

Country Paper
on
Audit on implementation of environmental policy
&
Role of SAIs in promoting national sustainable development

SAI Bangladesh – At a Glance:

The Office of the Comptroller and Auditor General (OCAG), the Supreme Audit Institution (SAI) of Bangladesh is responsible for auditing government receipts and public spending and to ascertain whether expenditures have yielded value for money in government offices, public bodies and statutory organizations. Appointed by the President of the Republic, the Comptroller and Auditor General (CAG) heads the Supreme Audit Institution. CAG has the mandate to determine the scope and extent of audit. The Constitution of the People's Republic of Bangladesh (Articles 127-132) provides the CAG with complete independence i.e. he is not subject to any other authority and has access to all documents required for conducting audit.

The main thrust of our audit is financial and compliance. CAG certifies Finance Accounts of the Republic and Appropriation Accounts prepared by Civil, Defense and Railway Accounts departments. Increased importance is also being attached to economy, efficiency and effectiveness of government operations, to evaluate whether taxpayers are receiving value for their money. Major areas of performance i.e. procurement, revenue collection, civil works Medium Term Budgetary Framework (MTBF), environmental issues, safety net programmes, social and gender equity audits, public debt management and public private partnership are being focused on.

Vision: Attainment of Accountability and Transparency in public financial management to contribute towards achieving good governance.

Mission: Conducting effective audit of public sector operations for optimum utilization of public resources and providing the stakeholders with reliable and objective information to assist in establishing accountability and transparency in government activities.

Core Values: Professionalism, Reliability, Objectivity, Accountability, Credibility, Transparency, Integrity, Viability and Ethics.

About Environmental Audit:

Environmental audit is a general term that can reflect various types or evaluations intended to identify environmental compliance and management system implementation gaps, along with related corrective actions, in this way, they perform an analogous (similar) function to financial audits. There are generally two different types of environmental audits: compliance audits and management systems audits. SAI Bangladesh has started its journey in this field a few years ago. Work so far done in the field of environment audit in Bangladesh includes:

- Performance Audit on “Bio diversity of Saint Martin Island” FY 2006-07;
- Ministry Wide System Based Audit on Ministry of Environment and Forest (Wide assistance of FMRP Project FY 2007-08);
- Performance Audit on Forest Management. (With the help of Scope Project, FY 2011-12);
- Performance Audit on Harvesting of Sundarban (With the help of IDI, FY 2010-11).
- Performance Audit on Illegal use of Formalin and Calcium Carbide in Food (With the help of SPEMP-B Project, FY 2013-14 &2014-15);

The above-mentioned audit reports have already been discussed by the Public Accounts Committee and they appraised the reports and also made some valuable comments that are worth noting while planning or executing any future environmental audits.

The SAI Bangladesh team will try to highlight some points on the Performance Audit/Environment Audit on Illegal use of Formalin and Calcium Carbide in Food as per the prescribed format.

Background Information:

As per ISSAI 3100 (2.3) “Selecting audit topics” describe- Auditors should select audit topics that are significant, and reflect the SAI’s mandate. The audit should lead to important benefits for public finance and administration, the audited entity, or the general public.

The topic “To evaluate the Government system to control the illegal use of formalin and calcium carbide” certainly has great interest towards stakeholders. If the report able to identify the system/control weakness and implementation weakness then it would bring immense benefits in governance system relates to safety and will able to Reduce the health hazards and help to reduce health cost.

To make the audit a success, two consultants (one international and one national) have been attached to the team under technical assistancing of SPEMP-B project.

According to the World Food Summit (1996), *“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Food security encompasses many issues ranging from food production and distribution to food preferences and health status of individuals”.*

Importance of the topic:

Food safety is an important public health concern in Bangladesh and unsafe food represents a major threat to public health in Bangladesh. Food contamination and adulteration have major implications on food security and consumer health in Bangladesh. Unsafe and contaminated food causes many acute and life-long diseases ranging from diarrheal diseases to various forms of cancer. The chronic effects of adulteration with harmful chemicals, such as cancer, kidney disorders and birth defects, are unlikely to be observed in the short term because the

manifestation of the disease only occurs after long-term, low-level exposure. Each year millions of citizens suffer bouts of illness following the consumption of unsafe food.

Food borne and waterborne diarrheal diseases, according to the World Health Organization (WHO), kill about 2.2 million people globally every year, including 1.9 million children. In Bangladesh a dependable assessment of the impact on public health from food contamination is not available due to absence of a regular monitoring system. Limited data from the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B) indicates 501 hospital visits per day for treatment of diarrhea that were attributable to food and water borne causes.

