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Accreditation Handbook

2nd EDITION

Bangladesh Accreditation Board

Ministry of Industries

Accreditation

Handbook

2nd Edition

Tool for delivering Better Service & regulation

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FOREWORD

Accreditation is a leading global factor which influences standards, manufacture of goods and services providers and policy makers. It is a market based tool that can be used by government policy makers to deliver better services as well as regulations. This tool is not as widely known and understood, or used, as it should be. This handbook therefore contains an overview, general features and related issues of accreditation for explaining why and how this tool could be used effectively in government departments.

Our effort aim at providing the basis for regulators to qualify the technical validity of data used to support policy and endorsement. It describes the process of accreditation and to some extent standards, metrology and the National Quality Infrastructure of Bangladesh. We hope it will also help all stakeholders develop an understanding in worldwide recognized and accepted practices.

We are indebted to IAF, ILAC, APAC, EA, ISO, IEC, UKAS, INAB and PTB for enriching this handbook with their contents ideas and publications.

Md. Monwarul Islam
Director General (Additional Secretary)
Bangladesh Accreditation Board

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ACRONYMS & ABBREVIATIONS

APAC	Asia Pacific Accreditation Cooperation
APMP	Asia Pacific Metrology Programme
BAB	Bangladesh Accreditation Board
CAB	Conformity Assessment Body
CO	Case Officer
IAF	International Accreditation Forum
IEC	International Electro technical Cooperation
ILAC	International Laboratory Accreditation Cooperation
ISO	International Organization for Standardization
KPI	Key Performance Indicator
MoU	Memorandum of Understanding
MRA	Mutual Recognition Arrangement
MLA	Multilateral Recognition Arrangement
NML	National Metrology Laboratory
NQP	National Quality Policy
PT	Proficiency Testing
QMS	Quality Management System
TBT	Technical Barriers to Trade
AC	Committee / Accreditation
WTO	World Trade Organization

CHAPTER I
ACCREDITATION

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ACCREDITATION

Accreditaion determines the technical competence and integrity of organisations offering conformity assessment services such as testing, certification, inspection and calibration. Accreditation can thus be used to verify conformity with a standard. This ensures one test/certificate is acceptable the world over.

Through accreditation, conformity assessment bodies (CAB): testing and calibration laboratories, inspecton and certification bodies have been assessed against internationally recognised standards to demonstrate their competence, impartiality and performance capability.

Accreditation is a formal, third party recognition of competence to perform specific tasks. It provides a means to identify a proven, competent conformity assessment body (CAB) so that the selection of a laboratory, inspection or certification body is an informed choice.

Benefits of accreditation

Accreditation is the formal recognition of a body's competence to conduct a specific activity such as tesing, calibration, inspection or certification. This recognition is basically based on compliance with International Standards. Compliance with standards requires organizations to demonstrate competence, impartiality and integrity. It is often difficult for consumers to distinguish between the quality of products or services available on the marketplace. Certificates of conformance or test reports are normally used to make that distinction. these certificates or reports are only useful or reliable if the organizaion or individual conducting the activity or test is competent and qualified. Accreditaion of the organization, for a defined scope, is the mechanism that provides the consumers with the confidence.

Accreditation ensure that certificates and test results are acceptable worldwide. It eliminates the need for multiple evaluation when goods cross forntiers, giving local producers the best competitive advantage possible in what is an ever-expanding and aggressive marketplace.

For Government

There are many duties placed on government departments, local authorities and other agencies to ensure that trust is manintained. Whether it is regarding health, water quality, food, consumer goods or transport safety, for example, the public sector provides the framework for assuring that goods and services are safe and the environment we live in is clean and secure.

BAB already works with a range of government departments to supprt the principles

of good policy making and efficient delivery. Accreditation is being used more widely as an alternative to direct government intervention and as a way of reducing cost to the public purse.

Because BAB has well-estabilished, transparent and repeatable assessment procedures applicable to different forms of conformity assessment. The benefits of collaborating with BAB include:

- **Reduction in the need for central and local government to employ their own specialist assessment personnel.** Accreditation provides the assurance for Government to rely on commercial providers of evaluation and inspection services.

- **Reduction in bureaucracy and lighter touch regulation.** The use of accredited services in a sector can reduce the need for legislation. Accreditation provides an alternative means of ensuring the reliabili ty of activites that have the potential to impact on public confidence, health and safety or the environment. Accreditation also reduces the risk of duplication, contributing to the drive for transparent and efficient government.

- **Enhancing business efficiency.** Business innovates to meet standards in efficients and cos-effective ways. Accreditation allows for a rapid response to new issues and priorities by swiftly adapting exist ing regimes already used by business to suit new circumstances.

- **Public trust.** The BAB symbol is a well-known means of identifying organisations that meet and maintain high standards. The public gain more confidence in services when they know standards are checked and enforced.

For Business

Companies big and small buy independent evaluations either through choice (to reduce the risk of product failure for example) or as a consequence of legal requirmets (such as health and safety regulations). Most commonly these evaluations are calibration of equipment, product testing, inspection of equipment and certification of quality management systems.

- Accreditation offers a business-friendly alternative to regulation, or can support regulation and enable its simplification. It is already being used to aid policy delivery across a wide range of Government activities.
- Using accreditation can reduce costs for Government by moving delivery of policy to the private sector.
- Accreditation can support risk-based regulation by providing information to hepl target Government intervention where it is most needed.
- Through its openness and independence, accreditation has the necessary legitimacy and degree of market acceptance to be used as tool for policy delivery.

Accreditation has become almost a de facto pre requisite to international trade:

All developing countries have some valuable goods and services that they can export regionally and internationally to improve their economies. Statistically though, developing countries face more technical barriesrs to trade (TBT) than those of developed countries. Lack of acceptance of laboratory test data and certification results across national borders has been identified as a significant barrier to trade.

Establishing accreditaion systems should help to provide assurance for trading partners that developing countries are competent to test and certify to their requirements, while at the same time overcoming trade barriers by assuring compliance with the World Trade Organization: Technical Barriers to Trade (WTO TBT) agreement.

The use of an internationally recognized accreditation regime by a country signatory to the TBT Agreement allows that country to rely on the terms of the agreement to establish the competence of their conformity assessment system. Section 6.1.1 of the TBT Agreement states that, ``...verified compliance, for instance through accreditation, with relevant guides or recommendations issued by international standardizing bodies shall be taken into account as an indication of adequate technical competence.'' In other words, the use of an accreditation system is this situation reduces the possibility of goods being denied access on the basis of inadequate conformity assessment.

For Consumers

Accreditation gives consumers' confidence through ensuring consistently high standards in the quality and safety of products or services purchased. It helps increase the choice of goods and services available on the market and help to ensure that these meet relevant standards of quality and safety, whatever their country of origin.

Increased Quality of Goods and Operations:

Use of a well-designed and implemented accreditation process may result in an improved quality of goods and services. In developing countries, this is especially true when the accreditation scheme is integrated into a larger quality improvement and recognition program. With an increase in quality of goods comes increased access to markets and the potential for higher profit margins.

Accreditation processes may also improve organizational efficiency through the reduction of waste, better staff time utilization and streamlined management procedures.

Who can be accredited

Organizations performing conformity assessment such as testing, inspection, certification are called conformity assessment bodies in short CAB. All CABs that carry out such activities can be accredited. Different conformity assessments are subject to accreditation according to different standards as shown below.

Types of Conformity Assessment Body (CAB)

Laboratory: Testing Laboratory, Calibration Laboratory, Medical testing Laboratory

Inspection Body: that provides inspection service by the examination of a design, product, service, process or installation ; and determining their conformity with specific requirements.

Certification Body: that provides certification of services through audit/inspection/evaluation of the organization and / or its design, product, service, process or installation to determine conformity with specific requirements.

- Management System Certification Body - that provides audit & certification on ISO 9001, ISO 14001, ISO 22000 etc.
- Product Certification Body - that certifies products and processes in accordance with specific standards, regulations,schemes, etc.
- Personal Certification Body - that administers individual credentials and certifies personnel to conduct specific technical task such as electricians, plumbers, welders, and inspectors.

Difference between Accreditation & Certification

Accreditation is the process by which an independent, authoritative body determines - against recognised standards-the impartiality and competence of an organisation or individual to carry out specific tasks.

Vs

When it comes to the the accreditation of laboratory services, the international standard ISO/IEC 17025 defines what is required for a laboratory in order to demonstrate both the technical competence of the personnel and the availability of all the technical resources needed to produce accurate and reliable set of tests, measurements or calibration.

The accreditation process involves specialist technical assessors conducting a thorough assessment of all factors in the facility that affect the production of technical data, including:

- Technical competency of staff.
- Validity and appropriateness of methods used.
- Traceability of measurements and calibrations
- Appropriate application of measurement uncertainty.
- Suitability, calibration and maintenance of test equipment.
- The testing and work environment.
- Sampling, handling and transportation of test items.
- Quality assurance of test, inspection or calibration data.

ISO/IEC 17025 also has a component to it that requires that the management systems of the facility meet the principles of ISO 9001. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the requirements of technical competence and management system, which are necessary for it to consistently deliver technically valid test results and calibrations.

Furthermore, to ensure continued compliance, accredited facilities are regularly re-examined to ensure they maintain their standards of technical expertise. These facilities are also required to participate in regular proficiency testing programmes r inter-laboratory comparisons as an on-going demonstration of their competence.

