institute Textile Engineering and Research (NITER), BGMEA University of Fashion & Technology-Center For Export and Product Development (BUFT/CEPD), Institute of Apparel Research & Technology (iART) are the three technical centers launched by Bangladesh Textile Mills Association (BTMA), Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA) respectively to provide training and technical services to the textile, garment and knitwear sectors.

Purpose

The aim of this intervention is to reduce the dependency on expatriate technicians and to fill the many new positions which will be becoming available for managerial, professional, and senior technicians. They will also assist the centers to provide coordinated cost- effective demand-driven services to the industry. These services will include market studies, training, research and development (R&D), product design and development (PD&D), management system development, enhancement of productivity and technical audits.

Creation of National Performance Cluster (NPC) has an objective of opening and furthering networking and dialogue to frame a sustainable road map on building responsible supply chains in the textiles and garment sector that contribute to its sustainable development and inclusive growth of the economy.

Vision is to empower a group of partners who will transform the Bangladesh apparel and textile industry by improving innovation, competitiveness and sustainable performance thereby delivering a value added supply chain and ensuring working environments are safe, cleaner and responsibly managed.

UNIDO in association with BGMEA, BTMA, and BKMEA and the three technical centres: BUFT/CEPD, NITER, iART, worked towards achieving this vision.

Why clustering matters and how it can address these challenges

Clustering is expected to provide better value chain efficiencies, foster co-operation and collaboration which in turn delivers better competitive advantage, sustainable business growth and innovation

Outcomes

- New curriculum introduced for sustainable fashion design with 10 academics trained in this approach.
- New fashion design studio at BUFT equipped with technology and dress stands to develop more advanced product development capabilities of academic staff
- New visual merchandising studio established at BUFT to raise awareness of merchandising
- Short courses delivered to 4 companies on professional design processes and methods
- Opportunities for BUFT staff to enter international competitions and design for sustainable fashion
- New research projects between companies and NITER to develop eco-textiles using natural resources.

Successful Clusters

- **Banana Fiber and Organic Fertilizer Project (Eco-textiles):** Collaborators are NITER, Prabartana and London College of Fashion
- **Sizing Bangladesh:** Collaborators are BUFT, LCF
- **Babylon- Upgrading their design services and capabilities:** Collaborators are BUFT and LCF
- **Enhancing Fashion Design Education at BUFT:** Collaborators are BUFT Design Department and LCF
- **Improving factory conditions through innovation and clustering:** UNIDO and GreenGrade Solutions Ltd





How the programme changed their lives and their institutions



Programme Context

Bangladesh has been facing challenges for its export products with the compliance to international market requirements in particular in the area of Sanitary and Phyto-sanitary (SPS) measures and Food Safety. Fisheries products for instance showed a number of non-compliances such as non-permitted antibiotics in shrimps. In addition, the national quality infrastructure and conformity assessment services were not internationally recognized, implying for exporters to have their products tested abroad at high cost. Textile and clothing exports faced challenges in terms of low productivity and insufficient skills available within the workforce

Programme Approach

UNIDO supported main public and private partners to implement a capacity-building programme focusing on the adoption of international good practices through institutional development and skills development in the fisheries and textile sector. At the same time, the capacity of local quality infrastructure and services was built to better serve the country's exporters and consumers, and in particular the two export sectors. The programme also focused on having the adopted good practice internationally recognized by trade partners or international peers in the field of quality infrastructure

Programme Achievements

The fisheries sector has reestablished exports to international markets. This was achieved through the implementation of better hygiene and environmental impact management, the introduction of traceability schemes at the level of operators, and through improved legal framework and operations of the Competent Authority including better food safety controls, which now are acceptable to international regulatory authorities. Laboratory testing capacity of the sector has been developed to reach international recognition through accreditation. As a consequence, non-compliant fisheries exports got reduced by 90%.

In parallel, the country's quality infrastructure has now been internationally recognized for its good practice operations in terms of conformity assessment in particular for product testing and inspection. Bangladesh's Accreditation Body (BAB) can now accredit testing laboratories, inspection and certification bodies. 34 product testing, calibration and medical laboratories have been accredited by BAB. Internationally recognized testing services are now available to exporters in particular in fisheries and textile sectors, and bringing the cost of testing down by about 40-60 % with reduced time for testing. The National Metrology Institute has now established world class calibration services for laboratory equipment. A National Quality Policy, governing and providing strategic guidance for the quality infrastructure development has been agreed by 12 Ministries and is ready for implementation.