By minimizing the consumer's exposure to unhygienic, contaminated and adulterated food it is possible to significantly reduce the morbidity and mortality associated with unsafe food. On the other hand, access to safe and nutritious food along with food security is of utmost importance in attempts to achieve the Millennium Development Goal of reducing the prevalence of hunger and undernourishment in Bangladesh.

In Bangladesh Due to weaknesses in existing laws and regulations, absence of monitoring and strong enforcement, and low level of awareness among consumers, there is evidence of widespread food adulteration with harmful chemicals and other toxins in Bangladesh. This audit will consider the threats to food safety resulting from two such chemicals, i.e. formalin and calcium carbide. These are more popularly known to the general public as contaminants in food.

Audit Objectives:

The overall objective of the audit was to

- a) Assess the effectiveness of government policies/initiatives for tackling illegal use of formalin and calcium carbide in food in order to ensure food safety
- b) Make recommendations for improving the current system

Methodology:

Methodology adopted

- Document review and analysis,
- Interviews with appropriate officials of Directorate General of Health Services (DGHS), City Corporations and Pourashavas, Department of Fisheries (DOF), the stakeholders.
- Extensive field visitor,
- collected random samples of fruits and vegetables and had them tested for formalin and calcium carbide contamination.

The audit was conducted in compliance with International Standards for Supreme Audit Institutions (ISSAIs 300, 3000, 3100 and 5110 that apply to performance and environmental auditing).

Audit Scope:

As mentioned before, there is evidence of widespread food adulteration with many harmful chemicals and other toxins in Bangladesh. The mandate of this audit was to consider the threats to food safety resulting from two such chemicals, i.e. formalin and calcium carbide.

The points of production, distribution and sales of foodstuffs in Bangladesh, like in any other large country, run into the millions. It was not possible and not considered necessary to audit the activities of each of these centers. The purpose of the audit was not to assess government initiatives for tackling illegal use of formalin and calcium carbide in food at each and every center. Rather it was to use a reasonably big sample at different levels as units of testing. Limited time and resources and the logistics involved necessitated that the scope of the audit be limited to a manageable number of units.

The criteria used for selecting sample included the following:

- Applicability of relevant legislation by the different key ministries, such as Ministry of Health & Family Welfare, Ministry of Fisheries, Ministry of Food and Ministry of Agriculture at different tiers in the administrative structure, i.e. at the ministry, City Corporation, Civil Surgeon, district, upazilla, and pourashava levels.
- Larger City Corporations such as Dhaka and Chittagong and units in hilly areas as well as in the plains.

Altogether evidence was collected during 28 field visits to different markets in which 49 separate units were covered.

From the information and knowledge gained in the survey phase, the audit team decided to focus its investigation in the following three main issue areas:

Issue 1: Does the Government have appropriate laws and organizational setup for addressing the issue?

Issue 2: Are the current laws governing food safety being implemented effectively?

Issue 3: Does the Government have appropriate technical capacity for addressing the issue?

The audit was carried out between January and November 2014.

Result of the audit

Audit Findings, Consequences & Recommendations

Issue 1: Does the Government have appropriate laws and organizational setup for addressing the issue?

Finding 1.1 The multiple laws dealing with food safety create confusion in the minds of manufacturers, processors, retailers and enforcement authorities as to which law deals with which particular food safety issue

There are numerous laws that deal with food safety. Many of these laws were developed to deal with specific situations. In fact, it is even difficult to say how many acts actually deal

with food safety. It is important to note that use of such a large quantity of laws for a single purpose like food safety is quite unusual. These laws are implemented by 11 ministries and their subordinate bodies. Table 1 below lists the laws which are implemented by the 11 ministries and their subordinate bodies.