A laboratory may have chosen to be audited and certified to the international standard for quality management systems, ISO 9001. This is a generic standard that can be applied to any organisation regardless of type, size or service provided and is used to evaluate their system for managing the quality or their product or service.

The certification body carrying out the auditing and certification of the laboratory to ISO 9001 may iteslf be accredited (to a separate standard ISO/IEC 17021) to carry out this particular service.

Accredited certification to ISO 9001 and accreditation to ISO/IEC 17025 both provide confidence in the services of a laboratory, but they are not the same. Three are crucial differences between the purpose, criteria and emphasis of the ISO 9001 quality management system standards and those of the laboratory standard, ISO/IEC 17025, that is used in accrediting laboratories.

Holding accredited certification to ISO 9001 does not, on its own, represent evidence that a laboratory is able to provide accurate and reliable testing or calibration. For this the laboratory itself must be accredited to ISO/IEC 17025 which is more specific in its requirements for technical competence and impartiaity while still addressing the quality management system requirements needed to enusre that the laboratory provides consistent and reliable services that will meet your needs.

Remember if you are securing testing, measurement or calibration services in support of public reinforcement:

- Using the services of a laboratory accredited to ISO/IEC 17025 means that you are using a supplier that has been independently assessed to have demonstrated technical competence underpinned by a quality system.
- Check that the scope of the facility's accreditation is appropriate for the tests, calibrations or measurements you require to be done.
- A testing facility accredited to ISO/IEC 17025 may also maintain a certified ISO 9001 management system, for example if its quality system covers non-testing functions such as accounting, marketing, information services or education. However, holding accredited ISO 9001 certification is not sufficient to demonstrate technical competence.
- If you are unsure about what to look for in your laboratory or need more information about accreditation, contact the public body in Bangladesh responsible for their work under the BAB Act. (www.bab.org.bd)

Accreditation-tool for delivering better regulation

In the context of better regulation, accreditation plays a key role as an effective, market-led delivery mechanism for Government policy. Accreditation is increasingly used across a wide range of Government policy areas to support better regulation including technical product safety, good governance, climate change, energy fair markets and public confidence. However, greater use could be made of these important policy tools.

How can Accreditation help to deliver Government policy

Regulation may be an appropriate solution when bringing about change, for example by creating a level playing field or protecting consumers' Accreditation is less expensive to deliver. As well, accreditation concentrates only on the technical aspects of legislation concentrates only on the technical aspects of legislation, and is not intrusive to business and does not restrict innovation.

There will always be cost in order to achieve any desired benefit pollicy professionals have to think carefully about which option will provide the best value for money and desired outcome, or whether Govemment intervention is required at all.

Accreditation provides the policy maker with alternative tool to regulation, Standards that form the basis of industry self-regulation, combined with accredited conformity assessment to give the highest degree of confidence in compliance where required can produce benefits for all parties, with a cheaper and more effective basis for the adoption of best pracatice.

How does Accreditaion benefit Government and Regulators?

Government bodies and regulators are constantly called upon to make decisions related to:

- Protecting the health and welfare of consumers and the public
- Protecting the environment
- Developing new regulations and requirments
- Measuring compliance with regulatory and legal requirements
- Allocating resources, both technical and financial

in order to make informed policy and enforcement decisions, they must have confidence in the data generated by laboratories carrying out testing, measurement or calibration in these fields. Using of an accredited laboratory can help establish and assure this confidence.

When a laboratory is accredited by a recognised accreditation body, it has demonstrated a prescribed level of technical competence to perform spceific types of testing, measurement or calibration activites, The result is assurance that the laboratory is capable of producing data that is accurate, traceable and reproducible critical components in governmental decision-making.

How accredited laboratory benefit government and regulators?

Using an accredited laboratory provides government and regulator wtih:

- Increasing confidence in data that is used to establish baselines for key analyses and decisions
- Reduced uncertainties associated with decisions that affect the protection of human health and the environment
- Increased public confidence, because accredi taion is a recognisable mark of approval
- Elimination of redundant reviews and improv ing the efficiency of the assessment process (which may reduce costs)

Using an accredited laboratory also increases confidence that:

- Decisions regarding multiple facilities are based on comparable data
- Purchases received from suppliers are safe and reliable

Why use an accredted ispecition body

Using an accredited inspection body benefits government and regulators by:

- Increasing confidance in inspection related information use to support policy decision-sand action plans
- Providing government with an independent (third party) attestation that is based on an internationally recognised standard
- Eliminating duplicate inspections and improving the efficiency o the assessment process (which may reduce costs)

Using accredited inspection bodies also facilitates trade and economic growth. The accreditation process relies on a uniform approach to confirming inspection body conpetence - an approach that has been accepted and implemented across many borders. The ILAC Inspection Mutual Recognition Arragement (MRA), based on internationally agreed and accepted inspection practices. Inspection reports generated by accredited nspection bodies can facilitate acceptance of goods between economies. This saves money as it reduces or eliminates the need for repeat inspections.

How does Accredited Certification benefit Government or Regulators?

Government bodies and regulators are constantly called upon to make decisions related to:

- Protectiing the health and welfare of consumers and the public
- Protecting the environment
- Developing new regulations and requirements
- Measuring compliance with regulatory and legal requirements
- Allocating resources, both technical and financial

Using accredited certification benefits government and regulators by:

- Allowing Regulators to set overall Policy requirements or detailed technical requirements yet rely on the accredited certification bodies in the private sector to evaluate compliance
- Reducing uncertainties associated with decisions that affect the protection of human heath and the envirooonment Removing the need for
- Regulators the need for Regulators to employ ith own audit personnel, and the elimination of duplicate audits

- Increasing public confidence because accredited certification is a recognisable way of demonstrating conformity.
- Providing confidence on which to base public sector procurement decisions

Why use an accredted Certification body?

Third party management systems certification is a frequently specified requirment to operate in the global market place. It can demonstrate compliance to a standard, a code of practice or regulatory requirements. It can also deliver internal business improvement.

MRA/MLA & Global acceptance

Accreditation bodies around the world, which have been evaluated by peers as competent, have signed an arrangement, the Mutual Recognition Arrangement (MRA) or Multilateral Recognition Arrangement (MLA), which enhances the acceptance of goods and services across national borders.
This means the public policy and enfacement decisions are based on valid science accepted globally.

The purpose of the MRA/MLA, is to ensure mutual recognition accredited test/inspection/certification between signatories to the MRA/MLA, and subsequently acceptance of accredited test and inspection report or certification in many markets based on one accreditation.

How does MRA/MLA benefit
Accreditations granted by MRA/MLA signatories are recognized worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to business and consumers.

For Regulators- The MRA/MLA represents an internationally recognized `stamp of approval' to demonstrate compliance against agreed standards and requirements. Consequently, risk is minimized, as decisions will be based on reliable reports/certificates. Many specifiers, such as government agencies, have recognized the importance of credible accreditation programs that are developed against

- Costs associated with laboratory problems, including re-testing, re-sampling, and lost time are minimised
- False positives and negatives, which can directly affect compliance with regulations, are minimised

How dose an Accredited Inspection Body Benefit Government and Regulators?

Inspection is an essential part of ensuring the operational safety of many items that the public use in their daily lives. safety of food is a prime example, as are cranes boilers and pressure vessels used in the workplace. The competence of inspection services employed by local and national authorities and other organisations to ensure regulatory requirements are being met is often assured by accreditation.

Goverment bodies and regulators are constantly called upon to make decisions related to:

- Protecting the heath and welfare of consumers and the public
- Protecting the environment
- Developing new regulations and requirements
- Measuring compliance with regulatory and legal requirements

In order to make informed decisions, there must be a level of confidence that the results produced by inspection bodies are accurate, reliable and impartial. Using an accredited inspection body can help establish and assure this confidence.

When an inspection body is accredited by a recognised accreditation body, it has demonstrated that a prescribed level of technical competence to perform specific types of inspection activities has been achieved.

Accreditation provides assurance that the inspection body is capable of producing results that can be relied upon by government to meet their regulatory and legislative responsibilites.

against specified requirements by laboratories, certification bodies, and inspection bodies (collectively known as conformity assessment bodies). Conformity assessment is used to check that products are fit and safe for consumption against a standard, a code of practice or regulatory requirements. Conformity assessment therefore provides a means for preventing unsafe, unhealthy or environmentally harmful products from entering the market place. Regulators can set overall policy requirements or detailed technical requirements and rely on laboratories, inspection bodies or certification bodies to check for compliance.

For national authorities and regulators

Regulators can set policy requirements or detailed technical requirements and rely on accredited laboratories, inspection bodies or certification bodies to check for compliance. Regulators can therefore reduce their in-house inspectoreates and specialist assessment personnel to reduce cost, or target their inspections more effectively. The use of accredited services can also moderate the need for additional legislation, as well as reduciong the risk of unintended consequences. Internatonal accreditation arrangements provide regulators with a robust and credible framework to accept accredited test results, inspection reports and certifications from overseas, with an equivalent level of confidence as if they were carried out in the local economy.

Accreditation therefore provides a reliable monitoring tool to support the work of food safety and drinking water agencies.

For businesses operating in the food and water industry

Supermarket chains and food ratailers are increasingly demanding that their suppliers demonstrate that their products meet food and water safety standards by requiring accredited test reports, inspection reports and certifications. Compliance with food and water safety standards demonstrates that suppliers are meeting appropriate levels of safety, environmental performance, and animal welfare. Accreditation, and the use of accredited conformity assessment bodies, can also support business in the supply chain against potential liability claims. International accreditation agreements provide an infrastructure that allows accredited certificates to be accepted around the world. This reduces the risk of products being rejected by international trading partners, and for the need to have products re-evaluated of entry into each country.