At the level of textile and clothing production, productivity improvement measures and skills development have been introduced through development of national performance clusters and in cooperation with a number of technical institutes providing training and academic activities to the sector. A long-term plan for textile training has been developed through sector consultations and aims at the long-term sustainability and international competitiveness, in particular through investments in people and skills.

Through a value chain based approach to the development of Bangladesh's trade performance, the country is now in a position to firmly steer towards achieving inclusive and sustainable economic and human development for growth and shared prosperity.

Here are some of the people telling their stories, how the EU-NORAD-GOB funded BEST Programme has changed their lives and how the Programme contributes to a more inclusive and sustainable industrial and economic development in their respective sectors of Bangladesh.



Saleh Ahmed

"Until recently our slogan was 'produce more fish and shrimp'. Now our slogan is 'produce safe fish and shrimp'. This is the change in Bangladesh in view of meeting consumer expectations both globally and within"

The deputy director of fisheries Competent Authority in Bangladesh in the Dhaka division, Dr. Saleh Ahmed, has identified the maintenance of safe food production as the most challenging task facing his department.

Dr. Saleh, a fisheries specialist, joined Department of Fisheries after his bachelor and masters study in fisheries in 1987. Later he did his specialization on Fisheries Management at Asian Institute of Technology.

Before taking up the position as Project Director and the counterpart on behalf of the Department of Fisheries of Government of Bangladesh in 2009, he worked for the department involved with extension activities mainly motivating farmers to take up farming from 1987 to 2009.

The strategy for the Better Work and Standards Programme (BEST) has been a methodical "farm to fork" meaning development of complete value chain including laboratory and legal framework. "The individual farmer should be able to say if his product is safe for the consumer because he knows what ingredients he has used at the time of production," said Dr. Saleh.

We are doing everything we can to motivate the farmers to produce safe food under the system called Good Aquaculture Practices (GAP). Our

fishery product safety and official control programs are now considered as equivalent to relevant EU directives, as per the recently concluded Food & Veterinary Office audits he said.

The program implemented traceability along the value chain. It comprised extensive education and training programmes in the field, as well as running the laboratories which have gained a world-class reputation through accreditation. Scrupulous monitoring of the processing plants, coupled with a social compliance scheme to boost workers' rights and conditions, has been welcomed by Bangladesh's exporters.

Bangladesh's fish farmers and official departments working together are transforming the quality of the shrimp industry as well as lives of the people involved in this business. Finally Bangladesh's dream came true when Food & Veterinary Office (FVO) audit reported the food safety program of the country as 'equivalent' to relevant EU requirements.



Hemanko Mandal

We only produce safe shrimp ...



Mr. Hemanko Mandal is a shrimp farmer of Bottaghata, Khulna. His father cultivated for years. Due to salt water coming to paddy field their crops were often flushed out due to natural calamity. In 1987 for the first time his father started bagda (tiger shrimp) culture. But it was totally unplanned culture system.

During my vacation from school I helped my father in shrimp cultivation. From that time I dreamt of development of my own shrimp farm

Hemanko got a family share of land of 6 acres and started rice cum shrimp culture in 1993. He followed traditional farming technique with a production in the range of 70 to 80 kg per hectare.

In 2011, I got the opportunity to attend the training program on Good Aquaculture practice held in upazilla office, Bottaghata held by BEST programme. In fact, that training changed my life. From 2-days training program I learned a lot. For the first time I realized how to manage grow out pond, water quality, stocking of seeds, how to apply proper feed with proper ratio, control of disease etc.

In 2013 shrimp production rate increased to 450 kg/hectare using scientific farming system implementing good aquaculture practice (GAP) which is 500% increase from his previous production rate.

The BEST programme assisted the farmers in

implementing food safety standards in farming operations through implementing Good Aquaculture Practice, GAP. The new approach to guaranteed quality production is essential if Bangladesh is to maintain its position as one of the world's leading shrimp exporters. Selected farmers across 36 sub-districts were trained on good aquaculture practice as 'lead farmers' who practice and demonstrate good practices in their operations helping other farmers to replicate.