Table 1: Laws implemented by several ministries and their subordinate bodies
<ol style="list-style-type: none"> 1. Penal Code, 1860 (PC 1860) 2. Control of Essential Commodities Act, 1956 (CECA 1956) 3. Food (Special Courts) Act, 1956 (FA 1956) 4. Pure Food Ordinance, 1959 (PFO 1959) 5. Cantonments Pure Food Act, 1966 (CPFA 1966) 6. Pesticide Ordinance, 1971 (PO 1971) 7. Special Powers Act, 1974 (SPA 1974) 8. Fish and Fish Products (Inspection and Control Ordinance, 1983 (FFPO 1983) 9. The Breast-Milk Substitutes (Regulation of Marketing) Ordinance, 1984 (BMSO 1984) 10. Bangladesh Standards and Testing Institution Ordinance 1985 (BSTIO 1985) 11. Iodine Deficiency Disorders Prevention Act 1989 (IDDDPA 1989) 12. VoktaOdhikarSongrokkhonAin, 2009 [Consumers Rights Protection Act, 2009] (CRPA 2009) 13. StanioSarkar (City Corporation) Ain, 2009 [Local Government (City Corporation) Act 2009] (LGCCA 2009) 14. StanioSarkar (Pourashava) Ain, 2009 [Local Government (Pourashava) Act 2009] (LGPA 2009) 15. Mobile Court Act, 2009 [Mobile Court Act, 2009] (MCA 2009) 16. Safe Food Act, 2013 (SFA 2013)

Causes: Too many laws

Consequence: Consumers, manufacturers, and law enforcement agencies face difficulties in knowing or deciding which law is applicable in which situation.

Recommendations: GOB should develop a comprehensive Act in order to rationalize and bring the current Acts and laws dealing with food safety under one umbrella Act.

Finding1.2 **There is no central body responsible for ensuring the safety of the food chain in its totality, i.e. from farm to table. The eleven ministries currently involved in food safety focus on their limited mandates in a fragmented piece meal manner.**

Food safety as an issue has remained unaddressed for a long time. At present there is no central body responsible for ensuring the safety of the food chain in its totality, i.e. from farm to table. At present eleven ministries and their agencies are involved directly or indirectly in food safety and quality control in Bangladesh. They are responsible for different types of food in different stages of the food chain and they focus only on their limited mandates. Not surprisingly therefore the different ministries see the food safety issue from their perspective

only, i.e. on a fragmented piece meal basis. As such, food safety is not covered by any ministry in its totality, i.e. as a continuous food chain from farm to table. As a result, there are many gaps in covering the different stages in the food chain.

Causes: The MOF has not given the priority and importance to establishment of the National Food Safety Advisory Council.

Consequence: Food safety continues to be covered in a piece meal fashion by 11 different ministries.

Recommendations: The MOF should take immediate steps to finalize the Rules & Regulations related to the Food Safety Act, 2013 and establish the National Food Safety Advisory Council and other committees

Finding 1.3 Some existing laws and the new Food Safety Act, 2013 have limitations

Before the Food Safety Act, 2013, was promulgated in October 2013, there was no Act regarding food safety that covered the whole food chain. The Pure Food Act, 1959 and the accompanying Pure Food Ordinance, 1959 only considered the provision for the better control of the manufacture and sale of food for human consumption. It was therefore necessary to frame a comprehensive act with a view to assuring the right of availability of safe food through proper scientific procedures and proper coordination of food production, import, processing, storage, supply, marketing and sales related activities. It was also necessary to establish of an efficient and effective authority to administer the act and to repealing related existing acts and/or to reframe other acts. The new Food Safety Act, 2013 attempts to address all these issues.

However, with respect to existing laws, the audit found that some existing laws have some limitations. For example,

- **Pure Food Act, 2005, Rule 4A (1):** NFSAC is comprised of 15 members; and 12 of them are government representatives including the ministers, secretaries. As a result consumer's participation in decision making process is overlooked. Does not include any provision regarding decision making of the NFSAC. The Act does not provide for the formation of NFSAC technical sub-committees.
- **Consumer Right Protection Act, 2009 Rule 28:** It is not obligatory for magistrate, police force and prosecuting agency to assist mobile courts and their inspection program. The law mentions 17 types of crime against food safety but in the act only 12 are described. In the Powers and Functions of Director General (DG) section, it is stated that the DG is responsible for taking necessary action if sellers do not maintain prescribed standards of products or services, or if the life of the passengers are at risk due to vehicle being operated by unskilled or unauthorized drivers. But these two topics are not described as a punishment crime in the Act.
- **Consumer Right Protection Act, 2009 Rules 60 and 63:** Consumer does not have the right to file a case directly. The consumer or grievance raiser is responsible for bearing the expenditure of sample testing.

Causes: Initiatives have not been taken to amend the Acts

Consequence: Concerned Acts may not provide expected results.

Recommendations: Concerned ministries should take action to amend the Acts and laws as necessary.

Finding 1.4: There is lack of clarity about what should be the acceptable limit of formalin in food

The GOB policy, according to a MOC directive is very clear: the acceptable limit for formalin in food is “0” tolerance. However, the audit found that at the field level there is a lack of clear understanding about the acceptable limit of formalin in different type of foods.

