Inspection and Enforcement Manual

Department of Environment

Ministry of Environment and Forests, Bangladesh

June 2008

Department of Environment

BEISP
বাংলাদেশ এনভায়রনমেন্টাল ইনস্টিটিউশনাল স্ট্রেংদেনিং প্রজেক্ট
BANGLADESH ENVIRONMENTAL INSTITUTIONAL STRENGTHENING PROJECT

Canadian International Development Agency

Inspection and Enforcement Manual

Department of Environment

Ministry of Environment and Forests, Bangladesh

June 2008

Department of Environment

Canadian International Development Agency

Khandaker Rashedul Haque, PhD
Director General
Department of Environment
Government of the People's Republic of Bangladesh

FOREWORD

I am pleased to write this foreword for **"Inspection and Enforcement Manual"** published by the Department of Environment with support from the Bangladesh Environmental Institutional Strengthening Project (BEISP).

The Environmental Conservation Act 1995 (ECA) was enacted in 1995 and subsequently Environment Conservation Rules (ECR) were promulgated in 1997. The ECA and ECR outline the environmental regulatory regime to establish environmental administration in Bangladesh and give DOE mandate for their enforcement. DOE officials are often engaged in different activities to enforce the provisions of laws and rules as provided in the ECA and ECR, thus they need to have adequate knowledge on all aspects of the enforcement regime. Keeping these needs in view, several on the job training programs on enforcement were conducted by BEISP. It was felt that based on the experiences of the above mentioned programs a guide book to serve as a reference document for undertaking enforcement activities by DOE should be prepared. As a follow up to this need the present guide book has been prepared.

The guide book is the outcome of the proceedings of the above-mentioned training programs, prepared by the BEISP experts with the help of concerned officials of the DOE.

It is expected that the guide book will serve as a practical handbook for conducting enforcement activities of DOE in a systematic manner and would meet a long felt requirement of DOE.

Khandaker Rashedul Haque, PhD

TABLE OF CONTENTS

List of Abbreviations

DOE	Department of Environment
BEISP	Bangladesh Environmental Institutional Strengthening Project
BELA	Bangladesh Environmental Lawyers Association
DG	Director General
ECA	Environment Conservation Act
ECR	Environment Conservation Rules
ECC	Environmental Clearance Certificate
WQ	Water Quality

1.0 Introduction

1.1 The Objective

This manual has been written to provide national standards and uniformity in environmental sampling for the inspectors, investigators and chemists in the Department of Environment (DOE) in Bangladesh. The need for such a document became evident after joint BEISP-DOE field inspections and training on enforcement were carried out in March 2007 in all divisions of DOE and headquarters.

This manual draws on established procedures and protocols for environmental sampling. It should be used as training and reference guide for inspectors in the field. The appropriateness of information provided should always be evaluated with site-specific conditions.

This protocol focuses on sampling for inspections and enforcement, investigations and emergency response to spills of toxic substances.

1.2 The Consultation

The first draft document was sent to twelve people in DOE Headquarters, DOE Divisional Offices, BEISP and BELA (Bangladesh Environmental Lawyers Association) for review and comment. Seven responses were received. Refinements were made in this second draft, where appropriate, based on comments received from DOE and others who contributed to the review process.

2.0 Inspections

2.1 Field Inspections, Compliance and Enforcement

Field inspections are the backbone of most enforcement programs. Inspectors are authorized by the Director General (DG) of the Department of Environment to carry out inspections for the purpose of verifying compliance with the Environment Conservation Act (ECA), the Environment Conservation Rules (ECR), guidelines and certificates of clearance.

Compliance means the state of conformity with the law. **Enforcement** involves the DOE intervention by:

- Inspections and monitoring to verify compliance.
- Investigation of the suspected violators.
- Using enforcement tools to obtain compliance.

2.2 Basic Principles for Enforcement Officers

The basic principles that guide Enforcement Officers are:

- Compliance with ECA and ECR is mandatory.
- DOE inspectors will enforce the law in a fair, consistent and transparent manner.
- Enforcement response will emphasize the prevention of damage to the environment and harm to human health.
- All aspects of an inspector's compliance monitoring and enforcement activities shall be guided by the **Draft Directive for Enforcement and Compliance of ECA**, in other words the enforcement and compliance policy document of DOE and by the existing laws of the country including **ECA, ECR and Environment Court Act.**

2.3 Inspector's Protection

Section18 of the Environmental Conservation Act, 1995 provides that no civil or criminal case or other legal proceeding may be instituted against the Government, Director General, or any other person of the Department for any action which caused or is likely to cause injury to any person, if such action is taken in good faith under this Act or rules.