For consumers

Consumer confidence can be gained from goods or services that are accompanied by an accredited certificate of conformity. International accreditation agreements ensure that such goods and services placed on the market, from whichever country of origin, meet standards of quality and safety.

The advantage of being an accredited Inspection Body

- The MRA acts as an internationally recognized `stamp of approval' to demonstrate com pliance against agreed standards and requirements and to allow accredited inspection reports to be more readily accepted in overseas markets. This recognition hepls to reduce costs for manufacturers and exporters that have their products or materials inspected by accredited inspection bodies, by reducing or eliminating the need for re-inspecting in another economy.
- Accreditation benefits inspection bodies by allowing them to determine whether they are performing their work correctly and to appropriate standards, and provides them with a benchmark for maintaining that competence. Many inspection bodies operate in isolation from their peers, and rarely if ever, receive any independent technical evaluation as a measure of their performance.
- Accreditation is an effective marketing tool for inspection organizations, and a passport to submit tenders to clients that require independently verfied technical competence and consistently reliable inspection reports.
- Accreditation is highly regarded both nationally and internationally as a reliable indicator of technical competence. Many industries and regulations specify accreditation for suppliers of inspection services.
- Accreditaion uses criteria and procedures specifically developed to determine technical competence, thus assuring customers that the inspection reports supplied by the ispection service are accurate, reliable and impartial.
- Many accreditation bodies also publish a directory of their accredited inspection bodies, which includes contact details plus information on their inspection capabilities. This is another means of promoting an inspection body's accredited services to potential clients.

The advantage of being an accrdited Certification Body

- The MLA acts as an internationally recognized `stamp of approval' to demonstrate compliance against agreed standards and requirements and to allow accredited certificates to be more readily accepted in overseas markets.
- Accreditation benefits certification bodies by allowing them to determine whether they are performing their work correctly and to appropriate standards, and provides them with a benchmark for maintaining that competence. Many certification bodies operate in isolation from their peers, and rarely, if ever, reveive any independent technical evalu their as a measure of their performance.
- Accreditation is an effective marketing tool for certification organizations, and a passport to submit tenders to clients that require independently verified technical competence and consistently reliable certificates.
- Accreditation is highly regarded both nationally and internationally as a reliable indicator of technical competence. many industries and regulations specify accreditation for certification services.
- Accreditation uses criteria and procedures specifically developed to determine technical competence, thus assuring customers that the certificate issued by the certificatin body are accurate, reliable and impartial.
- Many accreditation bodies also publish a directory of their accredited certification bodies, which includes contact details plus information of their certification capabilities. This is another means of promoting a certification body's accredited services to potential clients.

internationally recognized standards. Accreditation and the MRA/MLA help regulators meet their own legislated responsibilites by providing a globally recognized system to accept accredited certification/report.

For Business - The MRA/MLA provides businesses that are procuring goods and services with greater confidence. Businesses can therefore select suppliers from further afield in the knowledge that they will receive goods and services that conform to a recognized standard.

For Manufacturers - Having products assessed and certified as conforming to a particular standard allows manufacturers and service providers to distinguish themselves from less reputable suppliers, thereby creating a competitive advantage.

The MRA/MLA ensures that standards, specifications and conformity assessment methods are the same, allowing one accredited report/certificate to be recognized around the world. This lowers the cost of accredited test/inspection/certification and reduces the risk of goods or services being rejected by international trading partners.

For Consumers - Goods and services that have been assessed earn creates consumer confidence. The MRA/MLA ensures that such goods and services placed on the market, from which every country of origin, meet standards of quality and safety.

Advantage of Accreditation for accredited CAB

The advantage of having government laboratories accredited

A) A recognition of testing competence

Laboratory accreditation provides formal recognition to competent laboratories, thus providing a ready means for customers to identify and select reliable testing, measurement and calibration services. To maintain this recognition, laboratories are re-evaluated regularly by the accreditation body to ensure their continued compliance with requirements, and to check that their standard of operation is being maintained. The laboratory is also required to participate in relevant proficiency testing programs between reassessments, as a further demonstration of technical competence.

Accredited laboratories usually issue test or calibration reports bearing the accreditation body's symbol or endorsement, as an indication of their accreditation. Clients are encouraged to check with the laboratory as to what specific tests or measurements they are accredited for, and for what ranges or uncertainties.

This information is specified in the laboratory's scope of accreditation, issued by the accreditation body. The description is the scope of accreditation also has advantages for the customers of laboratories in enabling them to find the appropriate laboratory or testing service.

B) Market Confidence

Accreditation is an effective market differentiator for testing, calibration and measurement organizations, and a passport to submit tenders to contractors that require independently as a reliable indicator of technical competence. Many industries, such as the construction materials industry, routinely specify laboratory accreditation for suppliers of testing services. Unlike certification to ISO 9001, laboratory accreditation uses criteria and procedures specifically developed to determine technical competence, thus assuring customers that the test calibration or measurement data supplied by the laboratory or inspection service are accurate and reliable.

Many accreditation bodies also publish a directory of their accredited laboratories, which includes the laboratories' contact details plus information of their testing capabilities. This is another means of promoting a laboratory's accredited services to potential clients.

Finally, through a system of international agreements (see later in this brochure) accredited laboratories receive a form of international recognition, which allows their data to be more readily accepted in overseas markets. This recognition helps to reduce costs for manufacturers and exporters that have their products or materials tested in accredited laboratories, by reducing or eliminating the need for retesting in another country.

C) A benchmark for performance

Laboratory accreditation benefits laboratories by allowing them to determine whether they are parforming their work correctly and to appropriate standards, and provides them eith a benchamark for maintaining that competence. Many such laboratories operate in isolation to their peers, and rarely, if ever, receive any independent technical evaluation as a measure of their performance. a regular assessment by an accreditation body checks all aspects

of a facility's operations related to consistently producing accurate and depandable data, areas for improvement are identified and discussed and a detailed report provided at the end of each visit. Where necessary, follow-up action is monitored by the accreditation body so the facility is confident that it has taken the appropriate corrective action.

In addition to commericial testing and calibration services, manufacturing organizations may use laboratory accreditation to ensure the testing of their products correctly by their own in-house laboratories is being done.

D) International recognition for government laboratories

Many contries around the world have one of more organizations responsible for the accreditation of their nation's laboratories. Most of these accreditation bodies have adopted ISO/IEC 17025 as the basis for accreditaing their country's testing and calibration laboratories, Following a uniform approach and universal method for datermining laboratory competence. It has also encouraged laboratories to adopt internationally accepted testing and measurement practices, where possible.

This uniform approach allows contries to establish agreements among themselves, based on mutual evaluation and acceptance of each other's accreditation systems. Such international agreements, called Mutual Recognition Arrangements (MRAs), are crucial in enabling test and calibration data to be accepted among these countries. In effect, each partner in such an MRA recognizes the other partner's accredited laboratories as if they themselves had undertaken the accreditation of the other partner's laboratories.

Medical testing

Medical laboratory services are essential in the diagnosis and assessment of the health of patients. Their services encompass arrangements for requisition, patient preparation, patient identification, collection of samples, transportation, storage processing and examination of clinical samples, together with subsequent result validation, interpretation, reporting and advice, medical laboratory services should therefore meet the needs of all patients, clinical personnel responsible for patient care and any other interested parties.

The laboratory's aim is not only to provide accurate results, but to do so on the right patient within a meaningful timeframe as regards clinical management, using appropriate laboratory procedures and with a respect for ethics, confidentiality and the safety of the patient.

accreditation to ISO 15189 involves the independent assessmenst of a medical laboratory to determine competence, impartiality and consistency. It addresses the qualifications and on-going competency of personnel involved in medical laboratory examinations, the laboratory accommodation, equipment, reagents and supplies, pre-analytical and analytical factors, quality assurance considerations, and post-analytical factors.

Specialist scientific and clinical assessors with expertise in the relevant discipline of practice, conduct a thorough evaluation of all fctors in the laboratiory that affect the production of test data, including:

- technical competence of staff:
- validity and appropriateness of test methods, including pre- and post-analytical elements such as sample collection and reporting:
- sample quality, including patient indentification, handling and transport to maintain sample integrity:
- a review of the history relating to previous patient results and any known clinical diagnoses;
- procedures relating to the use of “referral laboratories” su as specialised testing centers for specific diseases;
- traceability of measurements and calibrations to relevant standards;
- suitability, calibration and maintenance of test equipment;
- testing environment;
- quality assurance of test data;
- acceptable turnaround time;
- application of appropriate ethcial values.

Benefits of Medical Laboratory Accreditation

Accreditation is an enabler of quality and a core component of good clinical management; it is patient-focused, impartial, objective, and operates within a peer review model. It provides many benefits such as those detailed below.