According to Institute of Nutrition and Food Science, University of Dhaka, and BARC, formaldehyde exists in some foods naturally. However, no study has been done to establish which foods have naturally occurring formaldehyde and how much of it. A BARC study states that there is a certain amount of formaldehyde in the human body which is vital for metabolism. If consumed within the permissible limit, formaldehyde transforms into less toxic formic acid and is excreted through urine. Some part of formaldehyde also transforms into carbon dioxide and gets out through the respiratory system.

According to a WHO European regional office report, fruits and vegetables typically contain 3–60 micrograms (mg) formaldehyde per kg, milk and milk products about 1 mg, meat and fish 6–20 mg and shellfish 1–100 mg. The daily intake of formaldehyde is difficult to evaluate, but a rough estimate from the available data is in the range of 1.5–14 mg a day for an average adult, most of it in a bound and unavailable form.

According to the Consumer Right Protection Act, No 8 (g), the responsible authority is expected to conduct research on the right of consumers and SRO no.235/2010, Rule no 3 requires that the Directorate of National Consumer Right Protection (NCRP) will possess one or more laboratories and research rooms. The audit found the Directorate of NCRP has not taken any steps regarding establishment of a laboratory or conducting research, for instance, into what is an acceptable limit of formalin in food for human consumption.

Causes: Confusion about the acceptable level of formalin in different foodstuffs.

Consequence: Due to confusion about an acceptable level of formalin in foodstuffs it is difficult to enforce laws.

Recommendations: The MOC should take immediate steps to resolve the confusion about the official acceptable level of formalin in different foodstuffs.

Issue 2: Are the current laws governing food safety being implemented effectively?

Finding 2.1 The MOC is not able to control the importation of Formalin and Calcium Carbide

The use of formalin and carbide in food have been identified as threats to food safety and discussed at different levels for a long time. In spite of this, no real initiatives were taken by

the MOC to control illegal use of formalin and carbide. There was no legislation regarding importation of formalin and anybody could import formalin freely and quite cheaply and use it illegally in food. There was no monitoring about its use in food.

On March 16, 2013, SRO 70-law/2013 was enacted under the provision of Imports and Exports (Control) Act, 1950. Under this SRO, an importer could import formalin by obtaining the approval of the MOC and maintain a register showing details of the sale and/or use of the formalin imported. The MOC or any other authority directed by the Government was authorized to verify the importer's sales register from time to time. There was no such SRO regarding calcium carbide.

After the enactment of the SRO, the importation of formalin/ formaldehyde decreased significantly but, on the other hand, the importation of formalin/paraformaldehyde and formalin under other names increased significantly.

1. In 2013, 11 MT of formalin/ formaldehyde was imported through Chittagong port. By June, 2014, only 19 Kg, or only 0.17% of the amount imported in 2013, of formalin/formaldehyde had been imported. However, the huge decline formalin/formaldehyde was replaced by June 2014 by the importation of 5500 MT of paraformaldehyde and other generic forms, such as paraform, polyoximethiline, Morbisid, and others, which are not covered under the SRO.

Causes: The current SRO restricting the import of formalin as formaldehyde is not working as formalin is still being imported under other names. There is no monitoring and control over the importation and or end use of formalin and carbide.

Consequence: Formalin and CaC₂ are still being used to contaminate foodstuffs.

Recommendation: The MOC should take immediate steps to stop the importation of formalin in all its forms.

Finding 2.2 The Directorate of Consumer Right Protection under MOC lacks an adequate field level organizational structure and budget for enforcing the Act effectively.

Causes: DCRP has limited resources –human, financial and technological. It has failure to report on its performance.

Consequence: Weak monitoring process and ineffective implementation of the Act. Parliament cannot assess DCRP's performance if there are no annual reports.

Recommendation: The MOC should supplement DCRP's human, financial and technological resources and should ensure that DCRP reports annually on its performance.

Finding 2.3 Laws entitling consumers to lodge complaints are not user-friendly and impose a cost burden on consumers

Under different rules of the Act, consumers can make complaints through fax, email, electronically, or in writing and/or file a case to the DCRP. After receiving complaints, the DG or incumbent officer is required to take necessary action. However, DCRP first has to be convinced about the validity of the grievance. The Rule 63 (3) states that that consumer lodging the complaint has to bear the expenditure of sample testing.