Every inspection requires a different time commitment but a good rule of thumb is as follows:

30 %	Pre-inspection activities and preparation.
30 %	At the inspection site.
40 %	Post-inspection activities back at the office.

Inspections can be resource intensive and do require careful targeting and planning. By standardizing inspection procedures, the inspectors can help insure that all facilities are treated equally and that all appropriate information is gathered by using standard checklists for uniformity and fairness.

2.4 Inspection Planning

The Environmental Conservation Rules (ECR) require all industrial units or proposed industrial units to obtain an Environmental Clearance Certificate (ECC). To determine an appropriate ECC for an industry, its pollution level needs to be established to classify it into one of the four categories from Green to Red. Effluent samples from industrial units will therefore have to be collected and analyzed. The results of analysis of effluent samples will then be used to determine the appropriate category for the issuance of an ECC.

One of the most important aspects of the planning process is the joint involvement of the data users; the sample collectors and the laboratory analysts. Each group has a critical role in defining data quality requirements. Understanding the principles of analytical methods is important in the planning process, since the various methodologies can strongly influence the sampling protocols.

The scope of an inspection will guide its preparation. Prior to commencing any inspection, a plan should be developed to guide activities before, during and after an inspection. Not all inspections will require a complex written plan; however, writing a plan will assist the inspector in anticipating problems and will guide the inspector in obtaining the necessary information and equipment in advance. Regardless of the scope or reason for inspection, planning is essential.

Another important task when preparing a plan for deployment of inspectors is determining which areas and/or industries require prioritization. This involves consideration of the following:

- Which industries are more hazardous?
- Are there special pollution 'hot spots' that need extra attention?
- Where are the most non-compliant industries?

These considerations are important when there is a shortage of personnel for inspection or a shortage of vehicles for transport to inspection sites. They will ensure that the most critical industries are addressed first.

3.0 Pre-Inspection Activities

3.1 Routine or Unanticipated Inspections

Inspections can be either planned (routine) or unanticipated. A planned inspection is routine or it may be a follow-up inspection, based on a list of regulated industries having Environmental Clearance Certificates (ECC) issued by DOE.

A tip or complaint or an emergency spill of a hazardous material usually initiates an unanticipated inspection.

3.2 General Information on the Type of Industry

It is helpful for the inspector to get a general overview of the type of industry targeted for inspection and the environmental problems associated with it. In this way, a range of potential issues can be identified and appropriate questions asked during meetings with the company personnel.

3.3 The Legal Requirements for Compliance

Before going to the site, an inspector must review the company file for its compliance history related to ECC issues or any other environmental problems associated with the site, which may include:

- Did the company apply for an ECC before setting up the plant?
- Has the company been monitoring the discharge?
- Have the reports been submitted as required?
- Has the company met their ECC obligations and discharge quality criteria?
- What is the renewal status of ECC?
- Complaints against the industry?

Take a copy of the ECC with you. Determine the present ownership of the company, names of the plant manager and other important staff of the company. Any outstanding legal issues should be cleared in consultation with a legal counsel.

3.4 Officer Safety Planning Issues

Officers should also determine what safety precautions should be taken:

- Protective clothing or equipment, appropriate for the site to be visited (coveralls, gloves, boots, safety glasses, hard hats, respirators, high visibility vests etc.).
- Air monitoring equipment for hazardous environments and confined spaces.
- Handling harmful solvents, preservatives or other dangerous chemicals.
- Life jackets for sampling on or near water.
- Knowledge and requirements for workplace hazard information management system.
- Movements of heavy industrial equipment on the site.

3.5 Information on Actual Site

The DOE officer should also give attention to the following factors related to the plant site:

- Obtain site plans.
- Determine the location of the treatment plant and point of discharge.
- Obtain information about the receiving environment (area, drainage, ditch, river, ocean, etc.).
- Based on the history of the plant, an inspector should concentrate on potential problem areas.
- Available maps, satellite images and photos are also helpful.
- The inspector should examine water quality data (if relevant) from the DOE WQ database.

3.6 Make a Sample Plan

An officer should also decide what kind of sample will be needed:

- Determine what type of samples will be taken (ECC requirements or a spill).
- Sample preservation and temperature control with ice packs.
- Advise the lab analyst as to the nature and number of samples.
- Preparation of appropriate sampling bottles and shipping containers.