This high production inspired me to begin semi-intensive shrimp culture from improved traditional culture in 2014. I extended my farm size by leasing more 2 hectares pond. Taking loan Taka 300,000 from bank I started improving the farm infrastructure. The total production cost was Taka 1,000,000. I got a production of 1200 kg/hectare by semi intensive culture making me so happy when I found that I sold shrimp amounting tk. 1,800,000 with a net profit of Taka 800,000. At present I am well off, I am happy with my family members. I feel satisfaction inside me when I see my two children going to modern schools.

Now many shrimp farmers from the community come to me to learn the improved shrimp culture technique particularly GAP. I try my best to train them, teach them. I feel very proud and very much delighted.



Provati Deb

"Fisheries Testing Laboratories Advanced to Global Recognition"

"Laboratory precision helps to ensure that Bangladeshi fish products are safe"

Any laboratory supporting the Competent Authority shall have adequate facilities for physical, microbiological and chemical analyses. Most importantly it is not only the type of equipment that determines the accuracy and reliability of analytical results but also the qualification and skill of the analysts' says Mrs. Provati Deb, Deputy Director of Competent Authority at Chittagong.

Mrs. Provati Deb who is BSc Hons and MSc in Chemistry joined Department of Fisheries in 1986 as Fish Technologist who later was assigned as head of Chittagong Laboratory as Quality Control Officer.

We were doing microbiological tests in our small laboratory until 2005. Bangladesh Quality Support Programme (BQSP) established new laboratory and BEST programme equipped it with equipments for testing chemical and antibiotic residues. Until 2008, I was not aware of need for quality management in laboratory operations. In 2009, I attended a training programme under the auspices of Quality Austria arranged by then Bangladesh Quality Support Programme (BQSP) a programme funded by EU and NORAD and implemented by UNIDO. After the completion of this training, I have learnt the importance of quality systems in testing operations for accreditation of laboratories.

In 2011, I was appointed as Deputy Director (additional charge) of IQC laboratory at Chittagong.

I and my team developed confidence in running sophisticated instruments for residue testing and participating in proficiency tests with successful results. We were given many in-house training on method validation and quality management by BEST programme.

The BQSP and BEST provided hands-on training of measuring instruments used in two laboratories. In addition, the laboratories at Chittagong and Khulna were fully equipped to test various chemical parameters such as residues of antibiotics, dyes, hormones and other contaminants through use of state-of-the-art instruments.

The laboratories are now accredited to ISO 17025 which recognizes the test results globally. This has strengthened the national quality infrastructure of fish and fish products in Bangladesh to meet quality requirements in export markets, improve competitiveness, and explore international market opportunities especially in the EU.

We are so proud that our laboratories are of world class and the results generated are globally acceptable due to accreditation. Our clients are happy that testing turn-around-time reduced from 3 weeks to less than a week and available at point of fisheries productions. This has saved few millions of Euro for the exporters as well as to the country.



Rehana Akter

Finally my dream of becoming teacher is fulfilled.



A new campaign of BEST to raise awareness of workers' rights has changed social compliance level of the country's shrimp processing factories.

When she had a first baby five years after marriage, Rehana Akter realized that a single earning from her husband is not enough to run the family. At the same time the cost of daily essentials accessories was increasing.

As I have studied up to HSC level, I had a dream to become a teacher but could not succeed; so I joined a shrimp processing plant and earned 2500 taka per month without any extra facilities. In 2011, I received two trainings provided by BEST-BFQ labour component of UNDO on labour laws and employee rights. In all training, I was awarded and considered as the best trainee among the trainees. I started discussing with my workers and my colleagues regarding our rights and facilities. My work on awareness building to the workers made me different and my employer selected me as workers' supervisor which gave me the opportunity to discuss the labour related issues with the authority of the industry.

BEST-BFQ labor component conducted series of training programs to over 2500 workers in 25 factories on labor law and worker rights. The

program also created a pool of 78 trainers among the factory workers, government officers and seafood plant managers, with an overall objective of building social compliance of the sector for better competitiveness and greater market opportunities.