The audit team observed that due to not having the right to file a case directly, the responsibility to bear the expenditure of sample testing, and processing complexities involved, many consumers tend to lose interest to lodge a grievance

Causes: Complex grievance process and expensive for consumers to lodge complaints.

Consequence: People are not involved and DCRP does not know what concerns they have

Recommendation: DCRP should simplify the grievance process and make it free or affordable for consumers to lodge complaints.

Finding 2.4 District, upazilla and union level committees are not functioning properly

During the audit it was found that

- Meetings of the different committees are not held regularly. For example, the Patuakhali District committee has never met after its formation on 26 April, 2010
- There is no coordination among the different committees.
- In most cases, a Union Parishad level committee was still not formed
- In most cases, members of the different committees remain absent in different programs, meetings. Even they have no idea about the activities and duties.

Causes: Absence of supervision; no feedback from different level committees; committee members not willing to volunteer their time

Consequence: Non-performance of different committee actually leads to non-involvement of people in this social movement against food adulteration.

Recommendation: The MOC/DCRP should monitor, supervise and receive feedback from upazilla and other committees; DCRP should find out why committee members are not willing to volunteer their time

Finding 2.5 The performance of BSTI field officers is limited by resource and other constraints

Bangladesh Standards and Testing Institution (BSTI) is an autonomous entity, under the Ministry of Industries (MOI). BSTI is responsible for developing and promoting industrial standardization through drafting of standards for food as well as non-food items. BSTI inspects and certifies food businesses producing products for which a mandatory BSTI standard applies. BSTI also serves as the Codex Contact Point for the country. Food inspection and enforcement activities are conducted by BSTI field officers based in BSTI headquarters in Dhaka and five regional offices in Barisal, Chittagong, Khulna, Rajshahi and Sylhet.

The audit found that

- The work of BSTI field officers is limited by the number of staff and the availability of transportation
- In most cases, samples that require laboratory analyses are sent by postal service or personally delivered to the IPH laboratory in Dhaka. Procedures for aseptic collection and transportation of samples for microbiological analysis are limited as well as the capacity to maintain cold chain conditions for bacteriological tests. This in the end hampers the quality of the sample report.

Causes: Limited number of staff and availability of transport and inadequate procedures for aseptic collection and transportation of samples

Consequence: Test results may not be accurate or nor available on time

Recommendations: The BSTI should make available the staff needed, provide transport and ensure adequate procedures for aseptic collection and transportation of samples

Finding 2.6 Fisheries Inspectors lack adequate technical support to carry out comprehensive inspections of domestic consumption fish

The audit found that only one digital meter is provided in each district for inspection purposes. This is hopelessly inadequate for covering total region of the district. It was also found that no details were available to compare the results of the tests done on home consumption fish and tests done on fish for exporting.

Causes: Inadequate technical support

Consequence: Threat of formalin contamination in home consumption fish is not properly addressed

Recommendations: The DOF should provide adequate number of digital meters

Finding 2.7 Inspection of imported foods to detect formalin and other contaminants at land ports by Department of Customs inspectors is superficial, totally inadequate and lacks credibility

Bangladesh is a net-importer of food and agricultural products from both developing and developed countries. Imported food and agricultural products arrive through the country's three airports, two sea ports and 14 land ports. About 80% of all imported food items enter the country through Chittagong Sea Port and Benapole Land Port. The Department of Customs under the Ministry of Finance in close collaboration with the Port Authority is responsible for inspection of imported foods.

The audit found in Teknaf and Benapole land ports that

- Fish samples are tested for formalin/formaldehyde by using simple test kits and digital meters.
- On some case, no proper sampling tools are being used and test-kits are not available.
- Inspectors do not follow any official sampling plans or procedures. Samples are collected based on suspicion and personal observations.
- There are no formal arrangements for transportation of samples from the ports to the laboratories and no cold chain maintenance facilities are in place.

- The land port testing labs are not in workable condition. There is no facility for specific testing of formalin and calcium carbide in fruits and vegetables.

Causes: Inspections are superficial, totally inadequate and lack credibility.

Consequence: Land ports are not able to identify formalin and carbide in imported foodstuffs.

Recommendations: Department of Customs should use proper and adequate sampling tools, ensure that land port testing labs are in working condition, follow approved sampling plans or procedures, have proper arrangements for transportation of samples to the laboratories, collect and send samples and collect test results themselves.