For Healthcare Regulators

The need to drive up the quality of care for patients, whilst delivering efficiency and productivity, is a key principle for regulators of healthcare services, Accreditation can be used as a tool to support the commissioning or specification of medical laboratory services that are technically competent, safe and reliable, and that continually improve the experience for patients by:

- providing an independent assurance of quality and safety that supports world-class decision on how to deliver better care and value for patients;
- providing a mechanism for measuring quality improvement;
- supporting consistency in the quality of care; and
- encouraging innovation

For Patients

Accreditation requires that the laboratory assesses the value and relevance of the testing in relation to the patient’s clinical management. It demonstrates that medical

laboratories comply with an international standard, confirming that:

- there is consistency in the quality of care;
- the service has up-to-date technologies and its procedures and techniques reflect current best practice; and
- staff providing the service are competent to undertake the tasks they perform.

For Medical Laboratories:

Accreditation provides proof that a laboratory complies with best practice. It also offers authoritative assurance of the technical competence of a laboratory to undertake specified analysis or measurements according to validate methodsd Accreditation:

- provides an opportunity for external perspectives on the laboratory's practice;
- can prevent the unnecessary duplication of information gathering of performance often required by regulatory bodies;
- encourages the sharing of best practice;
- stimulates innovation;
- reduces risk; and
- provides international recognition

Food testing & certification

Food testing and Food safety certification are very important to safeguard product safety and ensure safe food and satisfy consumers.

How can we be confident that our food is safe and the water we drink is clean?

The production and distribution of food and water involves complex supply chains and processes, In simple terms, there is the production of crops and the rearing of animals, followed by the practices involved with sorcing, harvest and slaughter. Then there is the storage, treatment and processing, and in trun packaging and distribution. The food and water industry operates in a highly competitive, dynamic and regulated environment. There are a series of complex issues and a range of areas where there has to be tight control to be given to the retail environment in terms of storage and display. Increasingly, there is an international aspect to food and water production, as ingredients, products or parts of products, may come from several countries around the world

Samples, products, services, management systems or personnel can be evaluated

CHAPTER II
PROFICIENCY TESTING (PT) AND INTER LABORATORY COMPARISON (ILC)

PROFICIENCY TESTING

CHAPTER II
PROFICIENCY TESTING (PT) AND INTER LABORATORY COMPARISON (ILC)

Proficiency testing (PT) is the external assessment of a laboratory's performance using samples of known, but undisclosed content, and including comparison against other laboratories. It is a powerful quality assurance tool enabling laboratories to monitor their performance and compare their results with similar laboratories.

Why is PT important?

PT is important because it is the tool a laboratory can use to verify the accuracy and reliability of its testing. Routine reviews of PT reports by the laboratory staff and director will alert them to areas of testing that are not performing as expected and also indicate subtle shifts and trends that, over time, would affect the test results.

Benefits for Laboratories participationg in Proficiency Testing Programs

While some laboratories may view participation is proficiency tesing (PT) programs as a necessity to satisfy accreditation bodies, they could be overlooking the more fundamental benefits that can be achieved by taking part in well-designed PT programs.

Clearly, laboratories are the major stakeholders in PT program participation, but there may be other stakeholders, who also have a major interest in such programs and in the performance of laboratories involved.

Benefits of PT participation

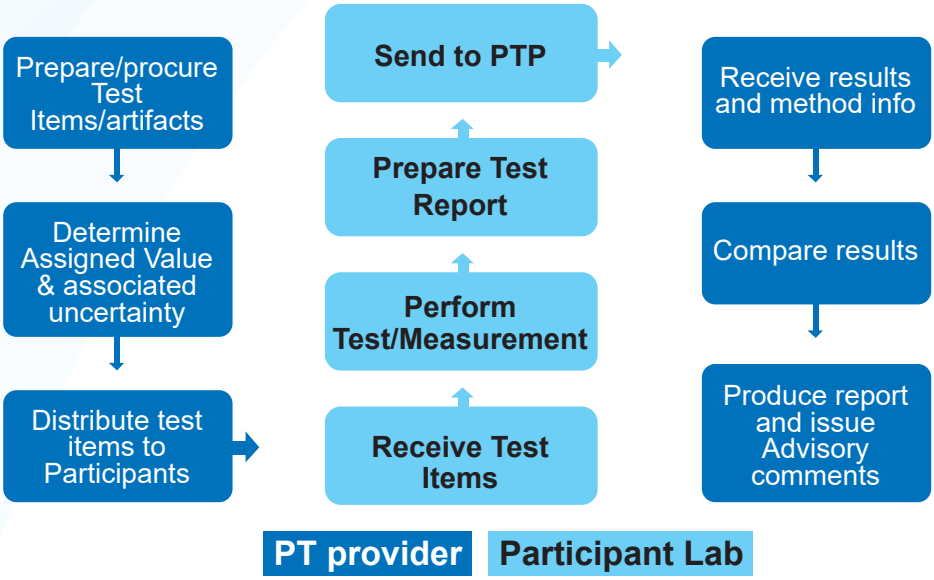
The following are some of the potential benefits which may be available to participating laboratories:

- Confirming competent performance
- Indentifying testing or measurement problems (as a risk management and performance improvement tool)
- Comparing methods and procedures
- Improving performance
- Educating staff
- Instilling confidence in staff, management and external users of laboratory services
- Comparing operator capabilities
- Generating reference materials
- Determining method precision and accuracy

- Satisfying regulators and accreditation bodies
- Providing laboratories with additional risk management

While not all of the above will be relevant for individual PT programs, some of the above benefits will be ongoing benefits available to participants from program to program.

General Flow diagram of PT



Purposes of PT

Internal Purposes

- To assess the quality and uniformity of tests and measurements
- To assess and demonstrate the reliability of the data they are producing
- To detect the random errors and biasness in quality controls, which are hardly detectable during routine work.
- To monitor laboratories continuing performance

External Purposes

- To meet the requirements of accreditation Standards to ISO/IEC 17025 and ISO 15189
- To comply with the national & international regulation

Inter Laboratory Comparison (ILC)

Organization, performance and evaluation of measurements or tests on the same or similar items by two or more laboratories in accordance with predetermined conditions. ILC is widely used for a number of purposes and their use is increasing internationally.

Purposes of ILC

- Evaluation of the performance and monitoring continuing performance;
- Identification of problems and initiation of actions for improvement eg. inadequate test or measurement procedures, effectiveness of staff training and supervision, or calibration of equipment;
- Establishment of the effectiveness and comparability of methods;
- Provision of additional confidence to customers;
- Identification of inter-laboratory differences;
- Education of participants
- Validation of uncertainty claims;
- Evaluation of the performance characteristics of a method
- Assignment of values to reference materials and assessment of their suitability for use
- Support for statements of the equivalence of measurements of NMIs through “key comparisons” and supplementary comparisons conducted on behalf of the BIPM and associated regional metrology organizations

CHAPTER III
STANDARD & STANDARDIZATION

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STANDARD & STANDARDIZATION

Standards are simply an agreed way of doing something; they capture current good practice through trusted processes involving all relevant stakeholders.

A standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. There are over 19 500 International Standards that can be purchased from the ISO store or from member organizations.

The benefits of International Standards

International standards bring technological, economic and societal benefits. They help to harmonize technical specifications of products and services making industry more efficient and breaking down barriers to international trade. Conformity to International Standards helps reassure consumers that products are safe, efficient and good for the environment.

International Standards ensure that products and services are safe, reliable and of good quality. For business, they are strategic tools that reduce costs by minimizing waste and errors, and increasing productivity. They help companies to access new markets, level the playing field for developing countries and facilitate free and fair global trade.

For Business

International standards are strategic tools and guidelines to help compaines tackle some of the most demanding challenges of modern business. They ensure that business operations are as efficient as possible, increase productivity and help companies access new markets.

Benefits include:

- **Cost savings-** International Standards help optimise operations and therefore improve the bottom line
- **Enhanced customer satisfaction-** International Standards help improve quality, enhance customer satisfaction and increase sales
- **Access to new markets-** International Standards help prevent trade barriers and open up global markets
- **Increased market share-** International Standards help increase productivity and competitive advantage
- **Environmental benefits-** International Standards help reduce negative impacts on the environment

For Society

ISO has over 19 500 standards touching almost all aspects of daily life.

When products and services conform to International Standards consumers can have confidence that they are safe, reliable and of good quality. For example, ISO's standards on road safety, toy safety and secure medical packaging are just a selection of those that help make the world a safer place.

To make sure that the benefits of ISO International Standards are as broad as possible, ISO supports the involvement of consumers in standard development work with its Committee on consumer policy (COPOLCO).

International Standards on air, water and soil quality, on emissions of gases and radiation and environmental aspects of products contribute to efforts to preserve the environment and the health of citizens.

For government

ISO standards draw on international expertise and experience and are therefore a vital resource for governments when developing regulations.

National governments can make ISO standards a regulatory requirement (remember ISO standards themselves are voluntary). This has a number of benefits:

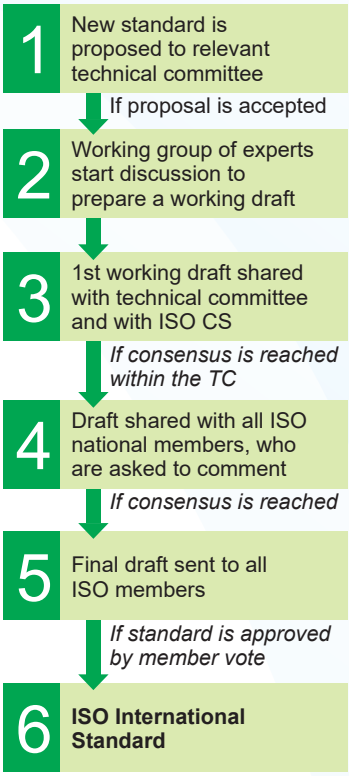
- Expert opinion - ISO standards are developed by experts. By integrating an ISO standard into national regulation, governments can benefit from the opinion of experts without having to call get on their services directly.
- Opening up world trade - ISO standards are international and adopted by many governments. By integrating ISO standards into national regulation, governments help to ensure that requirements for imports and exports are the same the world over, therefore facilitating the movement of goods, services and technologies from country to country.