3.7 Transportation of Samples

Samples can be delivered to the laboratory either:

- By courier directly to the laboratory for analysis (however, not always appropriate or possible); or,
- Kept until the end of the trip and personally delivered to the laboratory.

The integrity of the samples and the continuity of the evidence must be maintained so that if the sample shows non-compliance with the law, it can be used as evidence of the violation. Continuity of evidence is ***the control of evidence from the time it was taken to the time it was analyzed***. This means documenting anyone who has had contact with or had care of the evidence. Making field notes in a case diary is one very important activity that an inspector should never overlook.

3.8 Inspection Timing

An appropriate time for inspection will depend on the normal operation of the factory and should be considered in the planning process.

- In the morning (bring lunch).
- In the afternoon (after dark, need flashlights).
- Travel time considerations to get to the site (will overnight accommodation be required?).

It is best not to call a site manager before going to do an inspection. The only time it may be good idea is when the site is far and it takes long time to get to the site or there is the potential that the site may be shut down. In this case an inspector can call the site and advise that you will be there sometime soon. He should never set a date and time but rather give a time span (for example, between 1st and the 7th of the month).

3.9 Inspector's Personal Items

When going out in the field, an inspector must carry with him:

- Certificate of authorization.
- A camera.
- Case Diary, pens.
- Watch.
- Inspection checklist.
- Important phone numbers.
- Site file.
- Copy of an ECC, if one has been issued.

4.0 On Site Inspection Activities

4.1 Purpose of Inspection

An inspector inspects a site to gather information about the company's compliance or non-compliance with the requirements of the law. He or she is not a judge of the company's guilt or innocence. The purpose of the inspection is to find out facts and act as the government's representative on site.

4.2 Upon Arrival at Site

Even if an inspector knows where to go in the plant, he should go to the main office first to identify himself and to notify the plant officials of his presence. Although an inspector has the authority to enter to conduct an inspection, he should avoid walking around the site without the knowledge of the company personnel for safety reasons.

4.3 Speak to the Person in Authority

An inspector should speak to the person in authority, i.e. the plant manager, shift supervisor etc. It is a good practice for an inspector to check the names and titles of the people in authority at site before beginning an inspection. Then, if a violation is found, the inspector will know exactly with whom to speak.

4.4 Identification of an Inspector

Every time an inspector arrives at a site, he or she should go through formal introductions so that if there is non-compliance, the evidence gathered will be admissible in court. Failure to properly identify, an inspector may render any evidence collected inadmissible as evidence in court.

4.5 Conducting an Opening Meeting

The inspector should explain his role and the purpose of the inspection to the person in authority at the site. In general, the company personnel would like to hold the opening meeting in their boardroom with appropriate staff explaining the plant process and the workings of their treatment plant.

The inspection plan, developed during the pre-inspection planning phase, should be the basis for conducting the on-site inspection. By using this plan to guide the onsite activities, the inspection will:

- Be thorough.
- Be efficient.
- Project a positive professional image of the inspector.
- Be subject to a lower risk of errors occurring.

4.6 Keeping Control of an Inspection

An inspector, whether alone or with another inspector, may sometimes find himself or herself in intimidating surroundings. The site is large; the staff is more knowledgeable about the plant operation or may be busy or even hostile. Given this reality, an inspector has to take positive steps to remain in control of the inspection at all times. Strategy to keep control of an inspection includes:

- Know what you want to do; use you inspection plan as guide.
- Be assertive.
- Ask questions.
- Walk through the site at **your** pace.
- Keep calm.
- Act professionally and businesslike.

4.7 Field Sampling Strategy

After the initial meeting and 'walk through' the plant process, an inspector is now ready to collect effluent samples in the commercially available pre-cleaned either glass or plastic bottles which have been prepared beforehand.

Sample collection type:

Grab A single sample at a specific spot and time. It represents a snapshot in time and space.

Composite Combines multiple grabs; a more representative sample, but it takes more time.

The choice of sample type is a judgment call by the inspector and will depend on the time available and the purpose of the sample. It should be remembered that two samples are desirable in case one is lost, and could be used to develop an average.

Before collecting samples, basic field measurements should be taken and noted in the inspector's case diary.

For chemistry or biological samples, an inspector should check with the lab analyst about the appropriate:

- volume of sample needed,
- container size to be used,
- preservatives to be used,

for each parameter to be sampled and analyzed. Each sample container should be rinsed three times with the effluent before collecting a sample except for Oil & Grease samples. Avoid cross contamination by re-using the dirty sampler or container. Ensure that sampling device is cleaned after each use.