Finding 2.8 Public Analysts of Food have not been appointed and Food Courts have not been established

Causes: Resource constraints; non-compliance with necessary Rules and Regulations

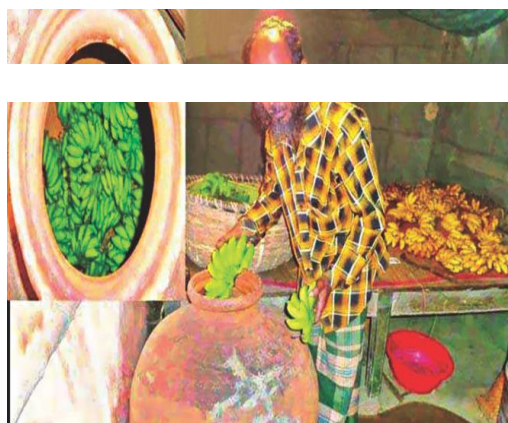
Consequence: Weakening of the technical capacity for ensuring food safety.

Recommendations: Concerned authorities should take immediate steps to appoint Public Analysts of Food and establish Pure Food Courts as required.

Finding 2.9 Lack of cold chain infrastructure encourages use of formalin and calcium carbide

Developed countries have an effective cold chain infrastructure in the supply chain from harvesting products to final sale to consumers. The most effective way of preserving and keeping food items fresh after harvest is to store them at much cooler temperatures, in some cases down to 0°C or close to 0°C, for example, for fish products.

Unfortunately in Bangladesh no such cold chain infrastructure exists at present. Fruits and vegetables in Bangladesh are sent after harvest to markets in ordinary vehicles. The transit time could easily be several days. Traders add preservatives to the firm and green (unripen) fruits, vegetables, and other perishables during the transit period to minimize losses during transit.



Left photo: Formalin sprayed on mangoes. The photo was taken in Meherpur.

Right photo: Chemically treated bananas are being heated up in an earthen pot so that they ripen faster.

Causes: Failure of GOB and importers/exporters to invest in the development of cold chain infrastructure for food preservation

Consequence: Farmers turn to illegal, low cost and easily available preservatives like formalin and others due to absence of cold storage facilities.

Recommendations:GOB and importers/exporters should invest in the development of cold chain infrastructure for food preservation

Finding 2.10 There is weak monitoring, absence of coordination, insufficient awareness creation, and insufficient punishment of offenders

The pictures below tell the whole story: A farmer sprays green tomatoes with chemicals in the morning after harvest. In the afternoon on the same day, the tomatoes had ripened and were being put in baskets for shipment.



Photo: Char Kishoreganj in Munshiganj

Causes: Monitoring does not cover the whole food chain; absence of coordination among the different agencies; Consumer Right Protection Committees are not functioning properly; there is lack of involvement of people in different activities against food adulteration, and there is little or no punishment for offenders.

Consequence: Weak monitoring and lack of punishment actually helps to spread food adulteration.

Recommendations: Monitoring should cover the whole food chain and there should be more and better coordination among the different agencies. People should be involved in different activities against food adulteration, and offenders should be punished as the law requires.

Issue 3: Does the GOB have appropriate technical capacity for addressing the issue?

Finding 3.1 Laboratories lack capacity for testing full range of foodstuffs and tests are expensive. No laboratory is equipped to detect Calcium Carbide in food

Causes:

- No laboratory at present is equipped to detect Calcium Carbide in food

- Absence of incentive for research work due to budget constraints
- Absence of policy regarding continuous development
- Consumers have developed a mentality to accept the situation as is
- Absence of initiatives by laboratories to develop total quality management systems
- High cost of testing

Consequence: Calcium carbide in food is not being detected. The high cost of testing is a deterrent

Recommendations: BCSIR, BSTI, and IPH/NFSL should

- Develop or import technology for detection of calcium carbide in food
- Provide incentives for undertaking research
- Have a policy for continuous development
- Develop a total quality management system

Finding 3.2 Test results of different laboratories to detect formalin in the same sample are inconsistent

The audit team collected some fruits and vegetables and gave these for testing for formalin to FAO/IPH, BSTI and BCSIR laboratories on 15 Sept '14. Samples of fish and milk were also collected and given for testing for formalin to FAO/IPH, BSTI and BCSIR laboratories on 23 Sept '14. Table 6 below shows the test results.