Standardization

Standardization is the process of developing and implementing technical standards. Standardization can help to maximize compatibility, interoperability, safety, repeatability, or quality. It can also facilitate commoditization of formerly custom processes.

How does ISO develop Standards?

An ISO standard is developed by a panel of experts, within a technial committee, Once the need a standard has been established, these experts meet to discuss and negotiate a draft standard. Once a draft is developed it is shared with ISO'smembers who are asked to comment and vote on it If a consensus is reached the draft becomes an ISo standard. if not it goes back to the technical committee for further modifications.



Key principles in standard Development

1. ISO standard rspond to aneed in the market

ISO does not decide when to develop a new standard. instead, ISO responds to a request from industry or other stakeholders such as consumar groups. Typically, an industry sector or group communicates the need for astandard to its national member who the contacts ISO

2. ISO standards are besed o global expert khowledge

ISO standards are developed by groups o experts from all over the world that are part of larger groups called technical committees. these experts negotiate all acpects of the standard , including its scope, key definitions and content.

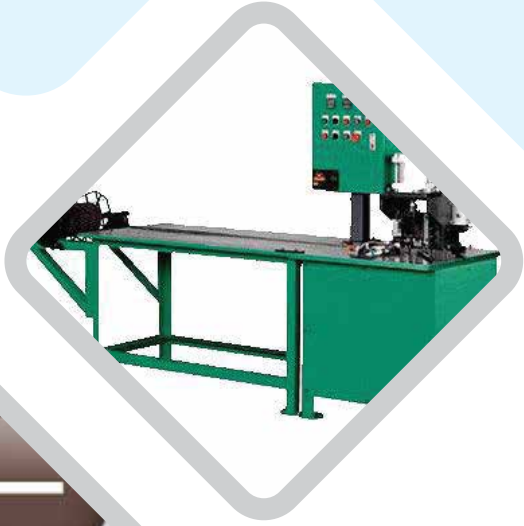
3. ISO standards are developed through amulti-stakeholder process

the technical committees are made up of experts from the relevant industry, but also from consumer associations, academia, NGOs and government.

4. ISO standards are based on consensus

Developing ISO standards is a consensus-based approach and comments from stakeholders are taken into account.

CHAPTER IV
BASIS FOR TECHNICAL VALIDITY



CHAPTER IV
BASIS FOR TECHNICAL VALIDITY

Metrology, Metrological Traceability & Calibration

Metrology is the science of measuremet. If includes all theoretical and practical aspects of measurement. Metrology is defined by the international bureau of Weights and measures (BIPM) as “the science of measurement, embracing both experimental and theoretical determinations at any level of uncertainty in any field of science and technology.

Globally there is an increased understanding of the importance of metrology to the economy and to society as a whole. accurate measurement forms the backbone of technial regulations, documentary standards and legal metrology, thus it is the prerequisite for free and fair trade nationally and internationally. In every institute, company, or organization, concepts such as safety, security, efficiency, reliability and precision are of paramount importance in designing systems, which provide guarantess of product quality. Accurate and widely accepted measurements are important in ensuring that market transactions can take place and that consumers can feel confident that the good they buy are of the quantity and quality they expect. importantly for developing countries, accurate and internationally accepted measurements allow market access for food and commodity exports. accurate and precise measurements curbs the buyer’s tendency to want more and the seller’s tendency to give less.

techonology innovation depends on accurate measurements. New ideas and products often can only be implemented of reliable measurement systems are in place. At the social level, protection of the environment requires that pollutants are precisely monitored, patient receiving medical treatment need confidence in their test results and the dosage of treatment, even that the ingredients of the drugs they take have been measured properly.

Similarly, industrial and commercial standards such as those introduced by the intern ational Organization for Standardization (ISO) create a demand for measurment, Case studies have shown that there is a strong relationship between the adoption of international standards and the extent of trade in measurement and testing equipment, and these studies prove that a good metrology system ultimately contributes to the GDP of a country,

A study of history shows that the economic progress and growth of a nation is directly related to their progress in implementing and maintaining a uniform national measurements system. Many decisions in life are based on measurements. Measurements influence and are an integral part of our daily lives a fact thet we often forget, almost everything we buy is purchased by weight, length, volume, or measure: a kilogram of meat, a liter of gas, a meter of cloth, and a dozen eggs,

The role of metrology is easily seen in the following:

- no quality without quality control,
- no quality control without measurements,
- no measurements without calibration,
- no calibration without accredited laboratories,
- no accredited laboratiories without traceability,
- no traceability without measurement standards,
- no measurement standards without metrology.

The measurement needs of industry are defined by quality aspect of the products, manufacturing processes and clients' requrements, which are generally defined in written standards. international quality standards (ISO 900, ISO/IEC 17025, etc) require traceability of measurements.

A traceability chain is an unbroken chain of calibrations, all having stated uncertainties. This ensures that a measurement result or the value of the standard is related to references at a higher level, ending at the final level with a primary standard of realization of the definition of measurement unit.

In general, every country has a national metrology institute - NMI, which is responsible for the development and maintenance of the national measurement standards in physical and chemical quantities. irrespective of whether these standards physically have the highest achievable accuracy (primary standards), when they are declared as the national measurement standard of a nation, they represent the countries' capability. Calibration activites are also an essential part of the national metrology system and thus of the national quality system. The National metrology Institute - NMI, can be considered as the national custodian and verifier of reference standards and as such it must obtain, conserve, develop and disseminate the basic measurement units and the highest level of calibration standards. It provides traceability to the national system and it ensures that international technical guidelines are followed for the metrological performance and testing procedures of measuring instruments subject legal controls, and from the point of view of manufactures it ensures that their products meet international specifications for metrological performance and testing.

International System of Units for Measurements

Throughout history different countries used different unit system for measurement such as Meter, Kilogram, Second (MKS), Foot, Pound, Second (FPS) and Centimeter, Gram, Second (CGS) which was usually used for measurement unit. in 1960, most nations decided to use a general unit system for measurement which is called international system of unit of SI (from the French “Systeme internationale”.)

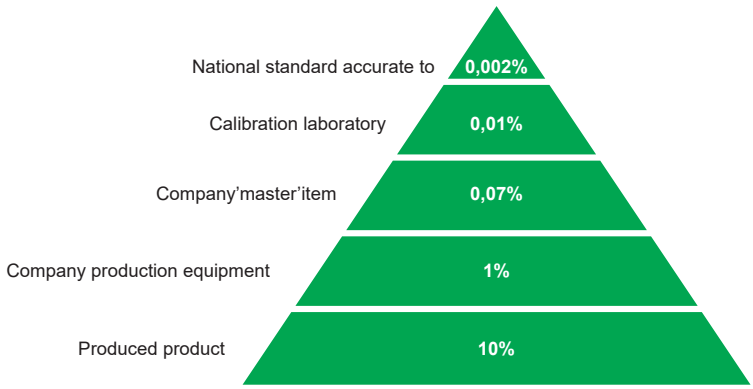
SI for Fundamental Measurements:

SI No.	Parameters	SI Unit
01	Length	Meter (M)
02	Mass	Kilogram (Kg)
03	Time	Second (S)
04	Temperature	Kelvin (K)
05	Electric Current	Ampere (A)
06	Light Intensity	Candela (cd)
07	Amount of Substance	Mole (Mol)

What is Traceability?

Traceability can be defined as an unbroken record of documentation (”documentation traceabilty”) or an unbroken chain of measurements and associated uncertainties (”metrological traceability”), As used here, the word “traceability” always means “metrological traceability”

To establish and maintain traceability, the readings of a thermometer can be compared to a fixed-point temperature (e.g., ice-melting point or a referance thormometer at a fixed temperature - this testing process is often called



verifiction, performance validation or calibration.

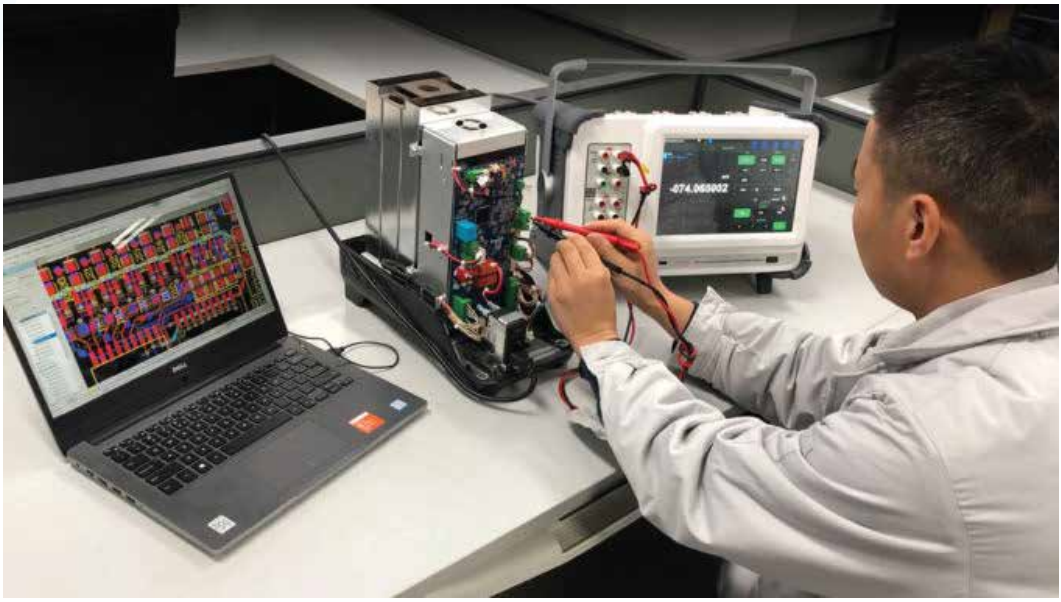
Once a thermometer's accuracy is authenticate, it can serve as a reference to establish traceability for other thermometers. This process can be continued, providing an unbroken chain of measurements from the final thermometer all the way back to the SI Units.