Sample containers should be:

- Tightly sealed.
- Head space minimized.
- Appropriate glass or plastic bottles for the parameters to be analyzed.
- Samples refrigerated or ice packed for shipment to the lab.
- Samples analyzed as quickly as possible. Ask the analyst.

4.8 Sampling Identification and Labeling

Each sample container should indicate:

- Name and location of the factory.
- Sample number.
- Sample location.
- Collection date and time.
- Field preservation of the sample.
- Required analysis.
- Sample collected by.
- Remarks/ special instructions.

4.9 Inspector's Note Book (Case Diary) Entries

The inspector should record in a Note Book:

- Name and location of the factory.
- Date & Time.
- Location and field sketches.
- Sampling purpose.
- Contact names (exchange with them your business cards).
- Sample location (end of the pipe).
- Sample description.
- Observations.
- Field measurements (pH, DO, temperature, conductivity).
- Weather conditions, i.e. temperature, rainfall etc (anything else that may affect the integrity of the sample).

4.10 Packaging and Labeling

All collected samples must be properly packed to ***ensure sample integrity***, required for proper analysis. This means:

- Preventing breakage.
- Absorbing leakage.

All packaging and labeling must link completely with paperwork regarding:

- Seals on the containers.
- Scribes on glass bottles.
- Initials of the sample collectors.
- Identification of industry and location of sample.
- Dates and times of sampling.

If there is reason to believe that there is a violation that must be corrected immediately, tell the person in authority.

Inspectors must tell a person in authority about any violation that they have a reasonable ground to believe may occur, is occurring or has occurred. In exigent circumstances, they can issue a direction orally where the environment, human life or health is at risk.

This verbal direction must then be followed up by a written direction.

4.11 Closing Meeting

Before leaving the site, an inspector should meet with the same person in authority to advise that the inspection was complete, that he/she was leaving the site and also advise him of any follow-up action that was required of the plant personnel. An inspector should avoid making blanket statements about the company being in compliance, even if everything appeared fine. Their effluent samples still have to be analyzed and may show non-compliance. The inspector should avoid making statements based on opinion- stick to the facts.

Regardless of the tone or attitude of the plant personnel, an inspector must be polite and businesslike. Leave a good impression.

Make notes in your case diary on your inspection and meeting.

Do not accept gifts.

5.0 Post Inspection Activities

The post inspection activities that occur at the office are critical to an inspection's overall success. Much of the post inspection activities are administrative and therefore good office practices should not be underestimated.

5.1 Samples to the Laboratory

Take the collected samples to the lab for analysis. Samples should be delivered to the lab as soon as possible to preserve their integrity.

5.2 Sample Custody

A sample is under custody if:

- It is in your possession.
- It is in your view after being in your custody.
- It is held in a designated secure area.

A chain of custody is established when a reconstruction of who had access to the sample from the time it was collected until final analysis is completed regardless of which team member actually collected the evidence.

5.3 Enter the Inspection Information Into the Database

After the inspection, all relevant information must be entered into a database, including inspection, enforcement and response to violations, if and when such database becomes available.

5.4 Generate an Inspection Report

An inspector should generate his inspection report soon after he has completed his site inspection. A fresh memory results in the best report. Inspection report is a complete and concise statement about what happened during an inspection. The report does not have to be fancy or elaborate but it does have to be factually correct and accurate.

5.5 Report Writing Format

When writing an inspection report, an inspector must:

- Write in the first person. I saw…..I said……I heard…..
- Write the report in order of the inspection.
- Identify public consultation.
- Provide the site description, land use, layout of the area.
- Provide information on drainage and disposal system of waste.
- Use plain language.
- Keep your opinions, assumptions and feelings out of the report.
- Define enforcement recommendations, if a violation is detected.
- Date and sign the report.

5.6 Follow-up Action

The inspector must keep track of the time limits set in his or her instructions to the company for any action that he or she wanted the company to undertake. A plan should be made to conduct a follow-up inspection sometime after this deadline to determine compliance.

If a violation is not found and a follow-up inspection is not deemed necessary, the company should at least receive a letter with a summary of their effluent test results.

6.0 Responses to Violations

The Draft Directive for Enforcement and Compliance of ECA (Enforcement and Compliance Policy Document of DOE) provides that:

- Enforcement officials will examine every suspected violation of which they have knowledge.
- Where they determine that there is sufficient information or evidence to substantiate that a violation occurred, they will take action consistent with the criteria prescribed by this policy.