Table 6: Results of Testing for Formalin on Samples given by Audit Team				
Item Tested	Test results provided by			
	BSTI	FAO/IPH (NFSL)	FAO/IPH (NFSL) on Nov '13	BCSIR (IFST)
Malta (Shantinagar)	Formalin level: Nil	Formalin level: 1.75+0.14	-	-
Grapes (Gulistan)	Formalin level: Nil	Formalin level: 1.62+0.04	-	-
Mango (Ashini) (Gulistan)	Formalin level: Nil	-	Formalin level: 3.08+0.09	-
Apple (Shantinagar, Agora)	Formalin level: Nil	-	Formalin level: 1.29+0.01	-
Tomato (Segunbagicha Kacha Bazar)	Formalin level: Nil	-	Formalin level: 2.80+0.12	-
Cauliflower	-	-	Formalin level: 5.94+0.50	-
Hilsha fish (Mohakhali)	-	Formalin level: 8.85+0.23	-	-
Milk (Shantinagar)	-	-	Formalin level:	Formalin

			1.71+0.01	level: 0.102
Juice (fruitika) (Shantinagar)	-	-	Formalin level: 3.09+0.30	Formalin level: 0.141

From the above, it is clear that the results of the tests done by different laboratories on the same sample are inconsistent.

Causes: Different labs have different testing capacities and use different methods

Consequence: Lack of confidence in test results because there is no standard

Recommendations: The different testing laboratories should standardize their testing methods

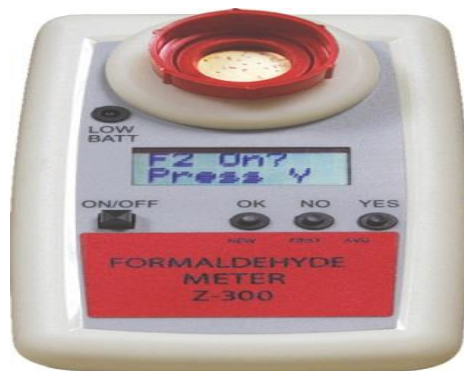
Finding 3.3 Only two types of kits for detection of formalin are available, these have serious limitations, and even these are not always used

Formalin Kit developed by BCSIR This kit was developed for testing for formalin in fish. It was marketed in the year 2007 and cost only Tk. 210. It is one of the popular technologies to identify formalin but it has some serious limitations:

- It is not able to identify formalin if the level is under 0.5 ppm
- It is not able to identify the formalin if it has been injected in the fish.



Digital Meter Z-300 This meter was procured under DOF’s “Control of Formalin Use in Fish Preservation and Mass Awareness Campaign” project. Originally designed to measure the amount of formaldehyde in the environment, the meter has been is use in the country for detecting formalin in food for more than two years.



Even in the way in which the device is used is unscientific. The audit found that officials put the Z-300 meter in polythene bags containing food items to detect formalin. Monirul Islam,

Director (Nutrition) of BARC pointed out that if fruits, fishes or vegetables packed are in polythene bags, polyethylene glycol can leach into the foods from the bags. This might affect the accuracy of the formalin detection machine.



So at present for formalin detection both of the above-mentioned technologies are not acceptable for a variety of reasons but they continue to be used in spite of the fact that either they cannot detect the contaminant or they give inaccurate results.

The audit found that a typical District Fisheries office has only one digital meter. Under one district office there are on average five upazilla offices. So the expectation that all the fish markets of a district will be covered by one machine is totally unrealistic and impractical.

Causes: The available testing kits have limitations and may not provide accurate results or consistent results.

Consequence: The risk of either non-detection of formalin or inaccurate results is very high. The high cost of testing is a deterrent

Recommendations: Concerned authorities should ensure that kits used for testing formalin in food provide reliable results, that sufficient kits are available and that the cost of testing is not prohibitive.

Finding 3.4 Public Procurement Rules were not followed and the wrong machine for detection of formalin was procured

Causes: Violation of PPR Act; the Procuring Entity is biased in favor of Z-300

Consequence:

- The Procuring Entity's bias in favor of Z-300 closed the door to open competition
- Machine best suited for the task was not selected
- Wrong procurement creates difficulties to ensure food safety
- Legal actions taken based on questionable Z-330 test results are weakened. Some business owners have lodged writs regarding the acceptance of the result of the Z-300 digital meter.

Recommendations:

- The Procuring Entity should be held to account for violation the PPR Act
- The best technology available should be procured for the detection of formalin food

Impacts:

We observed some positive initiatives taken by various government institutions. Due to government initiatives against illegal use of formalin and carbide, usage of formalin and carbide for preservation & ripening of foods is reducing day by day, yet reducing level is not satisfactory. In addition, awareness about use of formalin and calcium carbide in fruits, vegetables, fishes and other foods have increased tremendously.