Traceability is a method of ensuring that measurements are accurate representations of the thing being measured by comparison back to a known reference.

It is possible to establish a chain of calibrations that ends at a national standards body such as BSTI. This demonstrable linkage to national standards with known accuracy is called traceabilty, However measurements are only traceable if the calibration corrections and uncertaintes are actually applied at every step in the chain back to the rference. Be aware that in a successive chain of calibrations the uncertainty increasos at every step of the chain.

Any organisation can achieve tracceability to national standards and the SI through the correct use of a traeably calibrated instrument. In many countries a National Metrology Institute (NMI) maintains primary standards of measurement (the main SI unit plus a number of derived units) which will be used to provide traceability for a customer's instruments by calibration.

In Bangladesh, the National Measurement System (NMS) is in place to enable measurements to be traceable back to national standards. As the National Metrology Laboratory (NML) is at the pinnacle of this system as the focus for physical measurement throughout the nation.



Calibration & Traceability

The basic concept behind calibration is that measuring equipment should be periodically compared against a standard of higher accuracy. If this reveals errors, Then corrections can be evaluated and applied.

the outcome of a calibration is often a certificate. This reports errors or corrections for an instrument or artefact, and the uncertainties in these. During a calibration an instrument may also be adjusted so that its output is more accurate.

in order for a calibration to be considered traceable, there must be an unbroken chain of measurements, relating the calibration result to a national or international standard (such as the metre): and the calibration result must be accompanied by a statement of uncertainty. the uncertainty of the calibration is evaluated thrugh careful uncertainty analysis.

theoretically anyone who can read and follow directions of a calibration procedure can perform the work. To improve the quality of the calibration and have the results accepted by outside organisations it is desirable for the calibration and subsequent measurements to be traceable to the internationally defined SI measurement units as the ensures consistency between maesurements made all around the world.

Un-calibrated instruments may be used where the un-calibrated accuracy is already sufficient or where calibration errors will cancel due to the procedure being used. These instruments might have a sticker saying ‘calibration not required’

CHAPTER V

NATIONAL QUALITY INFRASTRUCTURE In Bangladesh

মোঃ মনোয়ারুল ইসলাম
মহাপরিচালক (অতিরিক্ত সচিব)

বাংলাদেশ এ্যাক্রেডিটেশন বোর্ড (বিএবি)

জাতীয় মান অবকাঠামো উন্নয়ন ও দেশের সামগ্রিক সাযুজ্য নিরুপন পদ্ধতি প্রতিষ্ঠার লক্ষ্যে একমাত্র জাতীয় এ্যাক্রেডিটেশন কর্তৃপক্ষ হিসেবে বাংলাদেশ এ্যাক্রেডিটেশন বোর্ড (বিএবি) প্রতিষ্ঠিত হয়। ২০০৬ সালে "বাংলাদেশ এ্যাক্রেডিটেশন আইন, ২০০৬" অনুসারে বিএবি গঠিত হয়। দেশে বিদ্যমান বিভিন্ন সাযুজ্য নিরূপণকারী প্রতিষ্ঠান যেমন: টেস্টিং, ক্যালিব্রেশন এবং মেডিকেল ল্যাবরেটরি, সনদ প্রদানকারী সংস্থা, পরিদর্শন সংস্থাকে আর্ন্তাতিক মান এবং গাইডলাইন অনুসারে এ্যাক্রেডিটেশন সনদ প্রদান করা এ বোর্ডের প্রধান কাজ।

বিএবি'র রূপকল্প ঃ এশিয়া প্রশান্ত মহাসাগরীয় অঞ্চলে নির্ভরযোগ্য এ্যাক্রেডিটেশন প্রতিষ্ঠান হিসেবে প্রতিষ্ঠা।

বিএবি'র অভিলক্ষ্য ঃ আন্তর্জাতিক মান বজায় রেখে পারস্পরিক/বহুমাত্রিক স্বীকৃতি বজায় রাখা এবং বিশ্বব্যাপী স্বীকৃত এ্যাক্রেডিটেশন সেবা প্রদানের মাধ্যমে বাণিজ্য সম্প্রসারণ, ভোক্তা আস্থা বৃদ্ধি ও জনস্বার্থ সংরক্ষণ।

বিএবি'র কৌশলগত উদ্দেশ্যসমূহঃ

১. জাতীয়, আঞ্চলিক ও আন্তর্জাতিক মান অনুসারে ল্যাবরেটরিকে এ্যাক্রেডিটেশন সেবা প্রদান
২. জাতীয়, আঞ্চলিক ও আন্তর্জাতিক মান অনুসারে পরিদর্শন ও সনদ প্রদানকারী সংস্থাকে এ্যাক্রেডিটেশন সেবা প্রদান
৩. অ্যাসেসর, কারিগরী ও মান ব্যবস্থাপনা বিষয়ক প্রশিক্ষণ প্রদান
৪. ভোক্তা ও অংশিজনদের মাঝে এ্যাক্রেডিটেশন বিষয়ক সচেতনতা বৃদ্ধি
৫. আন্তর্জাতিক প্রতিষ্ঠানসমূহের সদস্যপদ অর্জন ও বজায় রাখা।

বিএবি'র প্রধান কার্যাবলীঃ

১. আইএসও/আইইসি ১৭০২৫ অনুসারে টেস্টিং ও ক্যালিব্রেশন ল্যাবরেটরিকে এ্যাক্রেডিটেশন প্রদান
২. আইএসও ১৫১৮৯ অনুসারে মেডিকেল ল্যাবরেটরিকে এ্যাক্রেডিটেশন প্রদান
৩. আইএসও/আইইসি ১৭০২০ অনুসারে পরিদর্শন সংস্থাকে এ্যাক্রেডিটেশন প্রদান
৪. আইএসও/আইইসি ১৭০২১ অনুসারে সনদ প্রদানকারী সংস্থাকে এ্যাক্রেডিটেশন প্রদান

এ্যাক্রেডিটেশন প্রদান

৫. আন্তর্জাতিক মান ও গাইডলাইন অনুযায়ী বিভিন্ন প্রকার অ্যাসেসর কোর্স পরিচালনা
৬. মান বিষয়ে কারিগরী প্রশিক্ষণের আয়োজন
৭. অ্যাসেসরদের জন্য রিফ্রেশার কোর্স আয়োজন
৮. অংশিজনদের সমন্বয়ে কনক্লেভ (এ্যাক্রেডিটেশন বিষয়ক বিশেষ সম্মেলন) আয়োজন
৯. সচেতনতা বৃদ্ধির জন্য সেমিনার/ওয়ার্কশপ আয়োজন
১০. নিয়মিত নিউজ লেটার, বার্ষিক প্রতিবেদন, স্মরণিকা প্রকাশ
১১. আন্তর্জাতিক পর্যায়ের প্রতিষ্ঠানসমূহের বার্ষিক সভা, অর্ধবার্ষিক সভা, টেকনিক্যাল কমিটি, ওয়ার্কিং গ্রুপ ইত্যাদিতে অংশগ্রহণ।

বিএবি'র গঠনঃ

"বাংলাদেশ এ্যাক্রেডিটেশন আইন, ২০০৬" অনুযায়ী একজন চেয়ারম্যান সহ ১৪ সদস্য-সমন্বয়ে এ বোর্ড গঠিত হয়। বোর্ডের সদস্যগণ হলেন, শিল্প মন্ত্রণালয়, বাণিজ্য মন্ত্রণালয়, খাদ্য মন্ত্রণালয়, বিজ্ঞান ও প্রযুক্তি মন্ত্রণালয়, স্বাস্থ্য সেবা বিভাগ ও সংশিষ্ট মন্ত্রণালয়ের সচিবগণ (পদাধিকারবলে) এবং শিল্প মন্ত্রণালয় কর্তৃক মনোনীত বিজ্ঞান ও শিল্পক্ষেত্রে বিশেষ বুৎপত্তিসম্পন্ন ০২ জন প্রতিনিধি, ফেডারেশন অব বাংলাদেশ চেম্বার অব কমার্স এন্ড ইন্ডাস্ট্রি এর প্রেসিডেন্ট, বাংলাদেশ প্রকৌশল বিশ্ববিদ্যালয় (বুয়েট) এর ভাইস চ্যান্সেলর কর্তৃক মনোনীত অধ্যাপক পদমর্যাদার একজন প্রতিনিধি, বাংলাদেশ এসোসিয়েশন অব সার্টিফিকেশন প্রতিষ্ঠান কর্তৃক মনোনীত কোন সনদ প্রদানকারী সংস্থা প্রধান,