6.1 Criteria for Responses to Violations

An inspector will apply the following factors to decide the appropriate response to any violation:

a) Nature of the Violation:

- The degree of seriousness of the harm or potential harm.
- Intent of the violator. Was it an accidental or an intentional act?
- Is this a first offence or a repeated act?
- Was there any attempt to conceal the information?
- Was the violator cooperative?

b) Effectiveness in Achieving the Desired Result:

- Is the intent to bring the violator into compliance?
- Is the violator uncooperative?
- Is the violator a repeat offender?
- What action is necessary to ensure compliance with no repeat violation?
- What is the violator's previous history of compliance?
- How did the violator respond to the previous warnings or directives?
- Did the violator report any incidents or violations?
- Has he taken voluntary actions to remedy the problem?

c) Consistency and fairness:

- What response was to other similar violations?
- What response was in other territories?

7.0 Available Enforcement Responses

The following enforcement actions may be taken in response to violations of the ECA and rules, including violation of any condition to a clearance:

- Warning.
- Direction.
- Closure, Prohibition or Control Direction.
- Direction to Disconnect Services.
- Prosecution.
- Civil action to recover damages.

7.1 Warning

A warning letter is an appropriate response where an inspector:

- Has knowledge that a violation has occurred.
- Degree of harm to environment, or human health is **minimal.**
- Steps have been taken to come into compliance.
- The offender has a history of compliance or no prior violations.

Warnings are always in writing. Under exigent circumstances, a warning can be issued orally. A written warning follows this as soon as possible.

Every warning contains the following information:

- Provisions of the law violated.
- A description of the offence.
- A statement that if the warning is not heeded, further enforcement action will occur.

In all instances where a warning has been issued, a follow-up inspection will be conducted to verify compliance. Warnings are recorded in the violator's compliance records.

7.2 Issuing a Direction

A Division Head may issue a direction to any owner, operator or manager of the site responsible for causing the environmental damage. A direction will be issued where:

- There is the evidence of a violation of the ECA or rules or a condition of a clearance.
- The violator is aware of the legal requirements but has failed to comply.

A direction must be issued in writing. A direction may be issued:

- To remedy any dangerous condition [s. 4(2) b].
- To prevent any environmental accidents [s. 4(3)].
- To direct sound actions where existing or imminent threat to environment or human health [s. 4(20 c].
- To direct a person to take corrective measures to remedy damage caused to an ecosystem [s. 7].

A direction specifies:

- The action required to remedy the situation to comply with the law.
- A reasonable time period to comply with the direction.
- A statement that further enforcement action will occur on failure to comply.

In all instances where a direction is issued, a follow-up inspection will occur to verify compliance. Failure to comply with the direction will result in a direction for closure, and in appropriate cases, for disconnection of utility services and prosecution of the violator.

A direction is issued in writing and includes the following information:

- A description of the activity causing or potentially causing threat to the environment or the human health.
- Where relevant, the section of the Act or rules involved.
- A time limit within which the person or company or other entity must comply with the direction.
- The statement that if the direction is not heeded, further enforcement action may be anticipated.

7.3 Notice/Direction for Closure or Prohibition

Direction for Closure or Prohibition of an industry, undertaking or process may be issued by a Division Head where:

- There is evidence of a violation of the ECA or rules.
- Continuance of the activity poses an imminent risk to the environment.
- The violator is aware of the legal requirements but has failed to comply.

Prior to the issuance of a Direction of Closure or Prohibition, a Division Head shall first issue a written notice to the owner or occupier providing reasonable opportunity to comply. The exception is where the Division Head believes that public life is in danger, ***in which case a direction may be immediately issued with notice***.

A direction is filed in the individual's or company's compliance record.
Failure to comply with a direction will be followed by Inspection and ultimately by prosecution. Where the direction is not complied with, the Director General is empowered to take the necessary emergency response or remedial action.

7.4 Direction for Disconnection of Service

Where the owner or occupier of an industry, undertaking or process fails to comply with a Direction of Closure or Prohibition, the Director General, or his designate, may direct any provider to disconnect any electricity, gas, telephone, water or any other such service.

Prior to issuance of any such direction, the Division Head is obligated to provide the owner or occupier with:

- Written notice.
- Reasonable opportunity to comply and to remedy the environmental impacts.

The exception is where, in the opinion of the Division Head, public life is in danger; in which case previous notice or direction issued by an inspector for the same offence, constitutes prior notice.