Experiences & Challenges:

- A lack of environmental data;
- The relative newness of environmental problems and environmental policy issues;
- Sustainability being one core dimension, but difficult to address;
- Cost-benefit analysis of long term benefits of environmental engagements is crucial but difficult;
- The international and interdisciplinary nature of environmental issues;
- The challenge in finding audit criteria, and particularly in persuading governments to adopt international criteria;
- The increasing focus of many audits on future as opposed to retrospective issues.
- Expanding the pool of environmental auditors and providing them with proper training;
- Planning audits, particularly in choosing topics and focuses amidst the vast array of options; and
- Lack of awareness about the environmental auditing practice among the public and politicians.

SAI's role in promoting national sustainable development

Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature. Sustainable development according to World Commission on Environment and Development (WCED) means “development that meets the needs of the present method compromising the ability of future generations to meet their own needs” (WCED 1987)

Bangladesh is one of the countries that are greatly affected by environment hazards. And our Government also signed a number of treaties in this regard. Pollution, poverty, deforestation, corruption in using government funds are the common issues in environment arena in our country. SAI Bangladesh plays a significant role in fostering governmental accountability for the use of public resources and their performance in achieving sustainable development. For ensuring sustainable development SAI Bangladesh has taken the following measures-

1. SAI Bangladesh has so far conducted five environmental audits in Bangladesh includes
 - i. Performance Audit on “Bio diversity of Saint Martin Island” FY 2006-07;
 - ii. Ministry Wide System Based Audit on Ministry of Environment and Forest (Wide assistance of FMRP Project FY 2007-08);
 - iii. Performance Audit on Forest Management. (With the help of Scope Project, FY 2011-12);
 - iv. Performance Audit on Harvesting of Sundarban (With the help of IDI, FY 2010-11).
 - v. Performance Audit on Illegal use of Formalin and Calcium Carbide in Food (With the help of SPEMP-B Project, FY 2013-14 & 2014-15)

The above-mentioned audit reports have identified the following weaknesses of the organizations that are responsible for protecting our environment –

- **Gaps and weaknesses in government action:** Audits found gaps between policy on paper and policy in practice. Gaps in resources have been linked to the lack of reliable data, and inadequate enforcement and inspection.
- **Complexities and mutual cooperation:** As environmental issues tend to address more than one department or agency, it is not surprising that findings include the need to harmonize issues among departments, to increase coordination and cooperation among them, and to ensure adequate communication.
- **Departmental functions and operations:** Environment related laws and rules are marked by inadequate enforcement and inspection, internal control weaknesses, with standards.
- **Financial management weaknesses:** Improper funding of environmental programmes, non-fulfillment of administrative requirements, the lack of proper conditions of funds, and beneficiaries receiving funds without following the proper process comprise financial management weaknesses. Audits have identified funds that

were not used efficiently or economically to ensure the best results for the environment, and funds that were used in a manner that did not correspond to the priorities of the environmental programme.

- **Findings and recommendations:** Concerning the reliability of data and the lack of detailed information are not uncommon. Data weaknesses from government sources are a common challenge in environmental audits. Audit reports have identified data deficiencies in their findings.
2. 27 officials have already been trained on environment audit under different training programmes organized by ASOSAI, iCISA and IDI, three of whom obtained diploma in Environment Audit. SAI Bangladesh has already made Twinning arrangements with more experienced SAIs like India.
 3. SAI Bangladesh has already taken initiatives to build relationships in order to increase the impact of their audits. Launch of Media Cell, observance of the Audit Day and organization of workshops play a significant role in establishing relationships with elected assembly, governments, their colleagues, and external stakeholders.
 4. Increasingly SAI is integrating environment and sustainable development into its audit practice. Through training and the setting of suitable audit scopes for strategic planning, environment and sustainable development considerations are being incorporated into more audit topics.
 5. It has started to lessen its impact on the environment by reducing office waste and energy consumption, creating paperless office by launching 'Audit management and Monitoring System (AMMS)' and also by introducing electronic working papers. A good number of officials have already been trained on IT audit with the help of SPEMP-B project in iCISA, India.

Our planet is under significant duress. SAIs are committed to good environmental governance and accountability. Simply speaking, sustainable development cannot be achieved without good governance and good governance, in turn, is greatly furthered by the valuable work of SAIs. Therefore, SAIs can play a vital role in informing and supporting efforts to achieve sustainable development by doing quality Environment Audit. So SAI Bangladesh has a particularly important role to play to ensure that our government is accountable, responsible and responsive to ensure environmental sustainability and promote national sustainable development.