এসোসিয়েশন অব টেস্টিং ল্যাবরেটরিজ, বাংলাদেশ কর্তৃক মনোনীত কোন টেস্টিং ল্যাবরেটরির প্রধান এবং অত্র সংস্থার মহাপরিচালক। বিদ্যমান আইন অনুসারে বোর্ডের চেয়ারম্যান সরকার কর্তৃক নিযুক্ত হবেন এবং সভায় সভাপতিত্ব করবেন। শিল্প মন্ত্রণালয়ের সচিব বর্তমানে বোর্ডের চেয়ারম্যান হিসেবে দায়িত্ব পালন করছেন। মহাপরিচালক সদস্য-সচিব হিসেবে দায়িত্ব পালন করেন।

এ্যাক্রেডিটেশনঃ

এ্যাক্রেডিটেশন হচ্ছে কোন প্রতিষ্ঠানের পরীক্ষণ, ক্যালিব্রেশন, পরিদর্শন বা সনদ প্রদানের মত সুনির্দিষ্ট কর্মকাণ্ড পরিচালনার প্রয়োজনীয় সক্ষমতা রয়েছে কি না তা যাচাই পূর্বক স্বীকৃতি প্রদান করা। এ স্বীকৃতি আন্তর্জাতিক মানের ভিত্তিতে মূল্যায়নের মাধ্যমে প্রদান করা হয়। প্রত্যয়নপ্রাপ্ত প্রতিষ্ঠানের যোগ্যতা, সক্ষমতা, সততা ও নিরপেক্ষতা প্রমাণের জন্য আন্তর্জাতিক মানের সকল নিয়ম কানুন প্রতিপালন করা একটি আবশ্যকীয় শর্ত। এ্যাক্রেডিটেশনের মাধ্যমে সাজুয্য নিরূপনকারী সংস্থাগুলোর দক্ষতা, যোগ্যতা ও মান ব্যবস্থাপনায় সংশিষ্ট ক্ষেত্রে আন্তর্জাতিক স্বীকৃতি পায়। সেবা গ্রহণকারী ব্যক্তি বা প্রতিষ্ঠান নিজেদের প্রয়োজন ও পছন্দ অনুযায়ী এ সকল পরীক্ষাগার, পরিদর্শন বা সনদ প্রদানকারী সংস্থা থেকে সেবা গ্রহণ করতে পারে।

বিএবি'র আন্তর্জাতিক স্বীকৃতিঃ

বাংলাদেশ এ্যাক্রেডিটেশন বোর্ড ২০১৪ সালে Asia Pacific Accreditation Cooperation (APAC) (পূর্বতন APLAC) এর পূর্ণ সদস্যপদ অর্জন করে এবং ২০১৫ সালে পরীক্ষণ (Testing) ও ক্যালিব্রেশন (Calibration) এ্যাক্রেডিটেশন কার্যক্রমের জন্য উক্ত আঞ্চলিক সংস্থার সাথে পারস্পরিক স্বীকৃতি চুক্তিতে (Mutual Recognition Agreement-MRA) স্বাক্ষর করে। একই বছর International Laboratory Accreditation Cooperation (ILAC) এর পূর্ণ সদস্যপদ সহ পরীক্ষণ ও ক্যালিব্রেশনের জন্য MRA অর্জন করে। MRA অর্জনের ফলে বিএবি'র এ্যাক্রেডিটেড প্রতিষ্ঠানের প্রদত্ত সনদ সদস্য দেশগুলোর মধ্যে গ্রহণযোগ্যতা পাচ্ছে। এছাড়া মেডিকেল ল্যাবরেটরি ও পরিদর্শন সংস্থার পারস্পরিক স্বীকৃতি চুক্তি স্বাক্ষরের বিষয়টি প্রক্রিয়াধীন রয়েছে। বিভিন্ন আন্তঃরাষ্ট্রীয়, আঞ্চলিক ও আন্তর্জাতিক সংস্থার সাথে পারস্পরিক ও বহুমাত্রিক স্বীকৃতির ব্যবস্থা (MRA/MLA) করে আন্তর্জাতিক বাণিজ্যে কারিগরি বাধা (Technical Barriers to Trade-TBT) অপসারণের মাধ্যমে বিএবি দেশীয় পণ্যের রপ্তানি বাণিজ্য প্রসারে সহায়তা করে। বিএবি বর্তমানে অপর একটি আন্তর্জাতিক এ্যাক্রেডিটেশন সংস্থা International Accreditation Forum (IAF) এর সদস্যপদ অর্জনের কার্যক্রম চলমান রয়েছে। হালাল এ্যাক্রেডিটেশন কার্যক্রমের জন্য দুবাই ভিত্তিক International Halal Accreditation Forum (IHAF) এবং তুরস্ক ভিত্তিক The Standards and Metrology Institute for Islamic Countries (SMIIC) এর সদস্যপদ অর্জনে বিএবি কাজ করে যাচ্ছে ।

জুন ২০১৯ পর্যন্ত বিএবি ৫৬টি টেস্টিং ও ক্যালিব্রেশন ল্যাবরেটরি, ০২ টি মেডিকেল ল্যাবরেটরি, ০২ টি সনদ প্রদানকারী সংস্থা, ০৪ টি পরিদর্শন সংস্থাকে এ্যাক্রেডিটেশন সনদ প্রদান করেছে। এ্যাক্রেডিটেশন সেবা প্রদান ছাড়াও, বিএবি জাতীয়, আঞ্চলিক এবং আন্তর্জাতিক প্রতিষ্ঠানের সাথে যোগাযোগ রক্ষাসহ তথ্যের আদান-প্রদান, প্রশিক্ষণ, সেমিনার ও সিম্পোজিয়ামের আয়োজন করে। দেশে দক্ষ ও সক্ষমতাসম্পন্ন জনবল গড়ে তোলার লক্ষ্যে বিভিন্ন কারিগরি বিষয়ের উপর বিভিন মেয়াদী প্রশিক্ষণ কোর্স পরিচালনা করে থাকে। জুন ২০১৯ পর্যন্ত ২৫টি অ্যাসেসর কোর্স এবং ২৩টি সাধারণ ও কারিগরি কোর্সের মাধ্যমে প্রায় ১৩৫০ জন সাযুজ্য নিরুপন সংশিষ্ট ব্যক্তিকে প্রশিক্ষণ প্রদান করা হয়। বিভিন্ন এ্যাক্রেডিটেশন স্ট্যান্ডার্ডের উপর ৫০০ জনের অধিক অ্যাসেসরকে তালিকাভুক্ত করা হয়। এ্যাক্রেডিটেশনের ব্যাপক প্রচার ও জনসচেতনতা গড়ে তুলতে বিএবি প্রতিবছর ২টি ষাণ্মাসিক নিউজলেটার প্রকাশসহ ৯ জুন বিশ্ব এ্যাক্রেডিটেশন দিবসকে জাতীয় দিবস হিসেবে উদযাপন করে আসছে। দিবসটি উদযাপন উপলক্ষে আলোচনা সভা, টিভি টক- শো, স্যুভেনির প্রকাশনা, ব্যানার, পোস্টার, ফেস্টুন প্রস্তুতসহ নানা উদ্যোগ গ্রহণ করা হয়। বাংলাদেশ এ্যাক্রেডিটেশন আইন, ২০০৬ এর ৩৪ (১) ধারা মোতাবেক বোর্ডের কাজের স্বচ্ছতা ও জবাবদিহিতার লক্ষ্যে প্রতিবছর বার্ষিক প্রতিবেদন প্রকাশ করে যাচ্ছে। সরকার ঘোষিত ২০২১ সালে মধ্যম আয়ের দেশ এবং ২০৪১ সালে উন্নতদেশে পরিনত করার লক্ষ্যে বিএবি জোরাল ভূমিকা পালন করছে। এছাড়াও বিএবি জাতিসংঘ ঘোষিত এসডিজি বাস্তবায়ন, নৈতিকতা ও শুদ্ধাচার বাস্তবায়ন, উদ্ভাবনী কর্মপরিকল্পনা প্রণয়ন ও বাস্তবায়নসহ মন্ত্রণালয় কর্তৃক গৃহীত কর্মসূচীসমূহ বাস্তবায়নে গুরুত্বপূর্ণ ভূমিকা পালন করে চলেছে।