After getting series of additional training from BEST during 2012 to 2013 and sincere working, my employer promoted me as labour officer and increased my salary to 7000 Taka along with facilities such as festival bonus, overtime, increment, maternity leave and facilities etc. In 2012 labour department selected me as a trainer on labor law and I started training employees of different processing plants. Now workers feel that nobody can deceive us.

I have succeeded to improve my own living standard. For this, first of all I express my gratitude and sincere thanks to BEST-BFQ UNDO. Now I think, I am successful in my professional life. Now colleagues, friends and community respect me a lot and I feel much honored.



Belal Hossain

Farmers call me 'village GAP doctor' because I test their pond and shrimp and give advice

Shrimp quality and safety cannot be improved once they are received in the factory. Any attempt to produce safe shrimp should start from farm. There are about 200,000 shrimp farmers in the country which are small scale and traditional farms. BEST programme assisted farmers to produce safe shrimp through Good Aquaculture Practices (GAP).

Belal Hossain is 32 years old and having a family of five depending on his income. He studied up to SSC (Secondary School Certificate) and then started shrimp farming as his family profession. But he suffered severe economic losses due to production failures from time to time due to low depth of water and repeated cyclones.

BEST-BFQ provided selected 24 young farmers as field assistants from Shyamnagar upazilla of Satkhira district. They were given in-house intensive training (4-days and 3-days) on Good Aquaculture Practice covering nursery management, pond preparation and design, feeding management, water quality management, disease management, harvest and post-harvest management. These field assistants were provided with water quality test kits, bicycle and office room at the village center to provide testing services to their neighbor farmers

The training I got from BEST project helped me and my fellow farmers. In my farm, I prepared a nursery

for seeds, increased the depth of the pond and monitored water quality and shrimp health regularly. Because of this, I got better production of 326 kg/acre when compared to 79 kg/acre in 2013 and earned Tk 215,000 which is 250% more.

By becoming field assistant (people call me village GAP doctor) my life changed completely. I provide technical and water/soil/shrimp health services to local farmers. Sometimes farmers call me over phone, I visit their farm quickly by bicycle, examine water quality and solve their problems. Usually I visit about 50 to 60 farms each month and earn about 5000-8000 TK. This is an additional income for me.

Usually local shrimp farmers listen to me and they try to maintain their pond as per my advice. Moreover they respect me as a leader of their community; I really feel proud. Now I am happy that my family is well off; my children can go to school. My parents are also happy. This project really changed my life.



Md. Aksad Ali

"Until recently our philosophy was to generate more reports. Now we produce reports of the standard of an accredited laboratory and also deliver these on time. This is the paradigm shift in Bangladesh in the arena of Medical Laboratory services - to meet physicians' expectations and patients' satisfaction."

Md. Aksad Ali, an MSc graduate from Rajshahi University. He joined the United Hospital Pathology Department in 2006 as a Clinical Biochemist and now Asst. Quality Manager.

"Since March 2013, we were just running tests with quality control samples and would then deliver reports to the patients/physicians. Then in 2013, the UNIDO BEST programme provided us an international expert on medical laboratory accreditation who taught us to correctly collect samples, to validate our test methods, to calculate measurement uncertainty, to participate in external quality assurance (EQA) programmes, to do internal audits, hold management review meetings, conduct training programmes and to prepare documents to participate in laboratory accreditation. I also attended a course on ISO standard 15189 arranged by the Better Quality Infrastructure component of the BEST. After the completion of this training, I learnt the importance of quality management systems and arranged many in-house training sessions to teach my colleagues.

My team and I have now developed the confidence in running a medical laboratory as per Good Laboratory Practices in the light of ISO standard 15189:2012

The laboratory is now accredited to ISO 15189. This gives the recognition of our test results outside Bangladesh and no retesting is required for the patients who will do their tests in United Hospital Pathology laboratory.

Now we are proud of our laboratories which are of world class and the results we generate are globally acceptable. Our laboratory team is very confident on their work. Our physicians and patients are happy. The medical error rate of our laboratory has decreased noticeably. UHL hospital management authority is fully convinced in the quality of our work. And lastly, we are the first medical laboratory in Bangladesh that has achieved accreditation from the Bangladesh Accreditation Board.



Tania Akter

"One day they will just say: This is my brand, my product It's not just It's my brand, made in Bangladesh."