7.5 Prosecution

For offences to be tried by a magistrate, inspectors may recommend a charge or prosecute a violation of the Environmental Conservation Act or rules, except where the more appropriate enforcement response is required such as:

- A warning is the more appropriate enforcement response.
- A Direction by a Division Director.
- An Order for closure or prohibition by the DG.

For this category of offences, where an alleged violator fails to comply with a warning, direction order, an inspector will recommend prosecution and prepare a **case brief** for the prosecutor's consideration and decision. The contents of a case brief will vary in each case but the main components are:

- Narrative summary of case, usually one or two pages long.
- Recommended charges.
- Description of accused.
- List of witnesses, including experts.
- Statements of witnesses and accused.
- Notes and reports of investigators.
- Evidence (lab analyses, photographs, correspondence, weather records, etc.).
- Consideration of anticipated defenses.

For offences to be tried by the Environment Court, inspectors will always recommend prosecution of a violation of the Environment Conservation Act or rules where:

- There is death or bodily harm to a person.
- There is serious harm or risk to the environment, human life or health.
- The alleged violator knowingly provided false or misleading information.
- The alleged violator has obstructed an inspector in carrying out his or her duties under the Act.
- The alleged violator concealed or attempted to conceal information after the offence occurred.
- The alleged violator failed to comply with a direction.

8.0 Penalties and Court Orders

Penalties for offences under the ECA include fines or imprisonment or both and are prescribed in the ECA for each separate offence.

Annex-1

Photographic Records of BEISP-DOE joint Inspection & Field Training

Photographic Records of BEISP-DOE joined Inspection & Field Training

Fig-1: Sample preparation

Fig-2: Sample preparation

Fig-3: Sample Collection

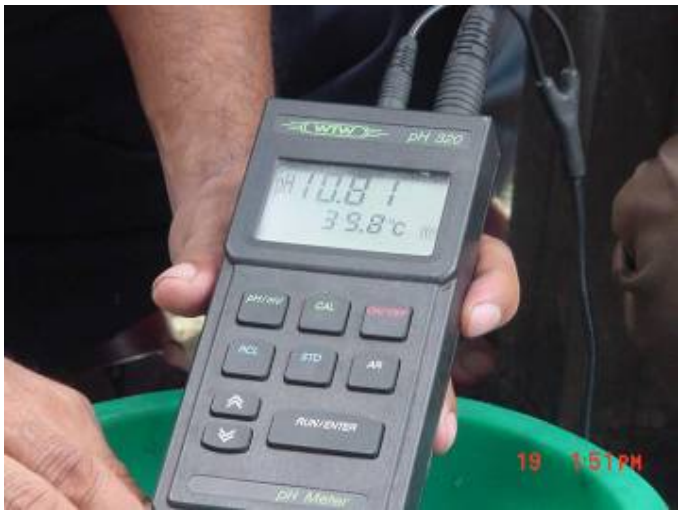

Fig-4: Field measurement of environmental parameter

Fig-5: Field measurement of environmental parameter

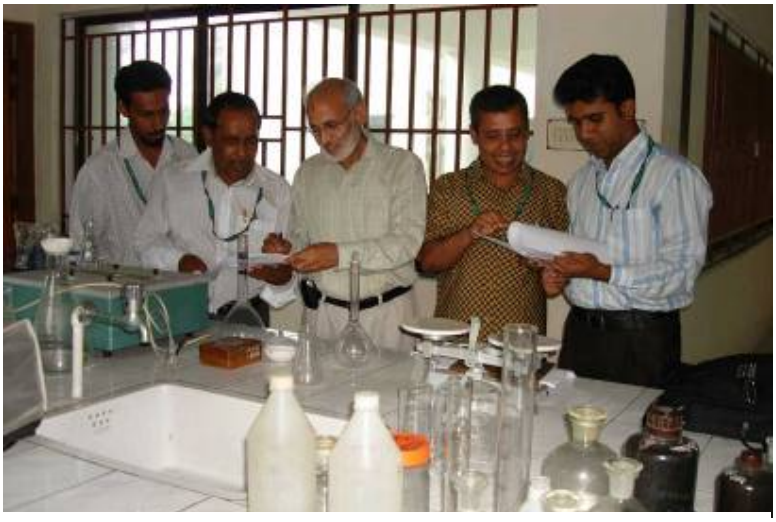

Fig-6: Analysis of Sample in the DOE Laboratory