নাগরিক সেবা

ক্রম নং	সেবার নাম	প্রয়োজনীয় কাগজপত্র এবং প্রাপ্তিস্থান	সেবার মূল্য এবং পরিশোধ পদ্ধতি	সেবা প্রদান পদ্ধতি	সেবা প্রদানের সময়সীমা	দায়িত্বপ্রাপ্ত কর্মকর্তা (নাম, পদবি, ফোন নম্বর ও ইমেইল)
(১)	(২)	(৩)	(৪)	(৫)	(৬)	(৭)
১	আন্তর্জাতিক মান স্বীকৃতির উদ্দেশ্যে টেস্টিং, ক্যালিব্রেশন ও মেডিকেল ল্যাবরেটরি, পরিদর্শন সংস্থা, সনদ প্রদানকারী সংস্থাসমূহ ইত্যাদিকে এ্যাক্রেডিটেশন সনদ প্রদান	১. যথাযথভাবে পূরণকৃত আবেদন পত্র (AF 01- টেস্টিং/ ক্যালিব্রেশন ল্যাবরেটরি, AF 02- মেডিকেল ল্যাবরেটরি, AF 03-সনদ প্রদানকারী সংস্থা, AF 04- পরিদর্শন সংস্থা)। ২. সংশিষ্ট আবেদনপত্রানুযায়ী চাহিত কাগজপত্রাদি। ৩. বিএবি'র এ্যাক্রেডিটেশন সংক্রান্ত সকল নীতিমালা। প্রাপ্তি স্থান: বিএবি'র ওয়েবসাইট এবং কার্যালয়।	সেবার মূল্য এ্যাক্রেডিটেশন ফি সিডিউল অনুসারে গ্রহণ করা হয়। বিএবি'র অনুকূলে পে-অর্ডার/ ব্যাংক ড্রাফট/ ক্রস চেক এর মাধ্যমে পরিশোধ করতে হয়। সকল সেবার মূল্যে ১৫% ভ্যাট প্রযোজ্য।	১. আবেদনপত্র গ্রহণের পর যাচাইপূর্বক রেজিস্ট্রেশন ও কেইস অফিসার নিয়োগ প্রদান	আবেদন প্রাপ্তির পর ০৩ (তিন) কার্যদিবস	গ্রহণ/প্রেরণ শাখা মহাপরিচালক, কোয়ালিটি ম্যানেজার ফোন: ৯৫১৩২২৩ info@bab.org.bd
				২. এ্যাডিকোয়েসি অডিট/ পর্যাপ্ততা যাচাইকরন	০৫ (পাঁচ) কার্যদিবস	কেইস অফিসার/টিম লিডার ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৩. অ্যাসেসমেন্ট টিম কর্তৃক আবেদনকারী প্রতিষ্ঠানে প্রি অ্যাসেসমেন্ট	৯০ (নব্বই) দিন	কেইস অফিসার, টিম লিডার/ অ্যাসেসমেন্ট টিম ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৪. অ্যাসেসমেন্ট টিম কর্তৃক আবেদনকারী প্রতিষ্ঠানে অ্যাসেসমেন্ট সম্পন্নকরণ	৯০ (নব্বই) দিন	কেইস অফিসার, টিম লিডার/ অ্যাসেসমেন্ট টিম ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৫. এ্যাক্রেডিটেশন কমিটি কর্তৃক অ্যাসেসমেন্ট প্রতিবেদন পর্যালোচনা ও এ্যাক্রেডিটেশনের চূড়ান্ত মূল্যায়ন	১৫ (পনের) কার্যদিবস	কেইস অফিসার ও এ্যাক্রেডিটেশন কমিটি ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৬. এ্যাক্রেডিটেশন কমিটির সুপারিশের ভিত্তিতে এ্যাক্রেডিটেশন সনদ স্বাক্ষর এবং বিএবি ওয়েব সাইটে প্রদর্শন (বিএবি'র ওয়েবসাইটে আপলোডকরণ)	০৭ (সাত) কার্যদিবস	মহাপরিচালক ও কেইস অফিসার ফোন: ৯৫১৩২২৩ info@bab.org.bd
২	আন্তর্জাতিক মান স্বীকৃতির উদ্দেশ্যে টেস্টিং, ক্যালিব্রেশন ও মেডিকেল ল্যাবরেটরি, পরিদর্শন সংস্থা, সনদ প্রদানকারী সংস্থা ইত্যাদির এ্যাক্রেডিটেশন সনদ নবায়ন	১. যথাযথভাবে পূরণকৃত আবেদন পত্র (AF 01- টেস্টিং/ ক্যালিব্রেশন ল্যাবরেটরি, AF 02- মেডিকেল ল্যাবরেটরি, AF 03-সনদ প্রদানকারী সংস্থা, AF 04- পরিদর্শন সংস্থা)। ২. সংশিষ্ট আবেদনপত্রানুযায়ী চাহিত কাগজপত্রাদি। ৩. বিএবি'র এ্যাক্রেডিটেশন সংক্রান্ত সকল পলিসি। প্রাপ্তি স্থান: বিএবি'র ওয়েবসাইট এবং কার্যালয়ে।	সেবার মূল্য এ্যাক্রেডিটেশন ফি সিডিউল অনুসারে গ্রহণ করা হয়। বিএবি'র অনুকূলে পে-অর্ডার, ব্যাংক ড্রাফট ও ক্রস চেক এর মাধ্যেমে পরিশোধ করতে হয়। সকল সেবার মূল্যে ১৫% ভ্যাট প্রযোজ্য।	১. আবেদনপত্র গ্রহণের পর যাচাইপূর্বক রেজিস্ট্রেশন ও কেইস অফিসারের নিকট প্রেরণ।	আবেদন প্রাপ্তির পর ০৩ (তিন) কার্যদিবস	গ্রহণ/প্রেরণ শাখা কোয়ালিটি ম্যানেজার কেইস অফিসার ফোন: ৯৫১৩২২৩ info@bab.org.bd
				২. আবেদনকারী প্রতিষ্ঠানে রি-অ্যাসেসমেন্ট সম্পন্নকরণ	৯০ (নব্বই) দিন	কেইস অফিসার, টিম লিডার/ অ্যাসেসমেন্ট টিম ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৩. এ্যাক্রেডিটেশন কমিটি কর্তৃক রি-অ্যাসেসমেন্ট প্রতিবেদন পর্যালোচনা ও এ্যাক্রেডিটেশনের নবায়নের চূড়ান্ত মূল্যায়ন	১৫ (পনের) কার্যদিবস	কেইস অফিসার ও এ্যাক্রেডিটেশন কমিটি ফোন: ৯৫১৩২২৩ info@bab.org.bd
				৪. এ্যাক্রেডিটেশন কমিটির সুপারিশের ভিত্তিতে এ্যাক্রেডিটেশন নবায়নের সনদ স্বাক্ষর ও বিএবি ওয়েব সাইটে প্রদর্শন (বিএবি'র ওয়েবসাইটে আপলোডকরণ)	০৭ (সাত) কার্যদিবস	কেইস অফিসার ও মহাপরিচালক ফোন: ৯৫১৩২২৩ info@bab.org.bd

৩	এ্যাক্রেডিটেশন সনদপ্রাপ্ত টেস্টিং, ক্যালিব্রেশন ও মেডিকেল ল্যাবরেটরি, পরিদর্শন সংস্থা এবং সনদ প্রদানকারী সংস্থা ইত্যাদির সারভাইলেন্স সম্পন্নকরণ	১. বিএবি'র এ্যাক্রেডিটেশন সংক্রান্ত সকল পলিসি। প্রাপ্তি স্থান: বিএবি'র ওয়েবসাইট এবং অফিসে পাওয়া যাবে।	সেবার মূল্য এ্যাক্রেডিটেশন ফি সিডিউল অনুসারে গ্রহণ করা হয়। বিএবি'র অনুকূলে পে-অর্ডার, ব্যাংক ড্রাফট ও ক্রস চেক এর মাধ্যমে পরিশোধ করতে হয়। সকল সেবার মূল্যে ১৫% ভ্যাট প্রযোজ্য।	১. সার্ভাইলেন্স টিম কর্তৃক এ্যাক্রেডিটেশন প্রাপ্ত প্রতিষ্ঠানের সারভাইলেন্স সম্পন্নকরণ	এ্যাক্রেডিটেডিটেশন প্রাপ্তির ১ম ও ২য় বছর পূর্তির ০৩ (তিন) মাসের মধ্যে	কেইস অফিসার, টিম লিডার/ সারভাইলেন্স টিম ফোন: ৯৫১৩২২৩ info@bab.org.bd
৪	অভিযোগ নিষ্পত্তি	অভিযোগ সংক্রান্ত আবেদন দাখিল করতে হবে। প্রাপ্তিস্থানঃ (১) বিএবি'র দায়িত্বপ্রাপ্ত কর্মকর্তা (২) বিএবি'র ওয়েবসাইট	বিনামূল্যে	১. ব্যক্তি/প্রতিষ্ঠানের দায়িত্বপ্রাপ্ত কর্মকর্তা রেজিস্ট্রারভুক্ত করবেন। ২. প্রাপ্ত অভিযোগ পর্যালোচনান্তে বিএবি'র অভিযোগ ব্যবস্থাপনা পদ্ধতি অনুযায়ী অভিযোগ নিষ্পত্তির ব্যবস্থা গ্রহণ করবেন। ৩. অভিযোগকারীকে সিদ্ধান্ত জানাবেন।	৩০ কার্যদিবস	জিআরএস ফোকাল পয়েন্ট জনাব মোঃ নাসিরুল ইসলাম উপপরিচালক ফোন: ৯৫১৩২২৪ nasir@bab.org.bd
৫	তথ্য অধিকার আইনের আওতায় তথ্য প্রদান	নির্ধারিত ফরমে আবেদন দাখিল করতে হবে প্রাপ্তিস্থানঃ (১) বিএবি'র দায়িত্বপ্রাপ্ত কর্মকর্তা (২) বিএবি'র ওয়েবসাইট	তথ্য অধিকার আইন ২০০৯ এ বর্ণিত সরকারি ফি	পত্র জারির মাধ্যমে/যথাযথ পদ্ধতি অনুসরণপূর্বক ই-মেইলে	৫ কার্যদিবস	জনাব মোঃ নাসিরুল ইসলাম উপপরিচালক ফোন: ৯৫১৩২২৪ nasir@bab.org.bd