The dream of the Bangladeshi textile industry doing more than just mass market and manufacturing from other brands designs have come a step closer with BEST- BWTC sending six candidates abroad for Masters Degree in textile and fashion related areas. They were staff from the Bangladesh University of Fashion and Technology, BUFT, and the National Institute of Textile Engineering & Research (NITER), chosen for their ability to contribute to the education sector of Bangladesh on their return.

Tania Akter is one of them who studied international fashion marketing in Manchester. Tania, who already teaches the principles of marketing at BUFT, said she believes this kind of scholarship can be a breakthrough into getting the industry to develop its own original ideas, turn them into products and sell them internationally.

"Our industry is well developed but what they need to do is market, inspire the design department and develop their own products. They have to find out why they can't face the challenge of the global market," she said.

We teach students to design for the international market so international exposure is the key. I hope these teachers will come back and convey this

message to all students, who will get the vibe of the international market and blend it with their creativity.

At the end I want to add that, if I compare my knowledge and skills before the program, and after coming back, it has huge difference, now I am more enriched with my research knowledge and skills and I am trying to do some good research which can be published in high quality journal. I learned more effective marketing strategies and promotional programs which Bangladeshi brands can also use to market their products locally and internationally. In addition now I can engage my students with lot of examples of international market which is helping us to share our knowledge and develop our ideas.



Rubina Akhtar

Mrs. Rubina Akhtar joined the National Metrology Laboratory of the Bangladesh Standards and Testing Institution (NMI-BSTI) in 2012. She has been trained as a metrologist in Volume as well as Dimensional Metrology and performs calibrations in both these fields.

After completing my masters in physics I joined in NMI-BSTI which is responsible for the national measurement standards of the country. When I joined there, the NMI-BSTI was being mentored by a Technical Advisor from the United Nations Industrial Development Organization (UNIDO). He helped us to prepare calibration procedures, to create spreadsheets for calibration, to calculate uncertainty of measurement, to validate our methods, to participate in Inter-Laboratory Comparisons, to do internal audits, to prepare quality systems documents and to maintain this documentation.

Being a National Metrology Institute, our lab also has some good quality equipment provided by the BES programme. I was responsible for maintaining the national standards and also for doing calibration of equipment sent by customers. For this I was provided with some in-house and overseas training. We also received advice from BEST international experts in different fields, who came to our labs and trained us.

In 2012 and 2014 I attended training programs in KRISS (South Korea) with funding from the project. After the completion of this training, I realized the importance of quality management systems, technical management systems and learnt how to improve my work. I also attended an assessor training course offered by BAB (Bangladesh Accreditation Board). Now I am a qualified BAB Technical Assessor for calibration laboratories. I have already had the opportunity to assess other laboratories.

My colleagues and I are now confident in calibrations as well as in running a calibration laboratory in accordance with ISO/IEC standard 17025:2005. We are proud of our laboratories, which are now world class and the results we produce are globally accepted due to accreditation by an internationally recognized accreditation body."



Afsana Ferdousi

"If Western and Asian designers work together then something new will be created and the world will get something special"

The need for conservation and recycling may be gradually getting accepted all over the world, but in Bangladesh there's been a telling reminder that such big concepts can have humble beginnings.

It comes from fashion student Afsana Ferdousi Wormey, who recently put her ideas into practice, combined elegant modern designs with her passion for nature, and came second in a prestigious international design competition.

Afsana was a student at the BGMEA University of Fashion and Technology (BUFT). The university was supported by the Better Work and Standards (BEST) programme in building its infrastructure such as laboratories and libraries.

"Natural dyes can be used instead of synthetic ones and are very durable. Onion skins can be collected from people's homes, marigolds from ceremonies and tea from the tea stall. Used once and used again. There are so many examples," said Afsana.

Society for Dyers and Colourists recognized her talent and commitment at the finals of their annual competition in Hong Kong. She reached to a level of sixteen other countries in the finals.

During her study period in 2010 she got the 1st place Euro-Bangla Fashion Show. In 2011 she was the Regional Heat Winner of SDC International Student Design competition. She took the place of

1st Runner up SDC International Student Design competition which was held in Hong Kong. She participated in Alchemy Fashion exhibition as a Bangladeshi Designer in London 2014. In 2015, she worked on a project on Sustainable Fashion with two German Universities. This project was showcased in Berlin show in July 2015.

"I think a designer is a person who may learn from other people's experience or characteristics. If Western and Asian designers work together then something new will be created and the world will get something special" she said.

Afsana is working as Fashion Designer now. She is a Council member of the Fashion Design Council of Bangladesh.

We need to build up a sustainable supply chain with improved labor standards & make the world more sustainable.

"My rickshaw puller - his needs make him innovative in using old and recycled products in his attire and the things he uses. It's time we all started doing like him and shun materials harmful to us and our environment."



Rupali Biswas

Rupali Biswas is Chief Trainer of Institute of Apparel Research and Technology (IART) of Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA). She manages this new industrial center in Dhaka with a team of 8 trainers and offers different training programmes with the focus on women empowerment and skills development.

Bangladesh RMG sector contributes nearly 80% of the country's total export earnings. The country has more than 4,000 factories. The industry currently employs nearly 5 million workers directly, approximately 85% of who are women and this sector plays a lead role to alleviate poverty through skills development and employment creation.

I had the confidence that I could run a training institute at Narayanganj where the knitwear factories are clustered. I got immense support from Better Work in Textile and Garments of BEST without which I would not be so effective trainer. I convinced the IART management to employ another 8 Trainers with me as team to run this Training center. Now I have 16 industrial and textile engineers working me as trainers. Now I am promoted as Chief Project Coordinator to oversee and lead this new training centre.

While training the factory personnel, I learnt that most of the women who are working as machine operator or supervisors have low level of skill and technical know-how. Women are stuck at very low skilled jobs and so they hardly reach management positions consequently resulting in lower wages.

Rupali has now taken initiative to organize awareness workshop for management focusing on women participation in the training programme. She believes that benefits from the industrial growth and prosperity should be shared among women and men equally.

For gender equality and women empowerment, we need to promote training and professional development which will empower women with the skills and confidence.

Program Impact

BEST programme has been successful in creating long term effect through its development intervention across the trade sectors.

Policy impact

On the policy and legislation side, the programme has made a significant impact. The most notable impact that is already apparent is developing National Quality Policy for safeguarding the quality of the goods and services produced in Bangladesh. This will have major impact on trade related activities of the Bangladeshi products and thereby improving its competitiveness across the globe.

The programme has successfully harmonized food safety regulations governing fish and fishery products. This included various policy guidelines on the official control programs across the fisheries sector which has been considered 'equivalent' to relevant EU requirements.

Development impact

The programme interventions resulted in improved governance and transparency in trade sector particularly with reference to standards, metrology, accreditation and certifications. This might bring these issues to the fore of the developmental agenda of the country. The programme outcomes might also introduce new products, services, business practices or production processes in the country due to competence built upon during last 10 years.

The programme interventions have already brought many macro-economic benefits to the country, in the form of additional revenues through testing, certification and accreditation which otherwise would have to be done abroad.

Social impact

The component dealing with labour rights and work environment issues was also found to have important positive impacts on its target group, particularly the female workers, including: enhancing their awareness, improving their self-esteem, and developing their communication and dialogue skills.

The programme also catalysed the process of employment creation in various sectors such as fisheries, textiles and garments which will have positive impact through better productivity.

The timely intervention of the BEST programme led to attain greater compliance in the fisheries sector; regain the reputation of Bangladesh in export markets. This resulted into continued export business leading to retention of employment for both men and women at different levels of production chain.

Economic impact

The BEST programme has clearly created great financial benefit to the processors due to improved capacity in terms of testing, calibration, certification and accreditation. These services now available within the country have saved lot of time and foreign currency.

The BEST programme has also benefited processors and all the actors involved in the fisheries value chain financially due to lifting of 20% mandatory testing at Border Inspection Posts of EU countries, resulting in fetching better price in international market, whose benefits trickle down to everyone in the value chain.

Based on the compliance of fishery sector; Bangladesh has already gained entry to new and emerging markets.

The outcomes of the program are expected to create employment in the areas of testing and certification.

The skills development and strengthening of textile and garment institutions would result in improvement of quality of employment in addition to create new jobs for the nationals which otherwise would have gone to expatriates.

Productivity improvement, better business outputs, and value addition are other positive impacts of the programme particularly in fisheries, textiles and garment sectors.



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**A Project with
Inclusive Approach**


















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